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VET at Higher Education levels

Understanding the National Policy Dimension: Country Case Studies

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Case study

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Title of the case study: The re-emergence of vocational higher education in England?

1. Introduction

Please provide a concise introduction that gives an overall indication of the change processes observed (during the last 20 years) related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)'.

Defining the higher level VET landscape

In England, higher level VET is delivered in either (a) the further education sector or (b) the higher education sector. Sometimes similar things are delivered in both. There is little higher VET outside of either the further or higher education sectors, other than some continuing professional development – sometimes certificated – delivered at a level equivalent to EQF levels 5 to 8 by a range of public and private providers. Therefore, of the most part, higher level VET is synonymous with VET delivered in higher education (as defined below). From the 1980s onwards there has been a deliberate policy of creating an external training market which had the impact of externalising many in-house company training programmes – i.e. they were increasingly delivered externally - and accredited to national standards - rather than being delivered internally.

Comprehending the provision of higher level vocational education and training (VET) in England requires both an understanding of the post-compulsory educational landscape and the succession of policy twists and turns over several decades that have brought about the current state of affairs (Scott, 2009; Rapley, 2012). As will be demonstrated, these are inextricably intertwined. In general educational commentators speak of the further education (FE) and higher education (HE) sectors. Whilst the latter tends to be defined with reference to, for the most part, universities and specialist providers ([1]) which fall under the ambit of the Higher Education Funding Council for England, the FE sector proves more difficult to define. FE, for purposes of the current study, can be defined with reference to its course provision: i.e. delivery of courses typically at ISCED levels 2 to 4 though, in practice, this belies the wide variety of provision in the sector, including some at ISCED levels 5 and 6. The FE sector comprises sixth forms, further education colleges (FEC) which, historically, have been regarded as part of the public sector though their status today is perhaps more ambiguous, and private sector providers. At the risk of over simplifying the situation, it is possible to classify sixth forms - most of which are in secondary schools – as specialising in academic courses (i.e. AS and A-levels that potentially grant access to university) though there is VET provision too, and FEC as specialising in VET. Although FEC provide a range of academic courses, their forte has long been regarded as that of delivering VET. Private training providers in FE are firmly focused on VET provision.

Provision of VET at a higher level in England is divided between that delivered:

(i) in the HE sector;
(ii) outside of HE and principally in the FE sector by, for the most part, FEC.

There is some overlap between the two with some higher level VET delivered by FEC on a franchise basis under licence from a higher education institution (HEI). In other cases, FEC deliver higher level VET on their own recognisance. Some higher VET provision in the FE

([1]) For example, conservatoires

sector is at the bachelor level and higher, but much of it is at the sub-degree level (e.g. short-cycle ISCED level 5 courses below Bachelor level).

Defining VET provision within the HE sector is not without difficulty. In general, the HE sector is seen to focus mainly on academic courses even if some courses which fall under the rubric of academic have a substantial vocational element (e.g. dentistry, medicine, law, etc.). And there has been over recent years an increased emphasis on embedding an employability element in students' higher education where employability, to all intents and purposes, might be regarded as a synonym for vocational. As will be expanded on below this reflects desire of higher education institutions (HEI) to demonstrate that the educational experience they provide their student is one attuned to the needs of the labour market.

Understanding the current role of vocational education at higher levels in England requires a long-term perspective (Scott, 2009; Parry 2012). As noted above there are two stands of higher VET provision: (i) that within HE; and (ii) that within HE. Although the two are interlinked, for expositional purposes it makes sense to consider each in turn.

Main developments within the HE sector

Historically higher education in England was the preserve of the elite; it prepared a relatively small number of people for entry into, typically, public service in central and local government. From the 1960s onwards – following the Robbins Report in 1963 – there was the gradual expansion of higher education such that today nearly 40 per cent of the youth-cohort obtains entry to this form of education. Part of the expansion of HE in the 1960s saw the emergence of: (a) new universities (the plate-glass universities); and (b) polytechnics. The latter were very much oriented towards delivering vocational courses (with many of them having grown out of technical colleges). In essence this created a two-tier HE sector. Universities were autonomous and centrally funded, whereas polytechnics were responsible to, and funded by, the local education authorities in the municipalities in which they were located. The two types of HEI were distinct in other ways. As already noted the polytechnics were much more vocationally oriented with a mission, for the most part, to serve the needs of the local economy, whereas the universities were considered prestigious academic institutions serving a higher set of needs. Use of the word 'prestigious' draws attention to the status difference between universities and polytechnics with the latter regarded very much as second class.

From1992, as policy continued to push for increased levels of participation in higher education, the distinction between universities and polytechnics was abolished (with the passing into law of the Further and Higher Education Act in 1992). All would, hence forward, be referred to as universities. Arguably this has resulted in the former polytechnics losing some of their original identity as they increasingly resembled the characteristics of the pre-1992 universities. The loss of that identity seemed to entail a shift from the vocational to the academic. This change occurred at the same time as student maintenance grants were reduced and then abolished and tuition fees were introduced. In the new funding regime, students could take out loans, underwritten by the government, to fund their university studies. Previously tuition was free and maintenance grants were provided. In order to attract paying students, the former polytechnics were keen to demonstrate their bona fides as august academic institutions offering a wide range of courses, hence their increasing resemblance to the older universities. To be fair, the polytechnics had always offered a mix of the academic and the vocational in their course provision but from 1992 onwards they balance was increasingly in favour of the academic.

As tuition fees continued to rise – they are currently £9,000 a year for an undergraduate course – and the number of students continued to increase, there were increasing concerns about the extent to which HE was serving the needs of the economy. There are two elements to consider here:

- the need for universities to demonstrate that the investment in HE (by the student and indirectly by the state as the underwriter of student loans) was worthwhile (i.e. there is a positive return on the investment); and
- concerns from government regarding the extent to which it would be able to recoup the student loans it had underwritten given that students only begin to repay their student loans when they earn £21,000 or more.

In other words, if universities were unable to deliver the skills that could command a salary of £21,000 or more in the labour market, then cracks would begin to develop in the financial system that sustained the higher education edifice. Universities responded by investing substantially in employability provision across all courses so that, for example, arts courses provide numerical skills to their students. In this way students would be better prepared to enter the labour market and gain a job commensurate with their level of educational attainment. This might well be regarded as the renaissance of vocationalism within traditional academic HE.

Main developments within the FE sector

Although the HE and FE sector have distinct roles – as outlined above – the FE sector has, at least as far back as the 1950s (Scott, 2009), provided some higher vocational courses albeit on a small scale. Over the past few decades provision of higher vocational education in the FE sector has increased such that commentators and policy makers now refer to a distinct sub or hybrid sector: higher education in further education (or HE in FE). This hybrid sector accounts for around 8 per cent of all students studying towards a higher education qualification (2015/16).

In many respects the growth of HE in FE – which is vocational in orientation – stems from the policy decision to increase participation levels in HE. A landmark development relating to participation in HE was the Dearing Report (NCIHE, 1997). Dearing expected future growth in higher education to be at the sub-degree level (i.e. short-cycle courses at ISCED level 5) and further suggested that FEC be given the mission to develop this aspect of the market for HE. This was also designed to curtail the academic drift associated with some FEC having ventured into the provision of bachelor degrees. In practice Dearing's recommendations were not implemented. Instead FEC were encouraged to collaborate and compete with HEIs. Given that the evidence suggested participation in sub-degree level qualifications would be unlikely to have much impact on the 50 per cent participation in HE target, the government at the end of the 1990s introduced a new short-cycle qualification –Foundation Degrees - which engaged employers in their design and were designed specifically to meet skill shortages – which were to be delivered in FE. These degrees were typically delivered by FECs often in partnership with HEIs.

Over the 2000s the importance of delivering HE in FE was seen to have many benefits (Parry et al., 2012):

- meeting labour market demand for skills given that HE in FE is primarily vocational. Moreover FEC often have good links with local employers which further emphasises the link to the labour market;
- allowing people to study locally and often on a part-time basis which was seen to increase participation levels amongst non-traditional students. This thereby contributed to the widening participation agenda; and
- provided a relatively low-cost study option to students given that courses were shorter than traditional Bachelor degrees and often taken on a part-time basis so study could be combined with work. In this way those who were risk averse to making an investment in their education - the maximum tuition fee for a Bachelor degree is £9,000 a year in 2017 – might be persuaded to continue with their studies.

The government policy paper 'Students at the Heart of the System' (BIS, 2011) signalled that tuition fees for HE students would be significantly increased. There was an expectation that this would significantly increase the number of students who would choose to take the cheaper, vocational pathway through HE by enrolling for foundation degrees in FE (Rapley, 2012). In practice, this does not seem to have happened quite as expected. There is perhaps a lingering feeling that universities are better than colleges, and the academic is more prestigious than the vocational. But this is difficult to corroborate.

In an effort to further boost participation in higher VET, a new policy initiative was launched – Higher Level and Degree Level Apprenticeships (delivered at ISCED levels 4 and above). Apprenticeships at this level are seen as a response to satisfy skill needs at higher levels and provide an alternative route through HE (and one with no tuition fees and maintenance loans). There is increasing recognition in policy circles that a traditional university education is not suited to everyone, but that should not curtail the studies of those who choose not to go to university. It has been in the early 2010s that there has been the main policy push to implement Higher and Degree Level Apprenticeships. At the time of writing is not clear whether the 'education' element of the apprenticeship will be delivered in the HE sector, the HE within FE sector, or a combination of both. If successful, in the sense that these apprenticeships attract a substantial number of employers and apprentices, then it will engage employers in the delivery of training at a higher level in way that is perhaps unprecedented. The introduction of the Apprenticeship Levy – discussed further below – may well encourage employers to engage in a form of training they have shown relatively little appetite to join in previously (Gambin and Hogarth, 2017).

Conclusion

As can be seen from the commentary provided above, there have been a number of policy twists and turns over recent decade which impinge upon the provision of higher level vocational education. From a policy perspective there have been three interlinked priorities:

- increasing participation levels in higher education;
- ensuring that the education and skills system as a whole – including higher education – is oriented towards meeting both the current and future labour market demand for skills;
- widening participation in higher education (by ethnicity, age, social class, etc.) (Hogarth et al., 1997).

The provision of HE in FE, to some extent at least, is able to make a contribution to these for the reasons set out above. But for the most part, as will be expanded on below, HE in FE, constitutes a modest part of overall HE provision. If one wants to understand the place of VET at higher levels there is a need to consider activities in the HE sector as this constitutes by far the major part of provision. Within this sector one sees swings in provision: from the two-tier system where the former polytechnics fulfilled an important vocational function, to a single-tier one that has been predominantly academic in its orientation but where the need to deliver employability, qua vocational, skills within traditional academic courses has been increasing prioritised by HEIs (Hogarth et al., 2016).

2. VET at higher levels

Please briefly describe the current situation related to 'VET at higher levels' in your country and refer to the following questions:

*Which **types of vocationally oriented degrees/qualifications** are currently awarded at **EQF levels 5-8** and **since when**? Please include the titles of these types and their NQF/EQF level and **describe them briefly**! Please use the most commonly used English translation for the titles of qualification*

types and use these titles consistently! ([2]) *To which **educational segment** do they belong (e.g. higher education, post-secondary level VET, CVET)? What is the **'importance' of these types** (e.g. in terms of number of learners or graduates) compared to other types (such as number of students enrolled in academic HE programmes)? Are there any prevailing economic sectors?*

*Please include any **figures or diagrams** (time series), if possible!*

The landscape of provision

Vocational education at the higher level is difficult to define in the case of England as indicated above. One can start with working definition provided by Cedefop (2011):

> Vocationally oriented education and training at higher qualifications level means education and training that can contain aspects of both academic and vocational areas typically with the majority of vocational aspects. It is usually located at levels equivalent to levels 6 to 8 of the European qualifications framework. (Cedefop, 2011, p.14).

Using something akin to this definition, a recent review comments that higher VET courses are diverse in England covering professional and vocational programmes targeting specific skills and career development (Lester, 2016). It encompasses 136 awarding bodies offering 1,958 vocational and similar qualifications at levels 4–7 (EQF levels 5–7), though less than half of these were in active use in 2012/13.

The regulated qualifications framework (RQF), introduced in October 2015, replaces the national qualifications framework (NQF). The RQF covers all vocational and academic qualifications regulated by the Office of Qualifications and Examinations Regulation (Ofqual) in England. It does not, however, indicate which qualifications are academic or those which are vocational. ([3]) In general, there are a range of sub-degree (Bachelor) level qualifications (i.e. short-cycle ones) listed in the RQF that would fall under the category 'vocational' at the higher level and listed under the RQF, such as:

- Higher National Diploma (HND);
- Higher National Certificate (HNC);
- Higher Apprenticeships.

More schematically, Figure 1 outlines provision in England. It reflects the various modes of provision and the level at which courses are provided. There are traditional higher education institutions that deliver a mix of general and vocational courses at EQF levels 4-8, though mainly at EQF level 5-8. Within the traditional higher education sector there are specialist providers such as seminaries and conservatoires that deliver, in respects, education and training related to entering a specific profession (e.g. a professional musician). HE is also delivered within in FE most, if not all, of which is vocational. It is also possible to make a distinction between full- / part-time courses and those that are delivered via sandwich courses given that the latter by definition tend to have a substantial vocational element. The area shaded in black outlines that which might be considered vocational. And finally, with introduction of qualification credits it has become increasingly possible to externally accredit professional development courses.

In Figure 1, general qualifications include Bachelor, Masters, and Doctoral degrees. Within general degree level qualifications there is also a sub-class of qualifications that grant full or partial entry to a profession; for instance, law, medicine, nursing, etc. Whether or not these are considered vocational or academic is a moot point. There is also the on-going introduction of degree level apprenticeships that will provide an award that is equivalent to EQF levels 5 to 8. Whether or not degree level apprenticeships will be delivered in HE, FE or a mixture of the two remains to be seen. Below degree level qualifications there are a range

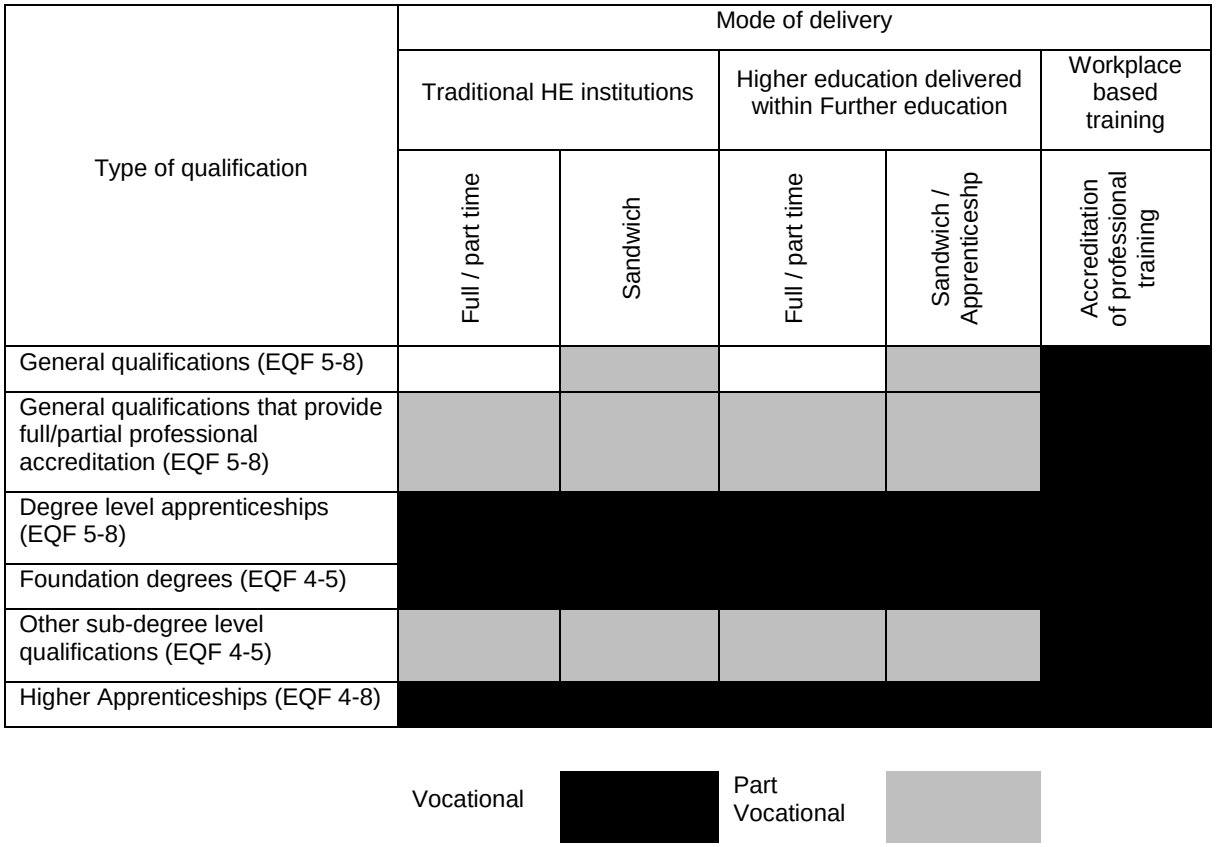
([2]) If applicable, refer to the Cedefop NQF monitoring reports – see: http://www.cedefop.europa.eu/en/events-and-projects/projects/national-qualifications-framework-nqf/european-inventory

([3]) From the policy perspective in England there is little to be gained from having such information.

of sub-degree ones (e.g. HNDs, Foundation degrees) that provide education equivalent to the first year or two of a full degree level programme. These are typically vocational in orientation. One might also want to consider the mode of study. Sandwich courses, for instance, might be regarded as vocational given the amount of time a student spends with an employer. Sandwich courses were also regarded as being relatively effective in connecting graduates to the labour market because of the experience students gained in working with an employer (Daniel and Pugh, 1975). Although they fell out of favour somewhat during the 1990s and 2000s, with the increased attention being given to the employability agenda in higher education (HE) the have had something of a renaissance of late in some universities.

There is also the accreditation of continuing professional development and training to take into account. It is possible to accredit any type of learning, so where it is at levels EQF levels EQF levels 5 to 8 it is potentially possible to award a qualification at this level.

Figure 1: Schematic outline of vocational education in the UK



Source: Authors

The commentary provides a somewhat restricted conception of higher level VET and raises a number of questions. It is not clear, for instance, how degree level courses might be classified as vocational. For instance, how would one classify a nursing degree - as a vocational one or a general / academic one? And how would one classify courses by mode of study - for example, is a sandwich course a vocational one? This points to the practical difficulties – or perhaps the near impossibility – of comprehensively defining higher VET in England using the initial working definition set out by Cedefop (2011). It also potentially distorts the picture of provision given that so much effort has, over recent years, been expended upon developing a vocational element within general, academic degree level programmes. This is an issue that is returned to below.

Participation levels

Statistical evidence is somewhat threadbare with respect to making a vocational / general distinction in higher VET. Table 1 below provides an indication of the scale of participation in

the higher VET. By adding together the percentage of people engaged in various sub-degree qualifications one can obtain an estimate of the extent to which vocational courses account overall levels of participation. This reveals that 9.0 per cent of enrolments in higher education were in vocational courses, but this is likely to be an under-estimate. If medicine and dentistry enrolments are included, this increases the percentage in vocational courses to around 11.5 per cent.

Table 2 provides information on the number of enrolments in Higher and Degree Level Apprenticeships. Higher and degree apprenticeships are available at various levels. They combine work with study and may include a work-based, academic or combined qualification or a professional qualification relevant to an industry or occupation. Levels 4 and 5 are equivalent to a Higher Education Certificate/Diploma or a Foundation Degree, level 6 is equivalent to a Bachelor's degree, and level 7 is equivalent to a Master's degree. Typically, higher apprentices study part-time at college, university or with a training provider. Apprenticeships take between one and five years to complete (NAS, 2017). Although higher level apprenticeships have been around for a number of years, it has been over the past few years that there has seen the number of subject areas covered by apprenticeships increase, and, concomitantly, an increase in the number of apprentices. For the time being, these account for a negligible percentage of the overall number apprenticeship starts across all levels. Many of the Higher Level Apprenticeships at the time of writing are in 'Care Management and Leadership', 'Management' and 'Accountancy' (which account for around a half of all apprenticeships at this level). But the policy expectation is that the range of subjects / occupations covered will increase (Annex II provides a list of higher and degree level apprenticeships currently available). As discussed by one interviewee, a greater focus on higher VET in the UK has developed most recently, following the implementation of the Apprenticeship Levy in April 2017. Although it is too early to fully understand the emerging changes the levy has promoted, it is expected to encourage more employers to focus and invest in apprenticeships at all levels. ([4])

Table 3 provides an indication of the total number of students who are enrolled in the FE sector but studying towards a higher level qualification (i.e. at EQF 5-8). It shows that the HE in FE sector accounts for around 8 per cent of all students and this number has been stable over recent years. The Association of Colleges reports that around 200 FECs provide HE (out of 280 in total), with around 90 per cent of them delivering Foundation degrees (AoC, 2017).

([4]) To date this has not been observed in the statistics relating to the number of apprenticeship starts since the introduction of the levy.

Table 1: Enrolments in different types of HE courses 2012-2015

Type of course	Total enrolments					Percentage of enrolments in different types of course			
	2011/12	**2012/13**	**2013/14**	**2014/15**		**2011/12**	**2012/13**	**2013/14**	**2014/15**
Postgraduate (EQF 6-8)	568,490	536,715	539,435	538,185		22.8	22.9	23.5	23.7
First degree (EQF 5)	154,1365	1528,495	1533,855	1524,225		61.7	65.3	66.7	67.3
Foundation degree (EQF 5 short cycle)	80,145	63130	51,895	46,105		3.2	2.7	2.3	2.0
HNC/HND (EQF 5 short cycle)	20,545	17455	16,710	15,840		0.8	0.7	0.7	0.7
Other undergraduate (EQF level 5-8)	28,6085	194675	157,460	141,725		11.5	8.3	6.8	6.3
Total	2496,635	2340470	2299,355	2266,075		100	100	100	100
Total Foundation, HNC/D, other undergraduate	386,775	275,260	226,065	203,670		**15.5**	**11.8**	**9.8**	**9.0**

Source: HE Enrolments Statistical First Release (HESA); data for earlier years are not available.

Table 2: Apprenticeship Starts by Level in England, 2011-2016

EQF Level	Total enrolments						Percentage of enrolments				
	2011/12	**2012/13**	**2013/14**	**2014/15**	**2015/16**		**2011/12**	**2012/13**	**2013/14**	**2014/15**	**2015/16**
Level 2	329,000	292,750	286,490	298,280	291,330		63	57	65	60	57
Level 3	18,7880	207,670	144,730	181,760	190,870		36	41	33	36	37
Level 4	2,850	4,180	3,810	7,090	9,510		1	1	1	1	2
Level 5	850	5,610	5,410	12,590	16,870		0	1	1	3	3
Level 6				100	740					0	0
Level 7					30						0
Total Higher Apprenticeships (i.e. at Level 4+)	3,700	9,790	9,220	19770	27,160		1	2	2	4	5
Total Apprenticeships	**520,600**	**510,200**	**440400**	**499900**	**509400**		100	100	100	100	100

Source: FE Date Library Apprenticeships Statistical First Release

Table 3: HE students by provider type

	2011/12	**2012/13**	**2013/14**	**2014/15**	**2015/16**	% 2011/12 to 2015/16	% 2014/15 to 2015/16
Total HE providers	2,496,635	2,340,470	2,299,355	2,266,075	2,280,830	-8.6%	0.7%
Total FE providers	180,395	186,565	189,480	189,635	187,115	3.7%	-1.3%
FE in HE as % of all HE students	6.7	7.4	7.6	7.7	7.6		

Source: HESA HE students by level of study, mode of study and HE provider type 2011/11 to 2015/16

3. Change processes durig the last 20 years - educational system perspective

One of the unique features of this study is the emphasis given to the historical development of VET systems. In this section, the focus is on the change processes that have taken place during the last 20 years related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' from the perspective of the educational system.

Depending upon the situation in your country, relevant developments might have started already before the 1990s. In other cases there may be no need to take such long-term perspective, but at the very least the commentary should go back to the middle of the 1990s.

Please describe first these change processes and their impact on the overall system (3.1), before presenting characteristics of VET offered at higher levels from the perspective of the educational system (3.2). Please clearly distinguish between the different objects and contexts of change, respectively the different types of VET qualifications/programmes offered at higher education levels.

Please refer to the "Characteristics and indicators of 'academic drift', 'vocational drift' and 'expansion of VET at higher levels (outside HE)'" (presented in Table 2 of the guidance note; the relevant aspects are included in each section here below): Please reflect whether any of these characteristics and indicators can also be identified in your country and which ones – identified in your country - should be added.

3.1. Change processes and their impact on the system

a) *To what extent can changes related to 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' be observed? To what extent have vocationally oriented programmes/qualifications at higher levels been introduced during the last 20 years and in which way (e.g. by up-grading VET institutions/programmes into higher education, by introducing new types of programmes within higher education without upgrading VET institutions/programmes, or by establishing new types of VET programmes/qualifications outside higher education)?*
b) *Can any different phases or stages of this development over time be identified?*
c) *What kind of impact does this have on the education and training system? E.g. development of a new sector outside higher education, development of a new sub-sector within higher education (and to what extent has this change led to the establishment of a - full or partial - 'unified', 'binary' or mixed higher education system)?*

From the late 1980s onwards, education policy has sought to increase participation in higher education – both within and outwith the higher education sector – with a view to improving skills supply to the labour market. As will be seen, the funding of higher education has driven many of the reforms over recent years with implications for the provision of higher level VET. In some respects one can see over the early years of the expansion period a degree of academic drift insofar as the much of the growth in participation was concentrated in what might be loosely referred to as the traditional university sector. As growth in higher education continued apace, there were increasing concerns being aired about the affordability of mass participation in higher education (for both students and the state), and the relevance of what was being taught with respect to the labour market. This can be seen most readily in the Dearing Report (NICHE, 1997). The Dearing Report – commissioned by the then government - set out for the future expansion of higher education in England. It recommended provision of more vocational higher education at the sub-degree (sub-Bachelor) level to be delivered in the FE sector. In this way, there was potential for higher education to have a more vocational focus given the FE sector's relative strength in

delivering VET and in their strong contacts with local employers. It would also result in the costs of higher education being reduced for those who studied in FE given that the tuition fees attached to HE in FE tended to be lower in part because duration of sub-degrees courses such as Foundation Degrees was shorter than a Bachelor degree, and because FEC tended to charge less other things being equal. Even if Dearing's recommendations were not fully implemented they led eventually to introduction of Foundation Degrees at the end of the 1990s – which had a vocational focus – which helped increase participation rates. But higher education remained – and remains - overwhelmingly oriented towards the provision of full-time study in academic / general subjects delivered by HEIs. This has continued to raise concerns amongst policy makers about the employability of graduates and the extent to which higher education in general is oriented towards meeting the skills needs of the labour market. Hence, over recent years, there has been an increased emphasis upon developing employability skills within general courses, and developing – or at least reinforcing – the vocational pathway through higher education with the expansion of Higher Level and Degree Level Apprenticeships.

Whilst the emphasis is on the last 20 years, in order to understand the evolution of higher education in England – within and outwith the HE sector – and the development of higher level VET, there is a need to take a slightly longer perspective. One can divide the development of higher level education into a number of separate periods.

- **The age of elitism**: up until the mid-1960s HE was an elitist system geared towards the needs of serving a small group of, typically, middle class men.
- **The initial expansion of the higher education sector:** from the mid-1960s to the early 1970s there was growth in the number of HE students, including those in the newly established polytechnics (that typically provided many vocational courses).
- **The initial period of rapid growth:** a period of rapid growth from the1980s onwards (again with much in the non-university sector) with increasing emphasis on creating competition between HE institutions in the pursuit of students. From 1992 onwards, there was no longer any distinction between polytechnics and universities with the former losing some of the original identify that stemmed from their links to the local economies in which they were located. This period saw increased provision of HE in the FE sector.
- **A prolonged period of financial problems:** from the mid-1990s onwards there a period of continuing growth but with the transfer of learning costs being increasingly passed onto the student. It was apparent that as the government pushed towards a 50 per cent age participation rate in HE target that it could not fund this wholly from public expenditure. The Dearing Report signalled the introduction of tuition fees that have risen successively to stand at £9,000 a year in 2017. The Dearing Report recommended that more vocational higher education be delivered by FECs. n this way, there was both a vocational option and a cheaper option available to students.
- **The period of increased instrumentalism and demonstrating value for money:** from the 2000s onwards there has been an increasing policy emphasis placed on (a) developing the employability skills of undergraduates and (b) developing a mainstream alternative pathway through higher education to one offered by universities. Universities have been observed to increase their investment in providing their students with vocational skills under the umbrella of the employability agenda.

Meanwhile there has been the gradual introduction of Higher Level and Degree Level Apprenticeships which has gathered pace during the 2010s. In April 2017 the Apprenticeship Levy on employers was introduced to further increase the number of apprentices (including Higher and Degree Level Apprenticeships).

Looking back over the decades, it is certainly the case post-Robbins there has been a more instrumentalist view taken towards the role HE should serve: in other words, that it should serve an economic purpose related to supplying the skills employers demand.

As already noted, with the publication of the Robbins Report in 1963, the higher education system was an elite one oriented towards teaching academic subjects to typically middle class young men (Bathmaker, 2003). It was recognised even in the 1960s that the system was failing to meet the needs of the economy. Robbins wanted to create a more open HE system that was open to all who had the ability to benefit from it. Following Robbins the number of HE graduates doubled, even if the percentage of young people entering university remained low. The oil crisis in the early 1970s effectively stymied any future growth in participation due to the pressures on public expenditure which meant the government could not continue to fund any further expansion.

From the late 1980s to early 1990s participation increased rapidly following recognition by government that the country's competitiveness would be increasingly dependent upon the supply of high skilled and educated people. By 1992, the age participation rate had reached 30 per cent – from 17 per cent in 1987 - after which it stagnated once again resulting from pressures to rein in public expenditure resulting from the deep recession of 1990/91 (Bathmaker, 2003).

It was observed that much of the growth in the 1980s took place outside of the traditional university sector. Prior to 1992, the higher education sector comprised universities (funded via national government) and polytechnics (funded via local authorities). It was apparent that the unit costs of the polytechnics were lower than that of the university sector – for a variety of reasons but mainly because local authorities had more control over the polytechnics than national government had over universities – so this made it more cost effective for growth to take place in this part of the sector. It was also the case that the polytechnics had, given their roots in the local labour markets in which they were located – had a more vocational emphasis. In retrospect this may have been a lost opportunity. Rather than growth in the polytechnic sector increasing the provision of VET at higher levels, the polytechnics increasingly aped the educational characteristics of their university counterparts.

In 1992, because government wanted to increase the efficiency in the higher education sector - essentially by creating more competition - the distinction between universities and polytechnics was abolished. In future both would be funded from the same funding source; albeit with one part – the polytechnics - having lower unit costs than the other. The term polytechnic disappeared and all henceforth were referred to as universities. Arguably this change robbed polytechnics of some their identity; that which distinguished them from the pre-199 universities. Polytechnics had been, historically, tied to their local labour markets and had delivered a range of vocational courses, often on a part-time basis and at sub-degree level. But in the post-1992 period they became to look and behave much like the pre-1992 universities.

By the late 1990s, boosting participation levels in HE was once again on the political agenda. With recommendations from the Dearing Report (NICHE, 1997) being implemented students

would increasingly meet the full cost of their higher education. During much of the 1990s the financial support provided to HE students had been reduced in real terms (i.e. maintenance grants had been gradually reduced and needed to be topped up with student loans). A series of studies demonstrated that the predicted lifetime earnings of someone gaining a degree was substantially higher than some who left school at the end of upper secondary education (see Gambin et al, 2014 for a review). This created the rationale for requiring students to increasingly bear the costs of their HE: it was an investment which would generate a relatively high return compared with not going to university (other things being equal). The Dearing Report also resulted in university funding being altered so that it followed the student rather than, as previously, universities receiving a block grant to teach a given number of students. So universities needed to market themselves to prospective students.

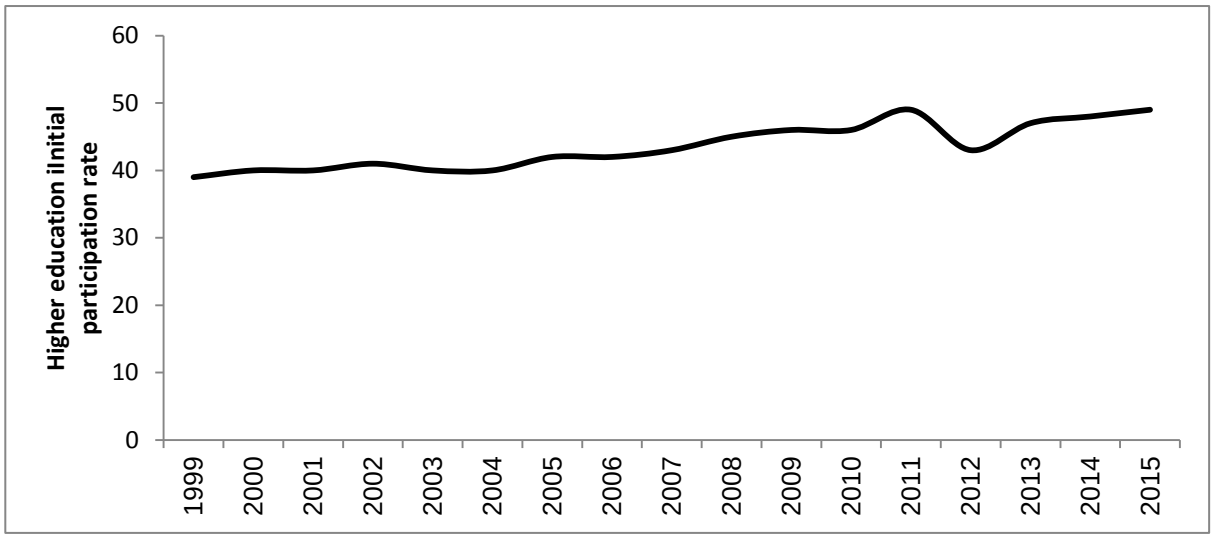
Dearing, however, also wanted to create an alternative to traditional route through HE. He suggested that growth in HE could be generated in the FE sector through the delivery of sub-degree vocational courses; a recommendation that eventually led to the introduction of Foundation Degrees. By providing a vocational HE pathway in the FE sector, there was an opportunity to deliver more affordable higher education to those who might be put off paying tuition fees. In needs to be borne in mind that in 1999, maintenance grants for students were abolished and replaced by loans, and tuitions fees were levied from 2006/7 initially at a maximum of £3,000 and currently at a maximum of £9,000 a year (following the recommendations of the Browne Review in 2010). Despite the increase in the cost of studying at university participation levels continued to increase – see Figure 3.

The impacts of the various changes outlined above have been manifold, but three of the most important are those of:

- potentially making students more instrumental in their decision making with respect to which universities and which courses to study;
- increased questioning of whether a university education provides value for money;[5] and
- increasing competition between HE institutions for students (especially outside the elite group of top universities).

[5] For example, see https://www.notgoingtouni.co.uk/

Figure 3: Higher Education Initial Participation Rate, 1999-2015

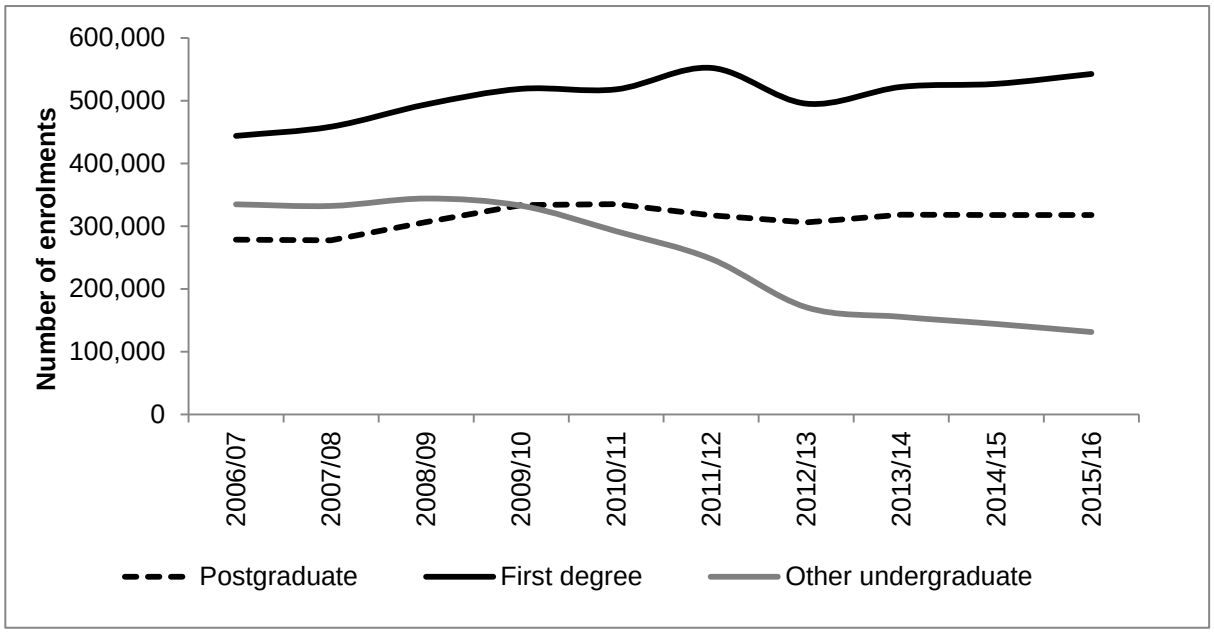


Source: House of Commons Library

Concerns about the costs of higher education also raised questions about diminishing marginal returns resulting for continued expansion of student numbers. This has, in a roundabout way, reignited the discussion about the value of vocational education in HE. It is certainly apparent that all universities have been increasing the vocational element in the academic courses they offer. To differing degrees vocational modules are becoming embedded within some academic courses and all universities offer a range of facilities that will allow their students to gain vocational skills / experiences (Hogarth et al., 2016).

There has been a tendency for HE to adopt a one-size all approach – that is, the provision of full-time degrees. One can see this in the decline of the 'other undergraduate' category in Figure 3. It has been full-time bachelor degrees that have been the main source of growth. This exaggerates the case somewhat, but it is apparent from the 2000s onwards - and especially during the 2010s - that there has been increasing emphasis given to creating a more diverse HE offer. It is certainly evident in policy statements. The government's strategy contained in the White Paper, *Students at the Heart of the System* (2011) was supportive of the provision of HE by FEC: "Colleges have displayed particular strengths in reaching out to non-traditional higher education learners including mature and part-time students. They also have a distinctive mission particularly in delivering locally-relevant, vocational higher-level skills such as HNCs, HNDs, Foundation Degrees and Apprenticeships." In this respect, the policy was reiterating what had been said 10 or so years earlier in the Dearing Report.

Figure 4: Enrolments by course type



Source: HESA Statistical First Release

Important has been that of increasing the provision of vocational courses at EQF level 4+ that could be delivered either in inside or outside the traditional HE sector. There was, for example, Foundation Degrees – essentially at the sub-bachelor level – designed to provide those with non-standard qualifications for entry into HE, the opportunity to obtain an HE qualification. The extent to which these achieved this particular goal is a moot point. Then more recently there has been the decision to introduce Higher Level Apprenticeships.

Higher Level and Degree Level Apprenticeships have been introduced in response to a number of factors:

- in recognition of the fact that some young people are reluctant to amass the debt incurred in studying for a degree but who want to acquire higher level skills, as discussed by most interviewees;
- a policy preference for delivering VET via apprenticeships given its direct link to the labour market; and
- concerns about the extent to which HE actually meets the higher level skill needs of the economy given that many students study general degrees and a degree of uncertainty about the marginal gains to be had from further expansion of the traditional HE sector.

Higher Level and Degree Level Apprenticeships have been introduced at the same time as the employer Apprenticeship Levy. The impact this will have on higher level apprenticeships starts is uncertain. It may well increase participation in higher level VET amongst young people – i.e. those who have the qualifications which would grant them entry to HE but who were reluctant to do so. Or it may lead to employers – especially those faced with paying a sizable apprenticeship levy payment – to use apprenticeships as a form of continuous professional development and training, essentially rebranding training that would otherwise have taken place anyway (Gambin et al., 2016). There are also some concerns, as expressed by one interviewee, that the Levy is mostly beneficial to larger employers, which

could result in SMEs being left out from FE and HE agendas. At the time of writing it is not clear how this will pan out.

In summary, what one observes over time is a period of academic drift. The creation of a single tier of higher education that emerged with the abolition of the distinction between universities and polytechnics resulted in an increasingly homogeneous HE sector. In other words one that was very much oriented towards academic study at the higher level. There was some provision of vocational higher VET but it was modest. Because the expansion of participation in higher education required students to increasingly invest in their own education and training, there was a need to demonstrate to would-be students that an investment in higher education would generate a financial return; hence the emphasis on increasing the employability skills of undergraduates (a form of vocational drift). By given the high cost of traditional HE, policy makers sought to develop an alternative vocational pathway at the higher level to be delivered by FECs and which could be delivered more cheaply than traditional HE. This has reached its apotheosis with the current impetus being given to developing Higher Level and Degree Level Apprenticeships.

3.2 Changes related to characteristics of 'VET at higher levels'

3.2.1 Changes related to governance and institutional structures of 'VET at higher levels'

a) *What is the governance structure of these VET programmes/qualifications at higher levels and what kind of quality assurance regulations are in place (e.g. which national/regional authority provides accreditation/recognition, how are aspects of academic or vocational drift reflected in accreditation regulations)? To what extent and how has this changed?*
b) *What is the role of labour market stakeholders/companies in relation to these types of programmes/qualifications? To what extent and how has this changed?*
c) *What are the funding sources (and with what share) for these type of programmes/qualifications? E.g. what is the role of the State (educational or labour market budget) and of labour market stakeholders? To what extent and how has this changed?*
d) *Which are the key providers of such programmes/qualifications? Do they differ from other providers, such as IVET providers or providers of more academic higher education? To what extent and how has this changed?*

Universities are autonomous organisations under the direction of Vice Chancellors and a Board of Governors, though national government retains a degree of influence over their behaviour via various regulations. The quality of course provision is monitored by the Quality Curriculum Authority (QAA) and the recently government introduced Teaching Quality Framework. Funding derived from government is channelled through the Higher Education Funding Council for England (HEFCE). Some universities have demonstrated a vocational shift by promoting the employability skills of their students, and by appointing business engagement positions and placement departments across all faculties. As explored through discussions with one interviewee, the role of such departments within the overall university institution is to engage stakeholders, employers and local businesses to address gaps in work experience provision and promote the university's growth. Such structures are deemed mutually beneficial for universities and employers, as employers are able to access and train higher level students, and universities can build partnerships and benefit the local economy in which they are based.

The main business of FEC is that of delivering upper secondary education – much of it VET - to young people and a range of courses to adults. They are semi-autonomous entities that fall under the authority of the Department for Education and its various agencies, such as the Skills Funding Agency. FEC, where they deliver vocational HE, often do so under the umbrella of an HE institution, in which case governance of that courses delivered falls under the authority of the HE institution.

Stakeholders are often represented on the Boards of Governors of universities and FE colleges. Where employers perhaps have most influence is in the design of apprenticeship standards and the content of Foundation Degrees. In relation to apprenticeships, employers can design an occupational standard – where one does not exist - under the guidance of the DfE. In this way apprenticeships are designed to meet the needs of the labour market (see WA2 report for England for further details). It is apparent that a sizable amount of vocational HE, is actually delivered in the further education sector. But, given the competition for students and funds, there is some indication that universities are increasingly looking to take the delivery of this training in-house in some instances.

There has been over many years a discussion about the purpose of universities (Wilson, 2012; HM Treasury 2003). They are autonomous organisations that are responsible for their own finances, though they are subject to regulation by various governmental authorities. Many engage in the provision of continuing professional development of individuals / employees. They have the power to award certificates for the training they deliver, if they so wish. The extent to which this activity takes place is not known. It is, however, important to note that the university sector is a supplier of continuing professional development and, thereby, vocational skills, to groups other than undergraduate and postgraduate students. In 2016, 5 per cent of employers reported using an HEI as a source of external training for their employees (Shury et al., 2017).

3.2.2 Changes related to the target groups of 'VET at higher levels'

a) *What is the main target group of these types of programmes/qualifications, what are the access requirements? E.g. to what extent is possession* of an *IVET qualification, professional work experience or the school-leaving exam a requirement? To what extent and how has this changed?*
b) *How can the identity of students (their legal status) be indicated and how has this changed (e.g. are they predominantly students and in some cases interns and trainees or are they predominantly employees enrolled in programmes)? To what extent and how has this changed?*

Typically, entry to higher education required at least two A-levels (general, upper secondary education qualifications). This was thought to potentially disadvantage certain social groups who were less likely to enter the general track in upper secondary education. So there was recognition that alternative pathways into higher education needed to be developed or expanded upon. It is certainly the case that vocational provision has potentially allowed more students to study at a higher level because: (a) there is less emphasis on possessing relatively high level academic qualifications to gain entry; and (b) the vocational nature of training makes it more attractive to young people who had little desire to continue down a predominantly academic track. As noted earlier, the evidence demonstrates that HE in FE has been able to attract a more diverse population of students (Parry et al., 2012).

3.2.3 Changes related to the main purposes and functions of 'VET at higher levels'

a) *What is the main destination of graduates, which qualifications and rights do they acquire? E.g. do they gain rights for progressing in education (such as access to*

higher education), do they occupational qualifications and rights or both, educational and occupational qualifications/rights? To what extent and how has this changed?

b) What is the occupational status of graduates? E.g. will they be technicians/professionals? To what extent and how has this changed?

Higher level VET appears to serve three purposes:

1. providing individuals with the basic vocational preparation that will allow them to access a profession;
2. giving individuals who may already be in a job with the opportunity to progress in their profession. It needs to be borne in mind that often existing employees will be placed on Foundation Degrees or apprenticeships by their current employer; and
3. allowing individuals to progress to higher levels of education – especially entry to Bachelor degree level studies often where their initial set of qualifications would not have allowed them to enter that course of study.

Table 4 shows the main destinations of students leaving academic and vocational higher level education. It shows that HNCs and Foundation Degrees can be important stepping stones to further study; more so than when students complete a first degree.

Table 4: Destinations of graduates by type of higher level education course, 2016

	First degree	Foundation degree	HND/HNC	Other undergraduate	Total - All undergraduates
UK work	65%	25%	35%	34%	50%
Overseas work	4%	2%	0%	1%	2%
Work & further study	6%	15%	18%	7%	9%
Further study	10%	57%	24%	48%	23%
Unemployed	8%	1%	11%	5%	8%
Other	8%	0%	10%	5%	8%
Total percentage	**100%**	**100%**	**100%**	**100%**	**100%**

Source: HESA Origins and Destinations Data

There is relatively little occupational licensing in the UK. It is the case that some professions specify or prefer a first degree to gain professional membership – such as a chartered engineer – but this does not necessarily mean that people cannot enter that profession.

There are vocational degrees that are directly linked to an occupation, such as nursing and medical practitioner.

3.2.4 Changes related to the perception of 'VET at higher levels'

a) How are these VET programmes/qualifications at higher education levels perceived? Are the considered as second choice, equal to more academic higher education programmes or are they even valued higher? To what extent and how has this changed?

Apart from degrees such as those related to medicine (see Figure 1), in general vocational courses do not have the same esteem as those considered to be general: this is as true in tertiary education as it is at the lower and upper secondary levels. In part this is driven by the fact the entry requirement has been lower than that for some general courses, and the fact that the more elite HE institutions have been a little reluctant to offer vocational courses that have historically been associated with other types of HE institution. Moreover, arguably, they have had little financial incentive to do so. That said, some of the more elite institutions have shown an interest in Higher Level and Degree Apprenticeships, especially for engineering

degrees, as noted by an interviewee. The Apprenticeship Levy potentially provides a substantial amount of funding that may prove attractive to all HE institutions (i.e. the employer pays the levy and then is able to recoup that payment by providing apprenticeship training. The employer will need to select a training provider to deliver the formal education and training that constitutes the apprenticeship, but has a free choice about which provider to select so long as they are registered as a provider with government).

4. Impact on content and delivery of qualifications and programmes - the epistemological or pedagogical perspective

This section focuses on the implications of 'vocational or academic drift' or of the 'expansion of VET at higher levels (outside higher education)' for the content and delivery of programmes and qualifications.

4.1 Changes in relation to content and profile

a) *How can the content or profile of VET programmes/qualifications at higher levels be described? E.g. accentuation or reduction of theoretical, abstract and disciplinary based knowledge vs. practical or experience based knowledge or an enhanced emphasis on the integration of professional and academic knowledge? To what extent and how has this changed?*
b) *To what extent do the learning outcomes refer to a specific occupation/profession, to a broader vocational field and to what extent can an equal balance between occupation-specific and transversal learning outcomes (such as leading teams, entrepreneurship) be identified? To what extent and how has this changed?*

As noted in the previous sections, higher / tertiary education has historically been focused on the delivery of academic education. The former polytechnics provided, for a brief period, something akin to vocational education and training with HE but following their conversion to university status in 1992, the extent to which they offered something distinct to the pre-1992 universities arguably began to disappear somewhat. There have been attempts to create a vocational stream in higher education through, for example, foundation degrees and latterly via the development of higher level apprenticeships.

There is much evidence that academic courses, or at least the participants on academic courses, are now expected to take part in a wider range of vocational activities, such as sandwich placements or summertime work experience placements, than hitherto. This tends to be delivered under the umbrella of employability measures (Hogarth et al., 2016). Sometimes these are delivered within courses (i.e. they have become part of the curriculum) but more commonly they are likely to be optional activities in which students are expected to participate. Some interviewees noted that the input of employers in the curriculum across higher levels had resulted in a vocational shift. This shift reflects the recognition that employer input is essential to ensuring that the taught educational material is relevant, and that students acquire the necessary skills to improve their employability. This ranges from employers proposing work-based scenarios for students to address and later be assessed on, to institutions developing courses suited to local companies (such as nuclear engineering degrees).

In the case of apprenticeships, the standard, which essentially specifies what the apprenticeship is meant to deliver, is designed with the substantial involvement of employers. Employers can propose to government a standard for an occupation that is not already covered by an apprenticeship. The employer – or employers – can then work with government to develop the standard for that occupation. In this way, the standard will ensure that the needs of the employer and thereby the labour market will be met. There has to be an educational element that provides the theoretical underpinning knowledge required to meet the required standard.

4.2 Changes in relation to the delivery

a) *How can the pedagogical/didactical approach in relation to VET programmes/qualifications at higher levels be characterised? E.g. by enhanced practice-orientation (learning by doing) and work based learning (e.g. as traineeship periods') or by enhanced theory-based reflection on practice and scientific research? In which formats are they offered (e.g. as part-time study programmes for workers, as 'dual study programmes')? To what extent and how has this changed?*
b) *Which learning sites are used? E.g. mainly classroom with some practical experience, WBL-sites including real companies, multiple learning sites? To what extent and how has this changed?*
c) *What is the educational and professional background of teachers? E.g. are they required to have comprehensive work experience, are they part-timers who are also 'practitioners' or teachers with professional experience in industry, are they trainers in companies, do they need to have an academic degree? To what extent and how has this changed?*

Markowitsch provides three concepts of VET (Cedefop, 2017):

- pedagogical – VET as a distinctive process of knowledge production, transfer and use;
- education system – where VET is regarded as an institution where that institution has the characteristics of a sector, system, organisational field, or culture; and
- labour market – where VET contributes to social stratification by providing access to particular career pathways.

These are not necessarily mutually exclusive conceptions. Arguably, in England, the labour market perspective has played the dominant role over recent decades. The skills system in its entirety is, first and foremost, concerned with the production of skills for which there is a demand in the labour market. The various reforms of the VET system over recent decades have been designed to make it more responsive to labour market demand (Gambin and Hogarth, 2017). Employers – or their representatives – have been very much embedded in the skills system given the role the role they have in designing standards that apply to particular programmes (e.g. in Foundation Degrees and apprenticeships). The rationale for including employers in the design process is that they are best placed to identify the skills that an industry or occupation requires. But there is, perhaps, a pedagogical element at play here too. The policy preference over the last decade or so is for IVET to be delivered through apprenticeships: the mix of theoretical learning combined with the opportunity to practice those skills in the workplace is seen as being particularly effective and efficient in delivering the skills required by the economy. One needs to be careful here in placing too much emphasis on the pedagogical perspective. To some extent the preference for apprenticeships – even if the number of apprentices at any one time is low – is, in many respects, a reflection of the fact that this is seen as the most cost-efficient means of delivering the skills the economy needs.

The above applies to VET at higher levels too. The development of VET at higher levels relates to meeting a perceived demand for skills that traditional HE sector might not be able to meet – either because it is too theoretical and / or a too high a level. It is interesting in this regard to note that a lot of VET at the higher level has become concentrated at the sub-degree level. But there is an increasing preference to move away from classroom based VET – such as Foundation Degrees – to an apprenticeship model at the higher levels.

The evidence on the differences between the delivery of higher level VET in HE or FE is scant. Some evidence suggests that VET when delivered in an FE setting tends to place more emphasis on classroom based learning with less value attached to extra-curricular

activities when compared with provision in an HEI. There is no evidence to suggest that the quality of provision in FEC is any lower than in HEIs (Parry et al., 2012). With the introduction of higher level apprenticeships, there will be a mix of classroom and workplace based training; but this is in the very early stages of development. With the growth of higher level apprenticeships, one expert interviewee noted the need for balance between the vocational and academic elements of these courses. The expert stated that there is a risk of students doing 'what needs to be done' to get the job, but failing the degree or not completing the professional qualification. To do this, courses should be delivered in an integrated structure, in which one part cannot be achieved without completing the other. At the moment there is no evidence to compare apprenticeship provision with that in FEC or HEI.

For all areas of higher education, the Teaching Excellence Framework (for which The Department for Education is responsible) has also had an impact on VET provision, for both providers and students. As explained by one respondent, the TEF is comprised of three core metrics, one of which is directly linked with employability. All high level education providers are tested and awarded standards each year, following the TEF metric system. This framework applies to higher and degree apprenticeships as well as traditional academic degree pathways, and it is expected that there will be a connection between TEF results and the fees requested by providers. The influential power of the framework demonstrates a clear governmental focus and support towards VET at higher levels in the UK.

5. The context of change: rationale and drivers for change or persistence

This section aims at understanding how policy influences and justifies the change processes and which external factors influence and shape policy responses/decisions and the change processes observed.

a) *How and to what extent are the change processes supported (or hampered) by specific educational policies?*
b) *What is the rationale for offering VET programmes/qualifications at higher levels respectively for the changes observed? How are these changes justified in educational policy? (E.g. increasing labour market relevance of curricula/qualifications, securing supply of highly skilled labour, professionalism, innovation and economic growth in enterprises, individual and social progression?) To what extent and how has this changed?*
c) *Which drivers for change or persistence can be identified that shape policy responses? (E.g. European/international developments, such as Bologna process – harmonisation of degree structures in higher education, expansion of higher education, autonomy of universities, technological changes, EQF/NQF implementation)?*
d) *How are the change processes perceived in the country? (e.g. are they generally welcomed, are there critical remarks?)*

Looking back over the development of higher VET in England one can identify a number of drivers of change:

1. a policy decision to increase participation levels to increase participation in higher education in order to meet the skill needs of the economy over the medium-term;
2. a recognition that the costs of increased participation cannot be met by the exchequer such that students will need to contribute more to the costs of their education at higher levels;

3. a requirement to widen participation in higher education so that it does not remain the preserve of the middle classes;
4. a need to ensure that the outputs of higher level education in general – within and outwith the higher education sector – should produce something which has economic value.

Over time, one observes an increase in the number of students studying in universities and former polytechnics studying, to a large extent, general / academic programmes of study. As participation levels build, it becomes increasingly apparent that the exchequer cannot – or will not – continue to fund higher education in the way that it had in the past (i.e. as provision of a free good). Students are expected to increasingly meet the costs of their higher education which, given the upfront costs of entering higher education, presents challenges with regard to widening participation. This is because there are concerns that some individuals, notably those from lower socio-economic backgrounds, are risk averse when it comes to taking out loans to cover their tuition and maintenance costs. The widening participation agenda has given an impetus to the development of a more vocational pathway through higher levels of learning. This had always been in place to some degree, but it has gained much more traction over recent years with the introduction of Foundation Degrees in the late 1990s and now the push to increase participation in Higher and Degree Level Apprenticeships. Widening participation is not the only driver of change that led to much more focus on the provision of VET at higher levels. It also relates to the requirement that post-compulsory education confers something of economic value on the learner. A pressing concern about levels of over-qualification in the workforce has increased attention on the need for education at higher levels to have a labour market focus. Universities have responded to this through the provision of employability training within general / academic courses. But it has also led government to attempt, once more, to revitalise the provision of VET at higher levels – this time via apprenticeships. The problem with apprenticeships – notwithstanding the introduction of the Apprenticeship Levy on employers – is that it has proven difficult to persuade a sufficiently large population of employers to provide them.

The above has been articulated very much with respect to higher education. This is because, as explained in the introduction to this paper, VET at higher levels does not exist to any great extent in any size, shape or form outside of what constitutes higher education in England. In so far as it does exist it relates to continuing professional development and training (i.e. CVET) that takes place at higher levels. Rightly or wrongly, CVET at higher levels has tended to be regarded very much as a private rather than public policy issue. That said, the introduction of apprenticeships at the higher level may subsume some of this higher level VET for the reasons explained elsewhere in the paper (i.e. the tendency for employers to use publicly funded apprenticeship programme to train existing employees).

As noted by all interviewees, when it comes to VET in higher education, the most recent driver for change has been the increase in fees. For students, it has become more important to 'get more' from degrees, which includes gaining skills to enhance their employability so that they will obtain the type of employment that will have made the financial investment worthwhile. As discussed, this has led to a vocational shift in HE provision, through placement services, improved careers advice, and employer input in the curriculum and course design.

6. Zooming in on nursing and engineering

Please reflect on the particular situation in the nursing and engineering areas: Which main change processes (in relation to 'academic drift', 'vocational drift', expansion of VET at higher levels outside higher education') can be observed in this area? What are the specificities and differences compared to other areas?

It is apparent that with each successive wave of expansion in higher education a wider group of professions have become required new entrants to be graduates. This has resulted, over time, in a range of course being delivered within HE that are, ostensibly, related to a profession but in practice often tend to be academic rather than vocational.

a) Nursing

Since 2013, all new entrants to the nursing profession need to have a degree in nursing (at EQF level 5). The past 30 years have seen major shifts in nursing. Historically entry to nursing was through the secondary vocational pathway leading to the award of a diploma that allowed individuals to be registered as nurses. With the introduction of Project 2000 in the late 1980s there was a marked shift towards the professionalisation of nursing. Until the 1990s nurse training was mainly at the diploma level (i.e. below the Bachelor level), but with Project 2000 nurse training was to become increasingly located in higher education (i.e. in HEIs providing nursing degrees). This had the impact of increasing the entry qualifications to train as a nurse (i.e. qualifications were required that would grant entry to university). The changes which have been increasingly rolled out since Project 2000 have professionalised the nursing and, in doing so, put it on an equal footing with other professional groups in the health sector (Carpenter et al., 2012).

There have been concerns that the creation of a degree level entry has affected the traditional role of nurses as carers – i.e. that nurses are no longer willing to carry out certain tasks which were traditionally undertaken by nurses because they these should be carried out by someone at a lower level. The Willis Review on the Future of Nursing refuted this concern. It reported that it "… did not find any evidence that degree-level registration was damaging to patient care. On the contrary, graduate nurses have played and will continue to play a key role in driving up standards and preparing a nursing workforce fit for the future." (RCN, 2012)

As noted above the requirement that nurses now complete a Bachelor's degree (compulsory since 2013) has changed entry requirements to the profession insofar as those who wish to enter nursing need to have attained grades at A-level that will grant them entry to university. Moreover, whilst the traditional route into nursing was of an apprenticeship type (i.e. the trainees were employed as student nurses), nurses now tend to be registered as full-time students and are required to pay tuition fees and cover their living expenses. With the withdrawal bursaries to funding nurses' training, there has been a negative impact on the numbers enrolling to study nursing (The Guardian, 2017).

b) Engineering

Engineering has long been an established academic subject within higher education. Much of the debate within engineering circles relates to how more people might be persuaded to study engineering in universities. The Institution for Engineering and Technology for instance would like to see a refocusing of the higher education curriculum away from 'theory' and lectures to problem-based, project-based or experiential learning – focused on creating solutions to real-world challenges, offering internships, placements and work-related learning opportunities during the degree course (IET, 2017). In many respects these are already supplied by many higher education institutions. The debate has become focused on the extent to which graduates are work ready at the end of their studies rather than requiring substantial further training by the employer. And this relates to a wider variety of subjects than engineering. Whether or not there are real shortages for engineers, however, has been challenged (Bosworth et al., 2014).

7. Current debates and future perspectives

Please describe main current debates and any trends that can be observed or expectations related to future developments of 'VET at higher levels' (and specifically in the nursing and engineering areas) and provide evidence underpinning trends or expectations.

a) *What are the main current debates related to 'VET at higher levels' in your country, if any? Are there any main recent/planned developments or reforms related to 'VET at higher levels'?*

b) *Can any trends related to future developments be observed? (e.g. in terms of increasing or decreasing use of 'VET at higher levels'; changes in regulations, types of providers offering 'VET at higher levels', profile of learners/teachers, involvement of labour market stakeholders, partnerships/cooperation; development of new types of 'VET at higher levels'; coverage of 'emerging' fields)?*

c) *Please add any further information and concluding remarks!*

The current debate is very much centred around the value for money provided by higher education. Analysis of the rates of return to obtaining a first degree indicates that earnings are higher, other things being equal, than if the individual gained the qualifications that grant entry to higher education but did not do so for some reason (see, for example, Britton et al., 2016; Walker and Zhu, 2013). And, moreover, the earnings and employment premia have remained more or less stable over time even as the numbers entering university have increased. Given that so many people now enter university there has been concern that the methodology used to estimate the graduate premium may be flawed (Gambin et al., 2014). In particular that those who have the qualifications to enter university but do not do so are unusual in some way (i.e. there is unobserved heterogeneity so like is not being compared with like). There remain concerns that the returns for some groups of students may be relatively low – especially where they have studied at non-elite universities and have studied courses which are not linked to the labour market – to such a level that they will not reach the earnings threshold at which the loans they took out to fund their higher education need to be repaid. Given that these loans are underwritten by the government there are legitimate concerns relating to the extent to which the tax payer will need to meet the cost of any shortfall.

This has tended to focus interest in developing further an alternative to university based higher education. The important development in this regard is that of Higher of Degree Level Apprenticeships). These are at an early stage of development, but they are, like the rest of the apprenticeship system in England, based on standards that employers (or their representative organisations) are involved in developing (DfE, 2017). So in this sense they are very much linked to the demand-led skills agenda that tends to dominate the discussion on skills in England (and the UK more generally).

In summary, one can point to the joint issues of matching and funding dominating the debate on higher education.

8. Overview

This table should provide an overview of what types of changes due to 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' can actually be observed in the country.

Please indicate the main processes and phenomena identified during the last 20 years in the table below – referring to the direction of change, the object of change, the context of change (or target area of change), the key processes observed and the results of these processes as well as their time frame and indicate the sections in which they are presented! Examples of key processes/results are presented in table 1 of the guidance note.

Table 1 **Overview**

Direction of change	Object of change	Context/target area	Key processes observed / results	Timeframe	Section
Academic drift	**Higher Education**	professionally-oriented HE	Observed in increased requirement for a degree to enter a profession with courses such as accountancy, for example, being popular courses in HE	Post-1992	1, 2, 3, 6
		traditional (or academic) HE programmes	With the mass expansion of higher education in the 1990s and 2000s, there was evidence of academic drift as the former polytechnics increasingly came to resemble the older (pre-1992 universities) in the provision of what they offered – more emphasis on the academic and less on their traditional area of strength which was the vocational	1990s and 2000s	1, 2
	VET (outside HE)	VET transformed to HE			
		VET offered at higher levels outside HE	As explained in the introduction, in England is not meaningful to describe training outside of the national system as the national system has subsumed it. And the national system comprises compulsory education (primary and secondary), FE, and HE.	From the 1980s onwards in earnest	1, 7
Vocational drift	**Higher Education**	professionally oriented HE	This has always existing with traditional HE – e.g. dentistry, medicine, etc. It is possible in England to accredit CVET and professional courses to national qualification levels – this has been in place for many years.	Ongoing	1,2,7
		traditional (or academic) HE programmes	The employability agenda is reshaping the provision of courses within HE, especially when considering the implementation of the Teaching Excellence Framework. There has always been provision of HE courses within FE colleges. Sometimes this is delivered at sub-degree levels – e.g. some foundation degrees were licensed to FE colleges by HE institutions. Now higher level apprenticeships will potentially provide a new pathway through HE		2, 4
Expansion of VET at higher levels (outside HE)	**VET at higher levels (or 'higher VET') offered outside HE**		Higher and Degree Level Apprenticeships. This might be delivered within HE or FE. It will also require a substantial amount of training to take place within companies. But as pointed out in the text, the extent to which it is meaningful to talk about higher level VET outside of higher education (as defined in England) has to be questioned.	2015 onwards	1,2, 5, 7

9. Sources of information

References

AoC (Association of Colleges) (2017). *Key Facts 2016/17*. London: Association of Colleges

Bathmaker, A.M. (2003). 'The Expansion of Higher Education: A Consideration of Control, Funding and Quality' in Bartlett, S. and Burton, D. (eds) *Education Studies. Essential Issues,* London: Sage, pp.169-189.

BIS (2011) *Students at the Heart of the System*. London: Deparment for Business Innovation and Skills, Cm 8122

Bosworth, D.L., Lyonette, C., and Wilson, R.A. (2013). *The Supply of and Demand for High-Level STEM Skills*. UK Commission for Employment and Skills Evidence Report 77

Brennan, J. and Little, B. (1996). *A Review of Work Based Learning in Higher Education*. Sheffield: Department for Education and Employment

Britton, J., Dearden, L., Shephard, N., and Vignoles, A. (2016). *How English-domiciled graduate earnings vary with gender, institution attended, subject and socio-economic background*. London: Institute for Fiscal Studies

Carpenter, D., Glasper, A., Jowett, R., and Nicholls, P. (2012). *Celebrating 30 years of integrated undergraduate nursing at The University of Southampton.* University of Southampton Working Papers in Health Sciences

Cedefop (2017). *The changing nature and role of vocational education and training in Europe. Volume 1: conceptions of vocational education and training: an analytical framework*. Luxembourg: Publications Office. Cedefop research paper; No 63

Cedefop (2011). *Vocational education and training at higher qualification levels*. Luxembourg: Publications Office of the European Union

Daniel, W.W. and N. Pugh (1975). *Sandwich Courses in Higher Education*, Political and Economic Planning, Broadsheet No. 557, London

Department for Education (2017). *Complete to Higher and Degree Level Apprenticeships*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/607531/COMPLETE-GUIDE-TO-APPRENTICESHIPS-201718.pdf

Gambin, L. and Hogarth, T. (2017). 'Employers and apprenticeships in England: costs, risks and policy reforms', *Empirical Research in Vocational Education and Training*, Vol. 9, No.6

Gambin, L. and Hogarth, T. (2016). 'Counting the cost, reconciling the benefits: understanding employer investment in Higher Apprenticeships in accounting', *Accounting Education*, Vol. 25, No.5

Gambin L, Beaven R, Hogarth T, May-Gillings M and Long K (2014). *Methodological Issues in Estimating the Value Added of Further Education, Higher Education and Skills: A review of relevant literature*, London: Department for Business, Innovation and Skills.

The Guardian (2017). *Nursing degree applications slump after NHS bursaries abolished*. 2 February 2017

HM Treasury (2003). *Lambert Review of Business-University Collaboration*. London: HM Treasury

Hogarth, T., Gambin, L., and Winterbotham, M. (2016). *Evaluating the Impact of Higher Education Providers' Employability Measures*. Report to the Quality Assurance Agency for Higher Education

Hogarth, T., Maguire, M., Pitcher, J., Purcell, K. and R. A. Wilson (1997). *The Participation of Non-Traditional Students in Higher Education.* Bristol: Higher Education Funding Council for England

IET (2017). *New approaches to Engineering Higher Education*. http://www.theiet.org/policy/panels/education/22-05-17.cfm

Lea, J. and Simmons, J. (2012). Higher education in further education: Capturing and promoting HEness. Research in Post-Compulsory Education, Vol. 17, No. 2,. pp. 179-193.

Lester, S. (2016). ‚Higher Vocational Education and Training in England' in Hippach-Schneider, U. and Schneider, V. (Eds.) *Tertiary vocational education in Europe – examples*. Bonn: Federal Institute for Vocational Education and Training Discussion Paper No.178

NAS (National Apprenticeship Service) (2017). *A Guide to Higher and Degree Apprenticeships*. Coventry: National Apprenticeship Service

National Committee of Inquiry into Higher Education (1997). *Higher Education in the Learning Society*. Main report. London: NCIHE

Parry, G., Callender, C., Scott, P. and Temple, P. (2012). *Understanding Higher Education in Further Education Colleges*. London: Department for Business Innovation and Skills Research Paper No.69.

Parry, G. (2009). 'Higher Education, Further Education and the English Experiment'. *Higher Education Quarterly* Vol.63, No.4, pp.322-342

Parry, G., and A. Thompson (2002). *Closer by degrees: The past, present and future of higher education in further education colleges*. London: Learning & Skills Development Agency.

Rapley, E. (2012). 'HE in FE – Past, Present, and Future' *Journal of Pedagogic Development*, Vol.2, No.2

RCN (2012). *Quality with compassion: the future of nursing education*. Report of the Willis Commission on Nursing Education. Royal College of Nursing

Shury, J., Vivian, D., Kik, G., Skone James, A., Tweddle, M., Wrathall H. and Morrice, N. (2017) The Employer Perspectives Survey 2016: Research Report. London: Department for Education

Scott, P. (2009). '*On the Margins or Moving into the Mainstream? Higher Education in Further Education in England'*, Higher Education Quarterly, 6 (4), pp 402-418

Walker, I. and Y. Zhu (2013). *The impact of university degrees on the lifecycle of earnings: some further analysis*. BIS Research Paper No.112.

Wilson, T. (2012). *A Review of Business–University Collaboration*. London: Department for Business Innovation and Skills

Annex I: List of interviewees

Please provide the following information:

- Name (Mr/Ms, forename, surname)
- Organisation and function
- Please ask whether the interviewee agrees that his/her name will be included in the final publication (in case Cedefop decides to list interviewees)!

Country	Name	Organisation and function	Contact information (Email, phone) List of interviewees	Date of interview	Agreement*– yes/no
UK	Emily Richards	University of Bath Business Engagement Manager Faculty of Humanities & Social Sciences	+44 1225 384979 e.richards@bath.ac.uk	25/10/17	No
UK	Heike Behle	University of Warwick Institute of Employment Research	02476 150225 Heike.Behle@warwick.ac.uk	16/11/17	No
UK	Peter Dickinson	University of Warwick Institute of Employment Research	P.Dickinson@warwick.ac.uk	17/11/17	No
UK	Stephen Isherwood	Institute of Student Employers	0207 033 2460 stephen@ise.org.uk	14/11/17	No

* Interviewee agrees that his/her name can be included in the final publication

Annex II: List of subjects covered by Higher and Degree Level Apprenticeships

THE A-Z OF HIGHER AND DEGREE APPRENTICESHIPS

S Standard F Framework

Area of study	Level	
A		
Accounting	4	F
Actuarial Technician	4	S
Advanced Dairy Technologist	5	S
Aerospace Engineer Level	6	S
Aerospace Software Development Engineer	6	S
Agriculture	4	F
Aircraft Maintenance Certifying Engineer	4	S
Assistant Technical Director (visual effects)	4	S
Associate Ambulance Practitioner	4	S
Associate Project Manager	4	S
Aviation Operations Manager	4	S
B		
Bespoke Tailor and Cutter	5	F
Broadcasting Technology	6	F
Bus and Coach Engineering Manager	4	S
Business Analyst (Digital)	4	S
Business and Professional Administration	4	F
C		
Care Leadership and Management	5	F
Chartered Legal Executive	6	S
Chartered Manager Degree Apprenticeship	6	S
Chartered Surveyor Level	6	S
Civil Engineer Level	6	S
Civil Engineering Site Management (degree)	6	S
Commercial Procurement and Supply	4	S
Construction Management	4, 5, 6	F
Control / Technical Support Engineer	6	S
Conveyancing Technician	4	S
Creative and Digital Media	4	F
Cyber Intrusion Analyst	4	S
Cyber Security Technologist	4	S
D		S
Data Analyst	4	S
Dental Practice Manager	4	S
Dental Technician Level	5	S
Digital Learning Design	4	F
Digital and Technology Solutions Professional	6	S
E		
Electrical Power Protection and Plant Commissioning Engineer	4	S
Electrical/Electronic Technical Support Engineer	6	S
Embedded Electronic Systems Design and Development Engineer	6	S
F		
Financial Adviser	4	S
Food Industry Technical Professional (Degree)	6	S
H		
Healthcare Assistant Practitioner	5	S
Healthcare Science Associate	4	S
Healthcare Science Practitioner	6	S
Hospitality Management	4	F
Human Resource Consultant/Partner	5	S
I		
Insurance Professional	4	S
Intelligence Operations	4	F
Internet of Things and Cyber Systems Engineer	5, 6, 7	S
Investment Operations Specialist	4	S
IT, Software, Web & Telecoms Professionals	4	F

Area of study	Level	
J		
Junior 2D Artist (visual effects)	4	S
Junior Management Consultant	4	S
L		
Laboratory Scientist	5	S
Legal Services Level	4	F
Licensed Conveyancer	6	S
Life Sciences and Chemical Science Professionals	4, 5	F
M		
Manufacturing Engineering	4	F
Manufacturing Engineer	6	S
Mineral Products Technology	4, 5	F
N		
Network Engineer	4	S
Nuclear Scientist and Nuclear Engineer	6	S
Nuclear Technician	5	S
Nuclear Welding Inspection Technician	4	S
Nurse (registered nurse degree)	6	S
O		
Operations/Departmental Manager	5	S
Outside Broadcasting Engineer	7	S
P		
Paraplanner	4	S
Post Graduate Engineer	7	S
Power Engineer (Degree)	7	S
Probate Technician	4	S
Process Automation Engineer	7	S
Product Design and Development Engineer	6	S
Professional Accounting Taxation Technician	4	S
Professional Services	4	F
Project Controls Technician	7	S
Project Management	4	F
Public Relations	4	F
Public Sector Commercial Professional	4	S
R		
Rail Engineering Advanced Technician	4	S
Recruitment	4	F
Relationship Manager (Banking)	6	S
Retail Manager	4	S
Road Transport Engineering Manager	4	S
S		
Science Industry Process / Plant Engineer	4	S
Senior Compliance/Risk Specialist	6	S
Senior Housing/ Property Management	4	S
Social Media and Digital Marketing	4	F
Software Tester	4	S
Software Developer	4	S
Solicitor	7	S
Supply Chain Management	5	F
Sustainable Resource Operations and Management	4	F
Systems Engineering	7	S
T		S
Teacher	6	S
The Water Industry	4	F
U		
Unified Communications Trouble Shooter	4	S

Source: NAS (2017)

Case study

Country: Austria

Author: Viktor Fleischer

Title of the case study: Highway to VET

1. Introduction

Please provide a concise introduction that gives an overall indication of the change processes observed (during the last 20 years) related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)'.

On the whole, all developments addressed by this work assignment could be observed in Austria within the last 20 plus years. Most obvious and best documented, a **'vocational drift' in Austria´s higher education sector** took place which manifested in a **totally new vocational sub-sector** within higher education, the 'Fachhochschulen' or **Universities of Applied Science**. But also, long-established universities experienced a 'vocational drift' which took different forms and showed different outcomes (e.g. the re-structuring of curricula, the establishment of placement centres).

In parallel, Austria´s higher education has shown different forms of an 'academic drift': A few specific upper- and post-secondary programmes (from the fields of health care, social work and teacher training) were upgraded into higher education programmes or institutions. Beyond that, they also strengthened and put in the front their academic efforts when aiming for a better standing in research-based rankings and assessments. For private providers, the option of founding a private university was implemented.

The same higher education institutions have left the traditional routes of higher education and entered new fields by offering postgraduate and university course offers. However, the majority of programmes in the sometimes very lucrative field of professionally oriented further education is covered by private institutions placed clearly outside of higher education (by at the same time also showing strong institutional traditions, e.g. of the chambers). It is evident that the number of such offers has grown during the last 20 years but due to high fragmentation a complete overview cannot be provided in this study. Having a nascent NQF in Austria, it is not always clear which of these programmes can be allocated to a higher level. For the same reason, a number of educational pathways which have their clear place within the national understanding of the education system do currently not lead to a (higher-level) qualification in the sense of the NQF. For some of them an allocation to NQF has just or will soon become reality (e.g. engineer´s degree, master-craftsperson), for others most probably not (e.g. newly established 'Berufsakademien').

For better understanding developments in Austria, some contextual information has to be taken into account: Besides of having a prominent apprenticeship system (though weakly linked to higher education), a school-based form of VET exists on upper secondary level of which its higher form falls under the scope of this study (being classified on NQF-level 5 which is referenced to EQF-level 5). Its existence has major consequences for both the slow establishment of VET on tertiary level and the gap between the international and the national understanding of 'VET at higher levels' in Austria.

2. VET at higher levels

Please briefly describe the current situation related to 'VET at higher levels' in your country and refer to the following questions:

*Which **types of vocationally oriented degrees/qualifications** are currently awarded at **EQF levels 5-8** and **since when**? Please include the titles of these types and their NQF/EQF level and **describe them briefly**! Please use the most commonly used English translation for the titles of qualification types and use these titles consistently*! ([6]) *To which **educational segment** do they belong (e.g. higher education, post-secondary level VET, CVET)? What is the **'importance' of these types** (e.g. in terms of number of learners or graduates) compared to other types (such as number of students enrolled in academic HE programmes)? Are there any prevailing economic sectors?*

*Please include any **figures or diagrams** (e.g. presenting time series), if possible!*

This section presents VET pathways in Austria which can clearly or assumedly be allocated to higher levels as defined for this study. Groupings are made which are based on analytical resemblances between pathways in terms of education level or their status towards the higher sector. These groupings often, but not always go along with the Austrian understanding of its education system.

For understanding Austrian qualifications and the status of vocational as well as higher education it is important to stress that Austria has a strong vocational system on upper secondary level. ([7]) This mainly falls into two strands, one being Austria´s apprenticeship system, the other being fully school-based vocational education. While the major form of the fully school-based system (*Colleges for Higher Vocational Education or VET colleges, BHS*([8])*)* leads to a double qualification providing both a vocational qualification and access to higher education, accomplished apprenticeships do not automatically provide access to higher education (though such optional pathways have been established in recent years). From the higher education perspective, the lower form of the fully school-based strand *(schools for intermediate vocational education, BMS)* is rather similar to apprenticeships as their pathways into higher education demand comprehensive upgrading programmes which to take up is rather the exception than the norm.

Especially Colleges for Higher Vocational Education (in short: VET colleges) have been discussed as being a major influential factor on the development of VET on higher levels in Austria. Harking back to French educational ideals (based on full-time school-based VET) from the 19th century, VET colleges were institutionalized in the 1960s and growing strong since the late 1970s supported by social-democratic education policies (see also Section 3.2) (Graf, 2015, p. 5). Having the status of hybrid institutions incorporating both vocational and academic education (Graf, 2013), they became an important pathway for young people with low educated family background to higher forms of education. At the same time, their role within education structures reinforced the divide between vocational and academic education: As VET on higher levels was covered anyway by these upper secondary schools,

([6]) If applicable, refer to the Cedefop NQF monitoring reports – see: http://www.cedefop.europa.eu/en/events-and-projects/projects/national-qualifications-framework-nqf/european-inventory

([7]) Parts of vocational education on upper secondary level are classified as ISCED 5 and EQF-level 5 and thus can be considered as 'VET at higher levels' within this study.

([8]) Both translations are frequently used (see e.g. http://www.bildungssystem.at/en/school-upper-secondary/college-for-higher-vocational-education/). In this study, we will refer to 'VET colleges'.

universities could persist on their role as academic elite institutions (Haberfellner and Sturm, 2014, p. 66). Although basically having the option of accessing higher education, take-up rates among graduates of VET colleges are still lower than among graduates from academic schools – also due to their stronger orientation to the labour market. Beyond that, their study choices tend to stay monothematic by mainly continuing their former fields of study and thus disregarding other, more academic study fields (Haberfellner and Sturm, 2014, p. 67). Also, universities (but even UAS) are still reluctant to accredit (parts of) learning outcomes from VET colleges and thereby shortening their studies for VET college graduates.

Taking this into account, it is no wonder that one still can speak of 'vertical responsibilities' where 'academic' is taken as synonym for 'university' and 'higher education' whereas 'vocational' is not associated with the tertiary level (Schmid, 2014, p. 205). Also, the introduction of UAS did not change this approach profoundly because both in international classifications (ISCED 2011) and in the public perception UAS belong to 'academic higher education'. ([9]) Opening up towards graduates of apprenticeships and schools for intermediate vocational education (BMS) was initially intended but today these groups are still massively underrepresented among applicants.

Group 1: School-based pathways

According to the Austrian understanding, the following school-based pathways (except *4. Post-secondary VET courses*) belong to upper secondary education. However, they fall into the scope of this study as these pathways are allocated to ISCED 2011 level 5 and will most probably be on EQF level 5. ([10]) VET colleges are the most prominent representatives of this group. If not stated differently, information presented for VET colleges also apply for the other school pathways.

1.1 VET colleges (NQF: 5; ISCED 2011: 5)

VET colleges provide vocational education in various areas of specialisation, such as engineering, industry and trade; business administration, service industries and management and tourism; healthcare, social affairs, education and training; and agriculture and forestry. The number of pupils attending VET colleges has been increasing over the last decade. In their main form, VET colleges are offered as five-year full-time schools for young adults, but they are also offered as VET colleges for people in employment (e.g. in the form of an evening school) (Schneeberger et al., 2013). VET colleges provide a professional qualification (diploma) and a higher education entrance certificate. Several UAS accredit parts of the colleges' learning outcomes to their programmes.

1.2 Add-on courses

These courses can be attended by graduates from intermediate vocational education (e.g. vocational schools – BMS, apprenticeships, nursing schools) who usually have to complete a

([9]) This is due to naming 'applied research' as one aim of UAS in the initial UAS-law – which is considered as a legislator´s accident by one expert interviewed.

([10]) In Austria, only few qualification types have been mapped to NQF-levels so far.

preparatory course beforehand. The courses lead to the matriculation and diploma certificate of the corresponding VET college programme (BHS), are organised in a modular design and are often combined with post-secondary VET courses.

1.3 Post-secondary VET courses (Kollegs)

Post-secondary VET courses (Kollegs) are a shortened form of VET colleges and their qualification is identical with the regular VET college qualification. Pupils need to have a higher education entrance certificate to attend these courses. Kollegs are usually provided in day-time or evening formats and complete with a diploma examination (Tritscher-Archan, 2014, p. 20).

Group 2: Universities

2.1 Universities

Universities are relevant for providing vocational education for two reasons: First, they always had a role in preparing for the labour market – both for the academic and for the non-academic (see chapter 3.1.a). Second, those institutions in Austria that will be referred to as 'specialised universities' provide vocational education and mostly prepare for the non-academic labour market (e.g. universities of economy, technical universities). It will be distinguished between academic and specialised universities wherever needed. Universities offer qualifications on the level of Bachelor, Master and PhD.

2.2 Private universities

Private universities differ from public universities insofar as they do not receive financial support by the federal state but are at the same time free to impose student fees and decide upon their entry requirements.

Group 3: Universities of applied science and University Colleges of Teacher Education

3.1 Universities of applied sciences, UAS (Fachhochschulen, FH)

Universities of Applied Science aim to provide professionally oriented higher education to enable graduates to solve vocational tasks based on scientific knowledge (Haberfellner and Sturm, 2014, p. 30). According to the law, UAS "shall offer degree programmes at university level, providing a scientifically rigorous professional education" (Republik Österreich, 1993). Moreover, universities of applied sciences' defined mission is to support of lifelong learning, permeability and to support non-traditional students. UAS focus on vocational preparation of young academics; their profile is thus different from academic universities. However, the distinction is sometimes blurry, as education and training in traditional professions, as medical education, is located at universities. Also at technical universities, study programmes are often close to applied sciences (Haberfellner and Sturm, 2014). UAS can provide research infrastructure to a lesser extent. They are also only allowed to provide qualifications on the Bachelor- and Master-level. However, some upgraded vocational trainings that were intended to become more scientific have been integrated in UAS (e.g. healthcare, social work) (Haberfellner and Sturm, 2014, p. 33).

3.2 University Colleges of Teacher Education

The more recently established university colleges of teacher education have similar tasks as UAS. They provide education, further education and continuing education for teachers based on scientific research. In relation to research, university colleges of teacher education meet similar challenges as UAS. Educational science is traditionally located at universities (Haberfellner and Sturm, 2014, p. 33).

Group 2/3b: Continuing education at higher education institutions

Most higher education institutions also offer CET qualifications. The Danube University Krems (DUK), which offers solely post-graduate education programmes, is the most important one on this market providing around 50 % of these qualifications (Tritscher-Archan, 2014, p. 33). Higher education institutions offer courses for non-graduates (who fulfil other access requirements, such as professional practice) and graduates from higher education. Courses lead to a Master degree (e.g. Master of Advanced Studies, Master of Business Administration) or a graduate degree ('Akademische/r...) and often have high tuition fees (Schneeberger et al., 2013, p. 43). These programmes are offered by formal institutions of higher education but at the same time are not included in the formal system – that is why they form a (sub-)group by themselves.

Group 4: Pathways outside formal school and higher education institutions

In Austria, these qualifications are understood as being part of the education system, however, with a pretty young NQF only a few qualifications are already clearly allocated to a specific level. Based on ongoing discussions and expectations towards the future classification of qualifications belonging to this group they are hereby treated as 'higher VET outside of higher education'. However, it is currently not clear which of these qualifications will actually be included in the NQF and allocated to a 'higher' level.

4.1 Master craftsperson schools - Industrial master colleges (Werkmeisterschulen) and building craftsperson schools (Baumeisterschulen)

These schools are a special form of schools for intermediate vocational education (BMS), in engineering and crafts. They provide subject-specific continuing education and training. Programmes are between one and two years in duration, have a minimum age requirement of 18 years and typically require completed vocational training or professional practice (Tritscher-Archan, 2014, p. 28). Their curriculum is governed by public law, but courses are offered at CET providers. After final examination, graduates are allowed to train apprentices and are entitled to exercise a relevant trade in self-employed capacity after four years of relevant experience (Tritscher-Archan, 2014, p. 32).

4.2 Qualifications awarded based on an examination by a certifying authority or an interest group (Master craftsperson exam, Proof of competence exam)

Professionals can take exams to prove their advanced knowledge, e.g. the master craftsperson exam, civil engineering exam, exam for certified financial accountants – very recently also engineer´s degrees based on a revision of the Austrian engineer's law (Ingenieurgesetz 2017) (the latter have been allocated to NQF-level 6 / EQF level 6 in September 2017). These exams are part of continuing vocational education, but most candidates take them to become self-employed in a regulated profession. Under certain conditions, holders of the qualification can be admitted to a Bachelor course at a UAS. The CET institutions of the social partners provide preparatory courses (Tritscher-Archan, 2014, p. 32). Master craftsperson exams are organised by the offices for master craftsperson exams, located at the regional economic chambers (Schneeberger et al., 2013, p. 26).

4.3 Qualifications offered by specific employers

Moreover, there are qualifications which are provided by the respective employers, such as training programmes for professional fire fighters, national defence (at the Austrian Armed Forces), police force training (at the Security Academy SIAK which is subordinated by the Federal Ministry of Interior), emergency medical technicians (e.g. paramedical training at the Red Cross). Other qualifications are care assistants, home-helpers or childminders.

Group 5: New higher education pathways

Although following a strong international trend, the following pathways' status in Austria is still pending and it is unclear in how far they will manage to connect to formal pathways. Both are attached to existing institutions – either to formal (short cycle programmes at UAS) or non-formal ones ('Berufsakademie' at CET providers).

5.1 Short cycle programmes were introduced at a few UAS. The three-semester course is open for students without a higher education entrance certificate, if they meet special requirements (such as a certain professional experience). Graduates can transfer their credits to a Bachelor programme.

5.2 Berufsakademie (college of advanced vocational studies): The model of a 'third pillar' of tertiary education (in addition to universities and UAS) had been discussed by the social

partners for some time, and a first pilot was introduced in 2014. Access requirements include completed vocational training, at least two years of professional experience, for the two-semester course leading to the title '('Akademische/r...') and at least one year in a leadership experience or a higher education diploma and one year of professional experience for the additional two-semester course leading to a Master (Msc) degree.

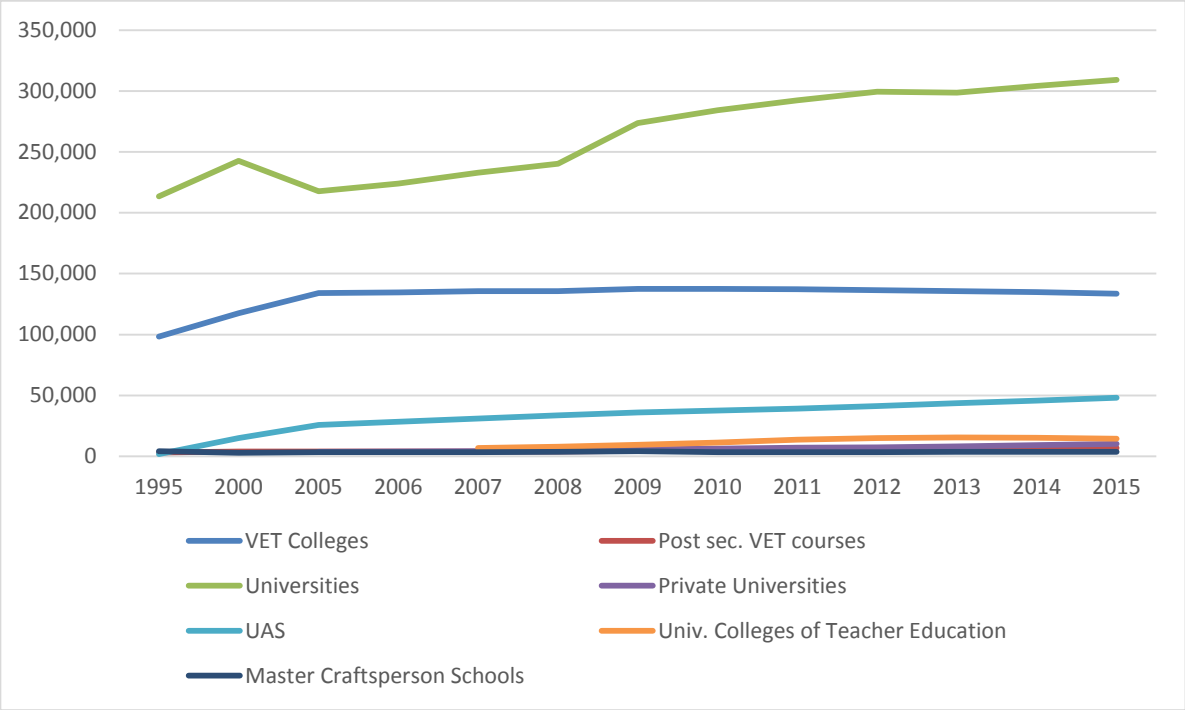
Group 6. Non-formal courses and programmes offered by/in CET institutions

About 1,800 institutions of continuous education and training (CET) offer a wide range of programmes. Besides commercial providers, the CET institutions of the social partners are particularly active in the area of CET. The most relevant ones are the Institute for Economic promotion (WIFI, by the Economic Chamber), the Vocational Training Institute (bfi, by the Chamber of Labour and Austrian Trade Federation) and the Institute of Agrarian Education and Training (Ländliches Fortbildungsinstitut, LFI). Education and training courses and qualifications are designed by the providers themselves and are mostly geared strongly towards labour market and sectoral requirements and usually very practically oriented (Tritscher-Archan, 2014, p. 33).

A large number of programmes and add-on CET courses in the business, tourist, technical, social, healthcare and security sectors, are not covered by the ISCED system (Schneeberger et al., 2013, p. 38). Examples include: 'preparatory courses for accounting diploma', 'qualified social counsellor', 'certified media designer', but also qualifications in the leisure industry, such as 'mountain and ski guides', 'ski/snowboard instructors', air traffic qualifications as 'air traffic controller' and 'civil pilots' or courses in the agricultural sector.

The figure below presents the students enrolled in the main forms of VET programmes on higher levels as well as in universities programmes for the last 20 years. Within higher education, the introduction of UAS has not compromised participation numbers of universities but led to an overall growth of higher education in Austria. In contrast to, for example, Germany, where UAS acquire more than one third of higher education students, the share of Austrian UAS students is below 20 %. In terms of participation, VET colleges are also an important element of VET at higher levels showing more or less stable participation numbers since 2005. All other programmes introduced in this study are of much lower importance.

Figure 1 **Students enrolled in main VET programmes at higher levels and in university programmes (1995-2015)**



Source: Author based on Statistics Austria – data on formal education

3. Change processes during the last 20 years - educational system perspective

One of the unique features of this study is the emphasis given to the historical development of VET systems. In this section, the focus is on the change processes that have taken place during the last 20 years related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' from the perspective of the educational system.

Depending upon the situation in your country, relevant developments might have started already before the 1990s. In other cases there may be no need to take such long-term perspective, but at the very least the commentary should go back to the middle of the 1990s.

Please describe first these change processes and their impact on the overall system (3.1), before presenting characteristics of VET offered at higher levels from the perspective of the educational system (3.2). Please clearly distinguish between the different objects and contexts of change, respectively the different types of VET qualifications/programmes offered at higher education levels.

Please refer to the "Characteristics and indicators of 'academic drift', 'vocational drift' and 'expansion of VET at higher levels (outside HE)'" (presented in Table 2 of the guidance note; the relevant aspects are included in each section here below): Please reflect whether any of these characteristics and indicators can also be identified in your country and which ones – identified in your country - should be added.

3.1. Change processes and their impact on the system

d) To what extent can changes related to 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' be observed? To what extent have vocationally oriented programmes/qualifications at higher levels been introduced during the last 20 years and in which way (e.g. by up-grading VET institutions/programmes into higher education, by introducing new types of programmes within higher education without upgrading VET institutions/programmes, or by establishing new types of VET programmes/qualifications outside higher education)?

For Austria, a number of initiatives can be reported that relate either to academic or vocational drift or to the expansion of higher VET outside of HE. Most striking of these developments are those that led to the establishment of new institutions or at least new types of educational programmes. Bearing that in mind, one of the most central innovations is the **introduction of *'Fachhochschulen' (Universities of Applied Science, UAS)*** from 1993 on. Largely, their implementation included the formation of completely new institutions and programmes for which reason this development can be regarded as vocational drift within higher education (Lassnigg, 2011, p. 19). In the beginning, the implementation process started with forming new programmes which was then followed by embedding them into the new founded UAS-institutions. The programmes established in this first phase mainly related to the fields of engineering and commercial management. Later they expanded also to other fields (e.g. social sciences, health care) and showed other forms of establishment (e.g. upgrading of secondary programmes). More recently, a more subtle and inherent form of academic drift can be noted for UAS programmes as they now tend to achieve a more 'academic' standing by, for example, trying to extend study programmes to doctoral grades, stronger emphasising scientific research in their curricula or aiming to bring their junior researchers into scientific structures (Sterrer et al., 2015).

A more obvious form of academic drift, namely the **upgrading** of existing secondary level or post-secondary to higher education programmes, can be observed only for very few occupational fields, namely registered nursing, training of primary and general lower secondary teachers and social work. ([11]) For these fields, the transfer to higher education does not only represent an institutional change but also a much stronger implementation of basic research (Haberfellner and Sturm, 2014, p. 76). However, in teachers training new curricula are not only characterised by more research but also by more and earlier confrontation with practical teaching, thus a stronger vocational orientation.
Overall, the decision on which programmes are upgraded into higher education and which are not is very much inconsistent and, according to experts, often rely on power structures and the distribution of interests in single professions.

Also, the option of founding a ***private university*** which was introduced in 1999 is a form of an academic drift. It has been realised in both forms founding entirely new institutions and transforming institutions outside of higher education into private universities. In contrast to the establishment of UAS, this process was less a politically managed process but rather an answer to the commercial intention of these institutions to offer their programmes under a clearly academic label.

([11]) Registered nursing and social work is transferred to UAS programmes while teachers are trained at specific university colleges of teacher education.

Since 2000, ***dual studies*** were introduced at some UAS representing a form of vocational drift in several aspects. Based on the model of 'Berufsakademien' in the German province of Baden-Württemberg ([12]) (Bode, 2012, p. 13), they are currently offered by four UAS-providers and can take different organisational forms. . While policy makers refer to this form of study as model of success, only minor expansion can be expected – due to Austria´s economic structure.

Although ***universities*** always had the (sometimes underestimated) function of preparing for the labour market besides of purely academic careers (Schmid, 2014, p. 206), universities have opened up towards labour market needs in the last 20 years (vocational drift). The introduction of Bologna-structures can be considered as one major driver for this as specifically the Bachelor-degree was communicated as particularly preparing for the labour market. According to experts, universities reach out to both schools (as their pre-runners) and the labour market (as the students' destination). One concrete outcome of this development are universities' service- and placement-centres which increasingly try to arrange career pathways for their graduates, e.g. through career fairs or similar events. There are examples of Austrian universities actively practicing the exchange with the Public Employment Service especially during economically rough times from 2008 on. Interestingly enough, institutions and programmes in the fields of arts, social or humanity sciences seem to be the most vivid actors in this respect. ([13])

But also, developments running against a vocational drift can be identified: While the university law of pre-2002 made it mandatory to consult labour market representatives for each new programme (which was mostly fulfilled by contacting the social partners), it is now in the duties of the (more autonomously acting) universities' management how to answer labour market considerations required by the performance regulations. ([14]) Also, more recent recruiting practices could be interpreted as academic drift: As international rankings give bad evaluations to Austrian universities' research activities, now more staff is recruited being exclusively dedicated to basic research.

Within the last 20 years, well established higher education institutions (universities as well as UAS) implemented a number of **programmes leading to CET qualifications**. This development can easily be related to new policy approaches giving higher education institutions more autonomy and responsibility towards their financial issues. Thus, also universities want to get a piece of the cake of the constantly growing CET market. For universities, this development can easily be interpreted as vocational drift. But it also might be named 'vocational drift' for UAS (who also offer such programmes) as it can be argued that these programmes have closer relations to labour market needs in some respect. However, Austrian higher education institutions in this respect face hard competitors showing international reputation and, thus, some of these efforts have already shown moderate success. Dealing with this environment, they are sometimes criticised to not present clear enough to potential learners that there is a difference between holding e.g. in a full Master´s programme and in a postgraduate Master.

([12]) Not to be confused with the recently introduced Austrian version of a 'Berufsakademie'.

([13]) Expert interview Martin Unger

([14]) Expert interview Martin Unger

For other new forms of institutions and programmes within higher education representing expansion of higher VET it is still not clear to what extent they will have an impact on the overall education system: The recently (in 2014) introduced **colleges of advanced vocational studies ('Berufsakademien')** are offered to individuals with completed vocational education and working experience and lead to a Master's degree within 4 semesters. At the moment, graduates cannot participate in further education at higher education institutions as their certificates are not recognised as adaptable to the Bologna-structures. Furthermore, there seem to be concerns that learners without general knowledge at a higher level (e.g. in mathematics or German language) receive a Masters-degree within a short period of time. There is also no formal recognition available for **short cycle programmes (SHE)** beyond giving credits for continuing Bachelor-programmes.

The field of **non-formal vocational education on higher levels** which is covered by a high number of CET institutions is much less well regulated and also not yet covered by the NQF. Thus, it is much more difficult to decide whether these programmes can be considered as VET on higher levels. Overall, it is assumed that this kind of vocational training has largely expanded over the last 20 years however systematic evidence is lacking.

Even more than other developments, the reform of **the engineer´s degree** is related to the ongoing implementation of a National Qualifications Framework (NQF). In order to legitimate an allocation on level 6, the requirements for the exam where set by a new law enacted in early 2017. Rather than a vocational drift, this reform can be seen as step of increasing transparency and internationalisation as the main motivation was to enable Austrian companies to explain this qualification in an international context. The main target group for this qualification are graduates from technical and agricultural vocational colleges, however, a similar qualification is planned for commercial college graduates also.

e) Can any different <u>phases or stages</u> of this development over time be identified?

Referring to phases of development, it makes sense to draw a line from the start of post-war Austria in the late 1940s and early 1950s until today: The **1950s and 60s** were setting the scene for later developments by strengthening the school- (i.e. theory-)based part within apprenticeship training and the implementation of schools for intermediate vocational education and (higher) VET colleges in their current form ([15]). Ideas to upgrade VET colleges to university level or to enlarge them with post-secondary academies (as it happened in other European countries) were not put into effect (Haberfellner and Sturm, 2014, p. 66).

An <u>academic drift</u> related to higher education ([16]) can be reported for the **1970s**: "In 1970, a new government came into power, that strongly emphasised higher education as a field of policy. Apart from the Art Colleges, all existing higher education institutions were integrated into a more or less unified university system" (Pfeffer, 2000, p. 2). Also, totally new universities were founded in some of the provinces capitals (e.g. Linz or Klagenfurt) At the same time, universities were strongly reformed and therefore opened for a wider range of Austrian population including representatives of less educated social groups. Under the

([15]) VET colleges as the only of the institutions named in this paragraph being allocated to VET at higher levels as defined in this study.

([16]) Following the Austrian understanding: In this period only university studies.

regime of social-democratic education policies politicians of that period strongly relied on the university sector as for providing skilled labour force on higher levels. For all vocational qualification demands not covered by universities, VET colleges were seen as strong enough to provide them.

This island position in providing qualifications on higher level put universities more and more under pressure in the **late 1980s**: "While the demand for qualified staff grew and the types of qualification changed with increasing speed, it became obvious, that the universities were neither able nor willing to satisfy the needs for vocational education" (Pfeffer, 2000, p. 3). Advancing towards the EU in the early 1990s provided better insights into different European education systems and as a consequence the establishment of a vocational sector in higher education came into discussion.

Referring to this rough classification of phases, **the last 20 years** can be considered as one phase: The establishment of UAS as (vocational drift of higher education), the vocational drift of universities (e.g. by providing postgraduate CET programmes), the academic drift of upper- and post-secondary offers or the expansion of (assumable) higher forms of VET outside of higher education have to be named here (and are described in more detail in chapter 3.1.a). Very recently, these developments might come to a period of saturation where especially the establishment of new programmes (at UAS or universities' CET centres) slows down remarkably. However, very recently, 100 Million Euros stemming from new banking fees were announced to be dedicated to create around 450 new study places at UAS. On the other hand, the vocational portfolio of higher education institutions still enlarges by the upgrading of selected upper-secondary programmes into UAS (in the health care sector).

f) What kind of impact does this have on the education and training system? E.g. development of a new sector outside higher education, development of a new sub-sector within higher education (and to what extent has this change led to the establishment of a - full or partial - 'unified', 'binary' or mixed higher education system)?

As far as the formal education system is concerned, again the implementation of **UAS** had the greatest impact on system specifications. Although UAS differ from universities in terms of governance (see chapter 3.2.1.a), financing structures (see chapter 3.2.1.c) and providing entities (see chapter 3.2.1.d), they can be considered as new sub-sector within higher education (see chapter 3.2.1.a). Therefore, their implementation led to a stronger diversification of higher education in Austria as before 1993 this sector was mainly, if not totally dominated by universities.

Other system relevant changes include the augmenting **number** of vocational qualifications from **outside of higher education** which are considered as linked to higher levels. However, rather than representing the establishment of a new education sector these developments are of a rather formal character: In the course of the NQF implementation, some certificates or training programmes are and will be reworked into 'qualifications' (as defined by the NQF) with the aim of increasing transparency and 'market value' (see chapter 5.c). Such a new

sector rather comes into being via the expansion of a market of non-formal offers – either provided by institutions of higher education or private organisations. However, it is open whether this will develop into an autonomous sector with its own organisation structures. As already mentioned, these new offers cannot be unchallengedly be named as being on higher level as they lack formal classification. Also, this market is rather confusing and hard to assess.

The education system is also mainly influenced by **new pathways into higher education**, especially for vocational graduates at medium level such as apprentices (e.g. 'Berufsreifeprüfung', see chapter 3.2.2.a) They have the potential to change deadlocked corridors in the Austrian education system, e.g. from vocational colleges into UAS.

3.2 Changes related to characteristics of 'VET at higher levels'

3.2.1 Changes related to governance and institutional structures of 'VET at higher levels'

e) What is the governance structure of these VET programmes/qualifications at higher levels and what kind of quality assurance regulations are in place (e.g. which national/regional authority provides accreditation/recognition, how are aspects of academic or vocational drift reflected in accreditation regulations)? To what extent and how has this changed?

Given the fragmented character of VET at higher levels in Austria, this field is governed by different entities: Today, the political responsibility for higher education in Austria is borne by the Federal Ministry of Science, Research and Economy ([17]). Here, the most striking changes regarding the actual practice of governance are related to the establishment of the UAS sector. While up to the late 1980s universities had been governed according to a 'Kulturstaat'-tradition understanding universities as autonomous state agencies for whose freedom the state was mainly responsible, the UAS were organised around a **new public management** approach. The initial implementation of the UAS' organisational structures reflected this new attitude by elements as that UAS, for example, showed no legal ownership restrictions; academic and non-academic staff were employed and appointed directly by the UAS; decisions on the curriculum were made by the responsible academics in cooperation with institutional management etc. For the whole sector of higher education, this implicit development can clearly be addressed as vocational drift. Final responsibility for the quality within the UAS-sector was – until 2012 – in the hands of an external professional body, the 'Fachhochschulrat' (UAS council). This organisational entity guaranteed minimal standards of quality (Pechar, 2005).

At the same time (around 1993), also universities were intended to be transferred to new public management governance providing them with more or less full autonomy. Because of the resistance of most of the academics this step was not fully implemented. However, from what was realised, the rectors of universities receiving significantly more power was one major consequence. Rectors were now the central representatives of universities and thereby replaced senior academics who now rather took the role of mediators between

([17]) The compilation of responsibilities in federal ministries has changed several times during period of observation.

internal and external interests put on universities. Backed by this new power group, further steps towards strengthening of universities' autonomy could be realised with a new university law in 2002: Despite still being state agencies regulated by public law, universities now received full legal entity and were also granted more freedom towards their organisational structures. The rectors' position again was improved by making it more independent of collegial academic bodies (Pechar, 2005). By granting more autonomy, universities were increasingly treated like an education provider on the free market being (partly) responsible for its own earnings and being determined to cooperate more closely with the labour market (when acquiring third-party funds). Such a change in their relationship to labour market actors can be considered as vocational drift within governance.

In terms of **quality assurance**, up to 2012 two separate institutions were responsible for universities and UAS: The *Austrian Accreditation Council (ÖAR)* was a non-ordained authority in the Ministry of Science for the accreditation and supervision of public and private universities. The already above mentioned *'Fachhochschulrat'* (UAS council) accredited new UAS-programmes and -institutions. In 2012, these two bodies were merged into *AQ Austria (Agency for Quality Assurance and Accreditation Austria)* who now fulfils accreditation duties and conducts audits for all institutions of higher education in Austria. ([18]) This change in structures of quality assurance can be interpreted as unification process of higher education in Austria.

While UAS **quality regulations** always showed clear labour market orientation, the ones of universities have not emphasised very much that up to now. That might be due to the good labour market perspectives graduates consistently had during the last decades. With (modestly) raising unemployment figures amongst academics today, this might change in near future. ([19])

Governance structures of VET colleges did basically not change in the period of observation. They are part of the duties of the Federal Ministry of Education, healthcare schools relate to the Federal Ministry of Health and Women. Several initiatives have been implemented in terms of quality assurance: From 2004 on, education standards for VET ([20]) were and a quality initiative for VET (QIBB) ([21]) was established, the latter as strategy of the ministry for implementing quality management at vocational schools in Austria. Again, these initiatives can be seen as strengthening vocational aspects (in VET).

CET institutions providing non-formal qualifications act on their own responsibility as long as they do not provide formal qualifications (i.e. qualifications regulated by law).

f) What is the role of labour market stakeholders/companies in relation to these types of programmes/qualifications? To what extent and how has this changed?

([18]) https://www.aq.ac.at/en/ [accessed 15 June 2017]]

([19]) Expert interview Martin Unger

([20]) http://www.bildungsstandards.berufsbildendeschulen.at/home.html [accessed 22 June 2017]

([21]) https://www.qibb.at/home.html [accessed 2 July 2017]

Austria shows a strong **tradition of social partnership** which was, up to the 1990s, strongly involved in nearly all kinds of political and/or legal initiatives. Generally, this role was challenged after 2000 by the then conservative/right-wing government. However, up to today they play a strong role when it comes to questions of labour market, vocational training etc. Many of the developments which can be described as vocational drift were backed by single organisations or the whole cooperation of social partners.

Social partners are **providers** of education institutions in most of the relevant fields. They run VET colleges, UAS and are the major providers for CET qualifications. Especially in the field of CET, the Federal Economic Chamber (Institute for Economic Promotion, WIFI), the Chamber of Labour and Austrian Trade Union Federation (Vocational Training Institute, bfi) and of the Chamber of Agriculture (Institute of Agrarian Education and Training, LFI) play a major role. For the first representative of the rather new forms of colleges of advanced vocational education (Berufsakademien) again the Federal Economic Chamber acts as provider. Being designed as 'third pillar' of Austria's higher education, it will depend on the future of this institutional form whether the Federal Economic Chamber's importance will rise among providers of VET at higher levels.

When it comes to drafts of school legislation, curricula for VET colleges, social partners are entitled to express their opinion. On a voluntary basis, this is also true for UAS programmes. Furthermore, they have been active in educational counselling and career guidance and they support cooperation between VET schools and the business sphere.

g) *What are the <u>funding sources</u> (and with what share) for these types of programmes/qualifications? E.g. what is the role of the State (educational or labour market budget) and of labour market stakeholders? To what extent and how has this changed?*

In respect of the changes in governance described in 3.2.1.a, the turn towards new public management also affects financing issues – however, the process of funding rather than its sources: For UAS, a more **autonomous approach** was implemented from the start by providing them with a lump sum based on student numbers. Besides of this basic funding from the federal government, UAS receive funds from multiple public sources. Not only the federal state, but also provinces and municipalities, and in some cases chambers, play a significant role (Pechar, 2005, p. 9).

Going into a similar direction, the university-law from 2002 keeps the federal government as main responsible entity for basic funding, but universities receive a lump sum budget under their own discretion. As basis for this regulation performance agreements are implemented and around 20% of the budget is allocated on the basis of specific indicators (Pechar, 2005, p. 10). Overall, this approach includes much more self-responsibility of universities than before. Again, more financial autonomy will require a stronger acquisition of third-party funds (for all institutions of higher education) and can therefore be considered as vocational drift).

For all other pathways, no significant changes or drifts towards a more academic or vocational orientation can be reported: Basically, school-based offers are mainly public financed, but private providers are allowed to levy tuition fees; the non-formal and post-graduate field is mainly financed by the fees of its participants, however with great differences in costs and modes. For the whole field of VET, the range of **financial support**

available for both individual learners and enterprises has expanded in the last 20 years. For higher education students, substantial public study grants are available mostly linked to requirements regarding an age limit or a fast progress in studying. ([22]) The federal Public Employment Service, the Austrian provinces and the Chambers of Labour provide funding offers targeting different forms of adult learning (not exclusively on higher levels). ([23]) However, the expansion of these funding measures cannot clearly be connected to one form of drift.

h) Which are the key providers of such programmes/qualifications? Do they differ from other providers, such as IVET providers or providers of more academic higher education? To what extent and how has this changed?

This topic is already covered by the chapters above. In brief:

Schools on upper secondary level (according to national classification)

- VET colleges have public (federal) and private (e.g. Fund of Viennese merchants' community) providers (the latter also subordinated to the Federal Ministry of Education).
- Add-on courses and post-secondary VET courses are normally offered by the same providers.

Tertiary pathways

- UAS providers (see also chapter 3.2.1.a and 3.2.1.b) are 'quasi-private' associations or corporations. Social partner organisations play an important role among them.
- Universities are today (since 2002) legal persons under public law' (Körperschaften öffentlichen Rechts) (see also chapter 3.2.1.b)
- University Colleges of Teacher Education today show a similar status to the one of universities. Until 2007, they were education academies (post-secondary level).
- Providers of continuing education at higher education institutions are mostly universities and UAS. The Danube university is also a public provider in many respect regulated by university law, however also restricted in some aspects by a specific law implemented for this specific university (e.g. by only being allowed to award PhDs in some selected fields of study).

Pathways outside formal school and HE institutions

- Master craftsperson schools - Industrial master colleges (Werkmeisterschulen) and building craftsperson schools (Baumeisterschulen) are mostly offered by technical vocational colleges or by CET providers (for both see above).
- For master craftsperson and proof of competence exams, CET institutions of the social partners provide preparatory courses. Master craftsperson exams are organised by the offices for master craftsperson exams, located at the regional economic chambers. The same applies to exams for engineer´s degrees.
- For CET institutions, outside of higher education see chapter 3.2.1.b

([22]) https://www.stipendium.at/studienfoerderung/studienbeihilfe/ [accessed 14 June 2017]

([23]) http://erwachsenenbildung.at/bildungsinfo/kursfoerderung/ [accessed 6 July 2017]

3.2.2 Changes related to the target groups of 'VET at higher levels'

c) *What is the main target group of these types of programmes/qualifications? E.g. to what extent is possession* of an *IVET qualification, professional work experience or the school-leaving exam a requirement? To what extent and how has this changed?*

For UAS and universities, the possession of a school-leaving exam or an equal qualification is required. The latter refers to newer pathways into higher education for people holding a vocational qualification but no higher education entrance certificate ('**non-traditional access**'): The can be admitted to UAS programmes based on relevant professional experience. Several UAS offer preparation courses for these applicants specifically designed for access to study programmes in these institutions. Furthermore, for this target group, the 'Berufsreifeprüfung' was introduced in 1997. It is a post-secondary qualification providing general access to higher education for skilled workers and for graduates of three- to four-year full-time VET schools as well as apprenticeship graduates. Individuals can sit an exam, which consists of 5 modules.

Although opening up higher education for people holding a vocational qualification can be considered as vocational drift, pathways into higher education as the one described above are still a minor access routes and thus holders of a school-leaving exam (from either an academic upper secondary school or a vocational college) are still the main target group for higher education. As already mentioned, UAS were originally intended to provide simplified pathways into their programmes for alternative target groups, however, this has only been implemented rudimentary. Even more, the upgrading of specific upper- or post-secondary level programmes in health care, education and social work equated their entry requirements with the ones from other offers of higher education. The relative increase of offers showing an extra-occupational organisation can be interpreted as a more vocational orientation towards the target group. While basically referring to the same population, these offers might reach target groups who would otherwise not considered entering higher education (e.g. students from regions with no offer of higher education).

With around 10% of students accessing via 'non-traditional access routes', i.e. 'Berufsreifeprüfung' or similar approaches, private universities show higher rates in this respect than universities or UAS. Also, the share of foreign students is higher at private universities (Schmid et al., 2017).

CET or postgraduate offers target people who already have some work experience and/or hold some educational degree. Very often they are already active on the labour market and thus complete these courses extra-occupational.

d) *How can the identity of students (their legal status) be indicated and how has this changed (e.g. are they predominantly students and in some cases interns and trainees or are they predominantly employees enrolled in programmes)? To what extent and how has this changed?*

The most relevant change in this respect is the introduction of (a relatively small number of) dual studies at UAS. Although the organisational forms slightly differ, they always require a **tripartite arrangement** between student, UAS and an employer. Thus, the student always also holds the status of an employee. In comparison to all other programmes which have not shown any major changes in this respect this labour market involvement can be seen as vocational drift. However, also in other forms many learners will, besides of being students,

also hold the status of an employee or a self-employed person (labour law). This will particularly be true for UAS programmes which are explicitly organised in an extra-occupational form but also for most of the non-formal offers at higher levels. The same offers can also be accessed by unemployed persons, especially if the Public Employment Service grants them financial support and thus recognises the offer as being relevant for labour market (re-)integration.

3.2.3 Changes related to the main purposes and functions of 'VET at higher levels'

c) What is the main destination of graduates, which qualifications and rights do they acquire? E.g. do they gain rights for progressing in education (such as access to higher education), do they occupational qualifications and rights or both, educational and occupational qualifications/rights? To what extent and how has this changed?

As for VET colleges, they provide their graduates (as already described) with a double qualification **allowing both** directly entering the labour market and accessing higher education. There is no clear tendency on whether graduates will enter higher education. Today, around 55% of all graduates decide for a higher education programme (whereas around 85% of academic upper secondary schools). After an increase of related transfer figures in the 1990s and early 2000s they tend to slightly decrease since around 2010 (Statistik Austria, 2006-2015).

Since the introduction of the Bologna regulations, both UAS and universities follow their structures. So, when progressing within the (higher) education sector, **converting between UAS and university** is a thinkable option (within one field of study). The most common exchange takes place when applicants who fail to enter one study pathway temporarily sidestep to the other. ([24]) Beyond that, pass-overs happen quiet rarely and because of the universities resistance there are still some structural barriers in place, so e.g. for graduates of specific master studies at UAS, a prolongation of the study period is needed when entering a PhD course at a university. ([25]) Regarding the greater diversity in Austria´s higher education, different types of study careers can be distinguished at UAS and (private and public) universities: finishing studies with a Bachelor-degree; deepening a Bachelor- with a Master-degree at the same kind of institution (traditional) or at a different one (non-traditional); complementing a Bachelor-degree with a Master in a different study field; accomplishing several studies on the same level but in different study fields. ([26])

Universities were traditionally seen as preparing for research oriented professions while UAS graduates would rather approach more practice-oriented segments of the labour market. It has already been said that this distinction is not entirely appropriate as universities always had a role (which has recently been growing – vocational drift) in preparing for the (non-academic) labour market while UAS nowadays also orient towards academic careers (academic drift) (for both see chapter 3.1.a). And even if official communications draw a clear distinction between universities and UAS, also programmes of specialised universities (e.g.

([24]) However, the direction of these sidesteps has changed several times. For example, years ago unsuccessful applicants for medical programmes at UAS bridged one year studying medicine at the university. Today, as entry test were established for medicine, it is sometimes the other way around.

([25]) https://www.studienplattform.at/doktoratsstudium-fuer-fh-absolvent-innen [accessed 3 July 2017]

([26]) Expert interview Stefan Humpl

technical universities and universities of economy) consist of skills sets that are very close to the vocational needs of the labour market.

Generally, it is clear that some study programmes prepare for a very specific selection of **occupations** while others target broader occupational fields on the labour market. In terms of occupational rights, universities (today also some private universities) traditionally have to role of preparing for specific regulated occupations. The fact that some of these occupations lost their traditional destinations (e.g. public service for jurists) they opened up their profiles towards broader labour market fields (e.g. consultants for business law) and accordingly influenced their curricula. At the UAS, some programmes that were more recently upgraded from secondary or post-secondary level target restricted occupations, e.g. registered nurses and social work. Also, the teachers' profession targeted by (also upgraded) University Colleges of teacher Education are regulated.

For some degrees acquired outside of higher education which include some **specific occupational rights** in their field of activity (e.g. civil engineers or balance accountants) changes in the course of the NQF implementation (like they were described for the engineer´s degree) remain to be seen. They often represent development steps in more or less clearly predictable career pathways.

d) *What is the occupational status of graduates? E.g. will they be technicians/professionals? To what extent and how has this changed?*

The upgrading of upper and post-secondary trainings goes along with changes in the occupational status. These are implemented by respective new occupational regulations. So, for example, the new occupational regulation for teachers foresees the title 'professor' for all types of teachers and not only for the ones at upper secondary schools. The new law on health care and nursing even introduces a new structure of occupations also enhancing the status and responsibilities of their highest grade, the registered nurses.

The implications for the everyday reality at schools or hospitals can be discussed. It gets obvious that, due to the alternation of generations, the professionals with the 'new' status step-by-step replace the ones with the old status. However, for a while, they exist in parallel by generally fulfilling the same tasks and receiving the same salary.

3.2.4 Changes related to the perception of 'VET at higher levels'

b) *How are these VET programmes/qualifications at higher education levels perceived? Are the considered as second choice, equal to more academic higher education programmes or are they even valued higher? To what extent and how has this changed?*

Overall, the perception of the described VET programmes is equal, if not higher than the one of academic pathways. For higher education graduates, UAS graduates are often valued higher by employers towards than its university counterparts – the same applies for VET college graduates in comparison with upper secondary academic school graduates. ([27]) Within higher education, both universities and UAS are considered as being part of the academic field (see synopsis of chapter 2). Very often the transferability of qualifications into prestigious and well-paid jobs is taken as benchmark in public discussions. In this respect,

([27]) See for example http://diepresse.com/home/bildung/universitaet/1259500/Arbeitsmarkt_FH-Absolventen-haben-bessere-Chancen [accessed 19.9.2017] based on Statistics Austria´s monitoring of employment careers.

UAS graduates have not only closed the gap to their university counterparts but have – in some fields – even passed by. When discussing study programmes of UAS and specialised universities that are considered to be rather similar (e.g. in the technical field), UAS are assessed as being more practical, closer to the needs of the economy and therefore providing better prospects.

These tendencies might have increased in the last 20 years due to a fiercer situation on the labour market which tightens competition around existing jobs and thus makes education institutions to take labour market needs stronger into account. Also, for traditionally high-ranked occupations being associated with academic higher education (e.g. medical doctor, lawyer, university professor) working conditions have become less solid during the last two decades. Thus, the bourgeoise educational model of an academic career has rapidly lost attractiveness. The same is in the main also true when contrasting graduates from VET colleges to the ones of academic secondary schools (upper level).

For some qualifications that have a high esteem on national level, reproducing this perception on an international level is a major driver for current change. Especially discussions around the classification of specific qualifications in the NQF (and thus the EQF) but also within ISCED have to be seen under the light of international competition and the advantageous presentation of these qualifications within this context (e.g. engineer´s degree, master craftsperson).

4. Impact on content and delivery of qualifications and programmes - the epistemological or pedagogical perspective

This section focuses on the implications of 'vocational or academic drift' or of the 'expansion of VET at higher levels (outside higher education)' for the content and delivery of programmes and qualifications.

4.1 Changes in relation to content and profile

c) *How can the content or profile of VET programmes/qualifications at higher levels be described? E.g. accentuation or reduction of theoretical, abstract and disciplinary based knowledge vs. practical or experience based knowledge or an enhanced emphasis on the integration of professional and academic knowledge? To what extent and how has this changed?*

Developments towards a vocational drift at Austrian **universities** can be observed as consequence of the introduction of the Bologna-structures, however, with very different consequences for different study fields. For example, study programmes in the fields of social science, humanities or arts moved those learning outcomes that can clearly be applied on the labour market (e.g. learning outcomes related to the application of methods) into the early phases of studying in order to give more value to their Bachelor-programmes. In the technical fields, Bachelor-programmes were (over)loaded with contents in order to strengthen their status against other qualifications from outside of higher education or form VET colleges and thus became rather demanding.

Generally, **UAS** were more practice-oriented from the beginning and they put much effort into investigating the best possible approach of 'practice-oriented higher education' (Markowitsch

et al., 2004). In the course of the adaption to the Bologna-structures, the overall extent of internships had, however, to be reduced: In a Bachelor-programme it was no longer possible to include a whole 'praxis-semester' (internships) as it was the case with the initial diploma-programmes (Humpl, 2011). Today internships are compulsory for a duration of at least 15 weeks. Thus, it can be claimed that the work-based share of UAS programmes was reduced.

The introduction of **dual studies** at UAS and their strong consideration of work-based learning is clearly a vocational drift within higher education. There are three versions of how work-based learning is considered in dual studies: First, training-integrating dual studies are a combination of education and study. Graduates of this version have both a recognized bachelor's degree and a recognised VET degree. Second, practice-integrating dual studies are a combination of long-term internships and study. Students of this version receive high practical knowledge and experience as well as theoretical know-how. However, this study model concludes with the degree of a Bachelor. Third, extra-occupational studies are less aimed at school graduates than those already working for many years. ([28]) Certainly, in comparison to Germany there are only a few of them in Austria and looking at the small and medium-sized structure of Austrian economy their further dispersion has to be questioned. ([29])

Curricula of VET colleges are constantly reformed and labour market demands play an important role in these processes, e.g. through the consultation of social partners.

d) To what extent do the learning outcomes refer to a specific occupation/profession, to a broader vocational field and to what extent can an equal balance between occupation-specific and transversal learning outcomes (such as leading teams, entrepreneurship) be identified? To what extent and how has this changed?

No changes can be observed in that respect: The most occupation-specific vocational programmes in Austria are within the apprenticeship system where each programme trains for a specific predefined trade. Such a distinct system is not known in the field of higher education although also here single programmes train for **regulated professions** – lawyers, medical doctors at universities, teachers at education universities, registered nurses or specific technical occupations at UAS (or at specialised universities), engineer´s degrees or balance accountants outside of higher education. Other programmes cover broader vocational fields. Generally, most of the programmes in the formal field also include transversal learning outcomes such as (subject-specific) language skills, social skills etc.; curricula of post-graduate offers and non-formal programmes are rather only focussed on their field of professions.

VET colleges have a specific role in this respect as they provide a double qualification: While the vocational learning outcomes refer mostly to broader vocational fields, colleges also include a relevant share of general and transversal skills within their curricula.

Learning outcomes orientation at universities is supposed to lead to a stronger orientation on employability, however, according to experts its implementation is carried out only superficial, lacking the professional support of the management and also any remarkable consequences for didactics, contents or curricula. ([30])

([28]) http://www.studieren.at/duales-studium [accessed 28 June 2017]

([29]) Expert interview Kurt Schmid.

([30]) Expert interview Martin Unger.

4.2 Changes in relation to the delivery

d) *How can the pedagogical/didactical approach in relation to VET programmes/qualifications at higher levels be characterised? E.g. by enhanced practice-orientation (learning by doing) and work based learning (e.g. as traineeship periods') or by enhanced theory-based reflection on practice and scientific research? In which formats are they offered (e.g. as part-time study programmes for workers, as 'dual study programmes')? To what extent and how has this changed?*
e) *Which learning sites are used? E.g. mainly classroom with some practical experience, WBL-sites including real companies, multiple learning sites? To what extent and how has this changed?*

In contrast to Austria´s apprenticeship system, all learning programmes discussed in this study show high shares of **classroom learning**. The most obvious incorporation of work-based learning at companies is provided by the (few), rather recently introduced dual studies available at UAS with however showing different forms and amounts of on-the job training.

At universities where there is a manifold and unclear situation in this respect, no general increase of **mandatory internships** can be recognised despite an "overall increasing practice-orientation at Austrian universities" (Eichman and Saupe, 2011, p. 32). The slight reduction of the internship parts in UAS studies has already been discussed (see Section 4.1).

Practical lessons at VET colleges take place in the institutions' own workshop facilities or in practice companies. While for technical VET colleges **internships** had already been mandatory, for commercial VET college students this has been true since 2014. This is to strengthen their vocational orientation which had occasionally been criticised as too week.

f) *What is the educational and professional background of teachers? E.g. are they required to have comprehensive work experience, are they part-timers who are also 'practitioners' or teachers with professional experience in industry, are they trainers in companies, do they need to have an academic degree? To what extent and how has this changed?*

All institutions offering higher VET employ teaching staff with different functions and thus different requirements. Teachers for general subjects might only have to show pedagogical and subject-specific training. At the other end of the spectrum, teaching staff only responsible for workshop training might only have to show a minimum of pedagogical training but major work experience.

As for all types of schools, a new regulation for teachers' training was implemented also for upper secondary schools (i.e. also VET colleges) starting in 2016. For most of the profession-specific teachers (so not for the ones teaching general subjects such as English or maths) the new forms of training include **theoretical and pedagogical training** to greater extend (60 – 240 ECTS) than before thus experiencing an academic drift. Finally, those teachers hold a 'Bachelor of Education'. Teachers for these subjects also have to show professional experience of several years when starting their training. ([31]) Similar regulations

([31]) https://www.bmb.gv.at/schulen/lehr/lfb/bbs.html [accessed 15 June 2017]

as for VET colleges apply for the other school-related offers as well as for industrial master colleges (Werkmeisterschulen) and building craftsperson schools.

Professional background and experience of university teachers is very diverse and depends on the sort of university and the field of study. Changes in this respect can be led back to the 'massification' process of universities taking place during the last 30 to 40 years: Due to a growing offer of teaching services, a big number of teaching staff had to be recruited. As this happened in a rather ad-hoc manner, today´s staff structure shows **a variety of contract forms or connectiveness** to the university and teachers are enabled or even forced to seek for other professional obligations outside of university. The same is true for private universities. (Schmid et al., 2017)

At UAS, around 15% of teachers are mainly working as teachers while the rest teaches **additionally to other professional activities** – again to a varying extent. Of this second group, around 30% are employed at some company and a further 13% are self-employed; around 14% work in the public or NPO-sector while the rest comes from other education institutions (Österreichischer Wissenschaftsrat, 2012, p. 31). At some point in the late 1990s it was directed by the then responsible 'Fachhochschulrat' that teachers from VET colleges were not allowed to teach at UAS in parallel. Thus, the higher level of UAS studies should be made clear and an explicit distinction should be made to non-tertiary programmes (by causing at the same time heavy controversies between local representatives of these two institutional forms). ([32]) In contrast, the option to teach at universities and UAS at the same time opens up new career pathways for academics who have come to a dead-end of university structures.

Examiners for qualifications such as engineer´s degree or master-craftsperson are appointed by the certifying authority. Professional experience is one important factor for their selection.

5. The context of change: rationale and drivers for change or persistence

This section aims at understanding how policy influences and justifies the change processes and which external factors influence and shape policy responses/decisions and the change processes observed.

e) *How and to what extent are the change processes supported (or hampered) by specific educational policies?*

Generally, education policies are clearly pushing towards a vocational drift in higher education, e.g. by incorporating institutions outside of higher education into higher education in the 1970s. Prompted by neoliberal governance approaches and an increasing pressure on the labour market, later **new management approaches** were implemented within higher education aiming to bring it closer to labour market needs. More autonomy, performance agreements, study fees for students, etc. intended to give higher education institutions the shape of 'private' providers of education being dependent on the demand of potential learners and their graduates' prospects on the labour market. The establishment of UAS can

([32]) Expert interview Stefan Humpl.

clearly be seen in the context of joining the **EU** in 1994 as window of opportunity answering the overstress of universities as only provider of (formal) higher education (within higher education) (Pechar, 2005, p. 4). However, politics only partly managed to crack the specific Austrian dispersion between academic and vocational higher education as well as between secondary and tertiary vocational education. Transferring selected degrees from outside of higher education into qualifications that fulfil the requirements of the NQF is a process mainly driven by European policies (see also Section 5c).

f) What is the rationale for offering VET programmes/qualifications at higher levels respectively for the changes observed? How are these changes justified in educational policy? (E.g. increasing labour market relevance of curricula/qualifications, securing supply of highly skilled labour, professionalism, innovation and economic growth in enterprises, individual and social progression?) To what extent and how has this changed?

The general discussions around changes in the field of higher education often show similar patterns: Reforms such as the establishment of the UAS or greater autonomy of for universities were throughout legitimised by arguments of **cost effectiveness and labour market relevance** of study programmes. In the same breath, there was always criticism that reforms would not go far enough and would only be conducted half-heartedly. The budget provided by the federal state was often considered as much too low to implement reforms properly and to prepare higher education for future needs.

As discussed above, UAS are intended to foster individual and social progression by providing entry pathways for non-traditional students. However, this aim was lost on the way.

Although the same arguments might apply for the area outside formal education, an official argumentation cannot be recognised because this area develops largely unregulated and alongside commercial interests. However, the rationale for reforming and introducing a formalised the engineer's degrees' exam was to improve international competition, as already described above (see Section 3.1.a).

g) Which drivers for change or persistence can be identified that shape policy responses? (E.g. European/international developments, such as Bologna process – harmonisation of degree structures in higher education, expansion of higher education, autonomy of universities, technological changes, EQF/NQF implementation)?

Before describing drivers of change, drivers of persistence have to be addressed: ([33]) As in many other European countries, higher education institutions and particularly universities underwent a process of 'massification' turning them from elite academic institutions into education (and training) providers for broad parts of the population. This unwanted development might also be the cause for the barely strategically planned handling of many of the developments of universities discussed in this study. However, different to other countries, Austrian universities (at least the main ones, to a lesser extent the specialised technical or commercial universities) stick to a **traditional self-perception** referring to the 19th century's Humboldtian model of higher education ('Humboldtsche Bildungsideal') aiming to serve a well-educated bourgeoisie. While this self-perception already stood in opposition

([33]) Expert interview Kurt Schmid.

to the social democratic up-valuation and widening of universities in the 1970s, it is even more inopportune for the developments from the 1990s on characterised by neoliberal policies and a tremendously changing labour market. Despite approaching new management approaches and granting them lots more autonomy, this self-perception is still prevailing and that also includes a blurred perception of what vocational education and training is. The existence of VET colleges and UAS both being 'responsible' for covering VET at higher levels has made it easier for universities to abandon from this field and to stick with their well-tried views. Also, the focus of Austrian economy representatives on SME-structures might underexpose the role basic research coming from universities has for big enterprises.

All of this also becomes visible when referring to one potential driver for making VET at higher levels visible and enhancing the parity of esteem – the implementation of the Austrian **NQF**: From the beginning, universities opposed having their qualifications allocated to the same level as vocational qualifications and therefore, for example, the development of two parallel strands of level descriptors for the NQF-levels 6 to 8 had to be implemented to capture the differences between higher education (Bologna) and VET qualifications at these levels (Hippach-Schneider and Schneider, 2016, p. 202; Schmid, 2014, p. 205). In other respect, this transparency tool can definitely be named as driver for reforms, e.g. for introducing a formalised engineers' degree exam. Today, the positioning of some qualifications is still not decided (e.g. master craftspersons). Some decisions already made (e.g. VET colleges at NQF level 5) are results of lively debates and lobbying at national and international level. It is currently still unclear, in how far these processes (NQF mapping) will affect the recognition of qualifications offered in the non-formal context.

Overall, the **Bologna-process** in Austria is assessed as being hesitantly and ambiguously implemented (Lassnigg and Unger, 2016). Especially for the Bachelor-degree it was hard to develop a profile being clearly distinguishable from a VET college qualification and not only representing an intermediate step on the way to the Master's degree. ([34]) All in all, the Bologna-process can clearly be considered as 'driver' for change – but the direction cannot clearly be identified in terms of academic or vocational drift.

Other potential drivers having an influence also on the Austrian situation are however too general to be described here in detail: the technological change and the (related) change on the labour market (higher qualification requirements, employability); new management approaches related to generally neo-liberal tendencies; demographic developments including migration; etc.;

h) How are the change processes perceived in the country? (e.g. are they generally welcomed, are there critical remarks?)

Changes in the Austrian education system are always hard to achieve and related to heavy and controversial discussions between stakeholders. Reforms in the higher education sector that refer to a vocational drift happen mainly according to economy and labour market driven argumentation. Thus, they were welcomed by representatives of the economy but also the wider public mostly supported the argument of making higher education more effective and supportive for the country's economy. Counter arguments were consistently produced by universities (both by teachers and students) insisting on their academic status or claiming a potential decline in quality of teaching. The structures of power at universities were changed

([34]) Expert interview Martin Unger.

(from the basis of parity to more management-led structures), thus several stakeholders at universities opposed these ideas. Also, the implementation of UAS and their clear allocation to higher education was seen as threat for the academic field as such.

Strengthening the academic parts of education is not that much welcomed by economy representatives: For example, the increase of pedagogical elements in the training for teachers at VET colleges was criticised as threat for the commercial location as a lack of teachers was expected.

Upgrading processes from secondary or post-secondary level to higher education are mainly discussed within the specific occupational field. For example, when transferring training for registered nurses into the tertiary sector, many health care representatives feared a lack of practical experience for future graduates. Again, economic arguments play an important role as the new structure of Austrian health care professions might lead to an increase or decrease of costs for public health care spending – depending on the actual division between single occupations.

6. Zooming in on nursing and engineering

Please reflect on the particular situation in the nursing and engineering areas: Which main change processes (in relation to 'academic drift', 'vocational drift', expansion of VET at higher levels outside higher education') can be observed in this area? What are the specificities and differences compared to other areas?

a) Nursing

The field of nursing is a classical and very recent example for an academic drift which affects both the institutional and the content side of studies. With the new healthcare law from 2016, the training of registered nurses at UAS accomplishing with the Bachelor degree has been made compulsory. Already since 2008, Bachelor programmes for nurses had been established at UAS. With the secondary level schools of healthcare and nursing existing at the same time, these parallel structures were accused to involve threats for the whole occupational field (Haberfellner and Sturm, 2014, pp. 80). Therefore, a clear regulation was implemented in 2016, however with granting transition periods until 2024. At the secondary schools, programmes for two levels of health care assistants will be offered in the future.

With the transition described above, Austria catches up with the majority of other European states offering training for nurses at tertiary level. Also, the Austrian singularity whereby the training for psychiatric and paediatric nurse are specific programmes existing in parallel to the ones of general registered nurses is now replaced by a common general basic training for all sorts of registered nurses. A problem of the former school-based system could also be overcome: As the nurses training was only allowed to be started at the age of 17, there was a systematic gap to the end of compulsory school (which used to be at the age of 15). Against the background of a strongly raising demand towards health care professionals, it is hoped to make the profession more attractive with these new developments (Haberfellner and Sturm, 2014).

With the reform, a number of aspects changed: The main target group are now graduates of academic secondary schools and VET colleges who are entitled to undertake a course of study at higher education. Graduates will now be able to enter both the practical work of a nurse and a more scientific career pathway within higher education or in other fields of the

labour market. Thus, their curricula now include a higher share of research-oriented subjects (e.g. evidence-based nursing). Some practitioners are afraid that future nurses would lose contact to the actual work with the client, although the share of practical teaching has not declined with the introduction of the new structure.

c) Engineering

Engineering is a broad field covering different levels and sorts of work. Although access pathways were opened to enable graduates of the still strong traditional apprenticeship system to enter higher education, their more common destination would lead them to further education outside of higher education (e.g. a master-craftsperson exam). As already discussed, these VET qualifications offered at higher levels outside higher education might be included into the NQF in the future providing them with a clearer status towards other qualifications and (so far only theoretically) improving permeability into other fields of training. The same is true for a qualification which can be obtained by VET college graduates in the technical fields based on professional experience and a certification process, the engineer´s degree (see chapter 3.1). These developments mainly aim at making engineering degrees visible by turning them into qualifications and can thus not be directly interpreted as one sort of 'drift'.

After transforming technical institutes in higher education into specialised universities in the 1970s, the next most important step was the introduction of the UAS. Developments described for the UAS were, especially in the early years, particularly affecting the field of engineering, e.g. attempts to discriminate the teaching staff of UAS and VET colleges (see section 4.1.c). However, especially technical programmes at UAS still struggle with establishing their status clearly distinguishing them from VET colleges and universities. Overall, the engineering field experienced a clear vocational drift.

7. Current debates and future perspectives

Please describe main current debates and any trends that can be observed or expectations related to future developments of 'VET at higher levels' (and specifically in the nursing and engineering areas) and provide evidence underpinning trends or expectations.

Please provide general information and refer to the particular situation in the nursing and engineering areas.

c) What are the main current debates related to 'VET at higher levels' in your country, if any? Are there any main recent/planned developments or reforms related to 'VET at higher levels'?

d) Can any trends related to future developments be observed? (e.g. in terms of increasing or decreasing use of 'VET at higher levels'; changes in regulations, types of providers offering 'VET at higher levels', profile of learners/teachers, involvement of labour market stakeholders, partnerships/cooperation; development of new types of 'VET at higher levels'; coverage of 'emerging' fields)?

A current debate and a possible future trend refers to the transformations of degrees awarded outside of higher education into qualifications that can be allocated to **NQF levels.** As demonstrated e.g. by the recent introduction of the engineer´s degree, international competition and international transparency tools might raise the pressure to enhance the visibility of these qualifications and to clarify their value and position as qualification in an unambiguous way. It remains to be seen whether the sector of higher VET outside of higher

education can become and stand its ground as an important (and visible) component of the Austrian education system.

The chances of other more recently developed programmes and qualifications of successfully increasing their visibility and standing are – following today´s political preferences – assessed differently: While experts do not see much chance for 'Berufsakademien' to receive Bologna-accreditations anywhere soon, short cycle programmes might get promoted for some specific fields of study (technical fields, health care). ([35]) However, one expert sees the threat of locally dominating enterprises implementing tailor-made short-cycle programmes at publicly funded education institutions.

The somehow bumpy implementation and usage of the **Bologna structure** in Austria will furthermore lead to discussions on how to improve, e.g. the relevance of the Bachelor-degree as labour market relevant qualification. As matters of rumours, there are discussions to commit all Bachelor-degrees or all vocational study programmes (and therefore a big majority of students) exclusively to the UAS and to concentrate universities on purely higher and/or academic education. However, this is more or less pure speculation. The extension of Austria´s UAS sector is however common sense among the relevant political actors.

Higher education institutions will continue to try to establish their offers of **further education**, both in the non-formal sector and regarding post-graduate courses. It is yet not clear in how far they will succeed in competing with purely commercial providers or high-profile competitors from abroad.

Also, a moderate expansion of the **private universities** can be expected. They are expected to succeed if they manage to focus on profitable sectors (e.g. medicine, STEM), guarantee an advantageous support service for their students and to acquire students from abroad (Schmid, et al, 2017, pp. 155).

The role and shape of **work-based learning** in vocational education will further be discussed in Austria. Given the big attention that work-based learning receives at the moment, it can be expected that its shares will raise within also in VET at higher levels. On the other hand, the traditional work-based system (apprenticeships) can be expected to provide a better theoretical basis in order to e.g. prepare for higher education. Thus, it is the goal of major stakeholders that work-based activities are better connected and embedded into school-based learning pathways. Also, existing bridges between the apprenticeship system and higher education are intended to be strengthened, improved and by this to become 'normal' pathways within the Austrian education system.

8. Overview

This table should provide an overview of what types of changes due to 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' can actually be observed in the country. Please indicate the main processes and phenomena identified during the last 20 years in the table below – referring to the direction of change, the object of change, the context of change (or target area of change), the key processes observed and the results of these processes as well as their time frame and indicate the sections in which they are presented! Examples of key processes/results are presented in table 1 of the guidance note.

Table 1 **Overview**

Direction of change	Object of change	Context/target area	Key processes observed / results	Timeframe	Section
Academic drift	**Higher Education**	professionally-oriented HE	__transformation of vocational HE institutions into specialised universities* (e.g. Vienna University of Economics and Business; Technical University Vienna) __strengthening academic aspects at UAS (establishing PhD programmes, placing junior researchers in scientific positions)	1970´s recently	3.1
		traditional (or academic) HE programmes	__recruitment of academic staff solely dedicated to research tasks (because of international rankings)	recently	3.1
	VET (outside HE)	VET transformed to HE	__upgrading of specific upper and post sec. programmes into HE programmes	2004 – 2024	3.1
		VET offered at higher levels outside HE		2016 - ongoing	3.1.a,b; 3.2.4a; 5b
Vocational drift	**Higher Education**	professionally oriented HE	__establishment of UAS __implementation of organisational and financial autonomy of specialised universities	starting 1993 1994 – 2002	3.1
		traditional (or academic) HE programmes	__increase of organisational and financial autonomy of universities __curricular shifts putting the development of labour market relevant skills to early phases of BA programmes	1994 – 2002 2000	4a; 5c
Expansion of VET at higher levels (outside HE)	**VET at higher levels (or 'higher VET') offered outside HE**		__(re-)classification of VET colleges (on ISCED11- and EQF-level 5) (only formal change) __increasing visibility of some VET offers´ higher level through the NQF mapping process (already mapped: VET colleges, engineers' qualification) __expansion of (assumingly) higher VET programmes and institutions outside HE __expansion of potentially formal (though not (yet) accredited) higher VET outside HE ('Berufsakademie', short-cycle programmes)	2011 / 2017 2016 - ongoing ongoing 2010 – ongoing	3.1 3.1.a,b; 3.2.4a; 5b 3.1 3.1

*depends on the perspective: can be considered as academic or vocational drift.

9. Sources of information

References

Bode, A.; Müller, K.; Heinze, D. (2012). *Duale Studiengänge: Vergleichbare Bildungsangebote in Europa Begleitforschung zur Kampagne „Duales Studium Hessen“*. Technische Universität Darmstadt.

Eichmann, H.; Saupe, B. (2011). *Praktika und Praktikanten/Praktikantinnen in Österreich. Empirische Analyse von Praktika sowie der Situation von Praktikanten/Praktikantinnen*, Wien: FORBA.

Graf, L. (2013). The Hybridization of Vocational Training and Higher Education in Austria, Germany and Switzerland. Budrich UniPress.

Graf, L. (2015). The rise of work-based academic education in Austria, Germany and Switzerland, *Journal of Vocational Education & Training*, DOI: 10.1080/13636820.2015.1107749.

Haberfellner, R.; Sturm, R. (2014). *Zur Akademisierung der Berufswelt. Europäische und österreichische Entwicklungen im Kontext von Wissensgesellschaft, Wissensarbeit und Wissensökonomie*. AMS Report, p. 106.

Hippach-Schneider, U.; Schneider, V, (ed.) (2016). *Tertiäre berufliche Bildung in Europa – Beispiele aus sechs Bildungssystemen.* Wissenschaftliche Diskussionspapier. Heft p. 175.

Humpl, S. (2011). Fachhochschulen und Arbeitsmarkt. In: Holzinger, H.; Jungwirth, W. (2011). *15 Jahre Fachhochschulen in Österreich. Eine Standortbestimmung*. Wien: Facultas.

Lassnigg, L. (2011). Berufsbildung, akademische Bildung, Akademisierung der Berufswelt-Entwicklungen, Erfahrungen und Diskurse in Österreich. In: Severing, E., Teichler, U. (Hrsg.) (2013), *Akademisierung der Berufswelt? Berichte zur beruflichen Bildung.* Schriftenreihe des Bundesinstituts für Berufsbildung Bonn. Bertelsmann.

Lassnigg, L.; Unger, M. (2016). Stärkung der Rolle der Hochschulen. Bologna und der Hochschulraum – Relevant für Weiterbildung?. *Weiterbildung* 4/2016.

Markowitsch, J; Messerer, K.; Prokopp, M. (2004). *Handbuch praxisorientierter Hochschulbildung*. Wien: WUV.

Österreichischer Wissenschaftsrat (2012). *Fachhochschulen im österreichischen Hochschulsystem. Analysen, Perspektiven, Empfehlungen.* http://www.wissenschaftsrat.ac.at/news/Empfehlung_Fachhochschulen.pdf [accessed 30.5.2017]

Pechar, H. (2005). Backlash or Modernisation? Two Reform Cycles in Austrian Higher Education. In: Amaral, A.; Kogan, M.; Gornitzka, A. (ed.) (2005). *Reform and Change in Higher Education. Analysing Policy Implementations*, Springer, Dordrecht, pp. 269-285.

Pfeffer, T.; Unger, M.; Hölttä, S.; Malkki, P.; Boffo, S.; Finocchietti, G. (2000). Latecomers in vocational higher education: Austria, Finland, Italy. *HOFO Working Paper Series* 00.001. Vienna, IFF (Faculty for Interdisciplinary Studies). http://www.iff.ac.at/hofo/WP/IFF_hofo.00.001_Pfeffer_latecomers.pdf [accessed 30.5.2017]

Republik Österreich (1993). FhStG

Republik Österreich (2017). IngG

Schmid, K. (2014). Berufliche Tertiärbildung in Österreich: Bedeutung, ‘blinde Flecken’, Perspektiven. WISO Sonderheft.

Schmid, K., et al. (2017). *Privatuniversitäten. Entwicklung und Ausblick*. Wien: IBW.

Schneeberger, A.; Schmid, K.; Petanovitsch, A. (2013). *Postsecondary vocational education and training in Austria. Country background report: OECD-Review ‘Skills beyonf school’*. ibw-Forschungsbericht Nr. 175.

Statistik Austria (2006-2015). *Bildung in Zahlen, Schlüsselindikatoren*, Wien: Statistik Austria.

Sterrer, S.; Aichinger, R.; Preymann, S. (2015). *Panta rhei – on phenomena of academic drift. The case of the Austrian University of Applied Sciences sector*. Auszug aus Präsentation am EAIR 37th Annual Forum in Krems, Austria 2015.

Tritscher-Archan, S. (2014). V*ET in Europe. Country Report Austria. Report within the Framework of ReferNet Austria.* Vienna.

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AT	Kurt Schmid	ibw Austria - Research & Development in VET	+43 1 545 16 71-26 schmid@ibw.at	26 June 2017	yes
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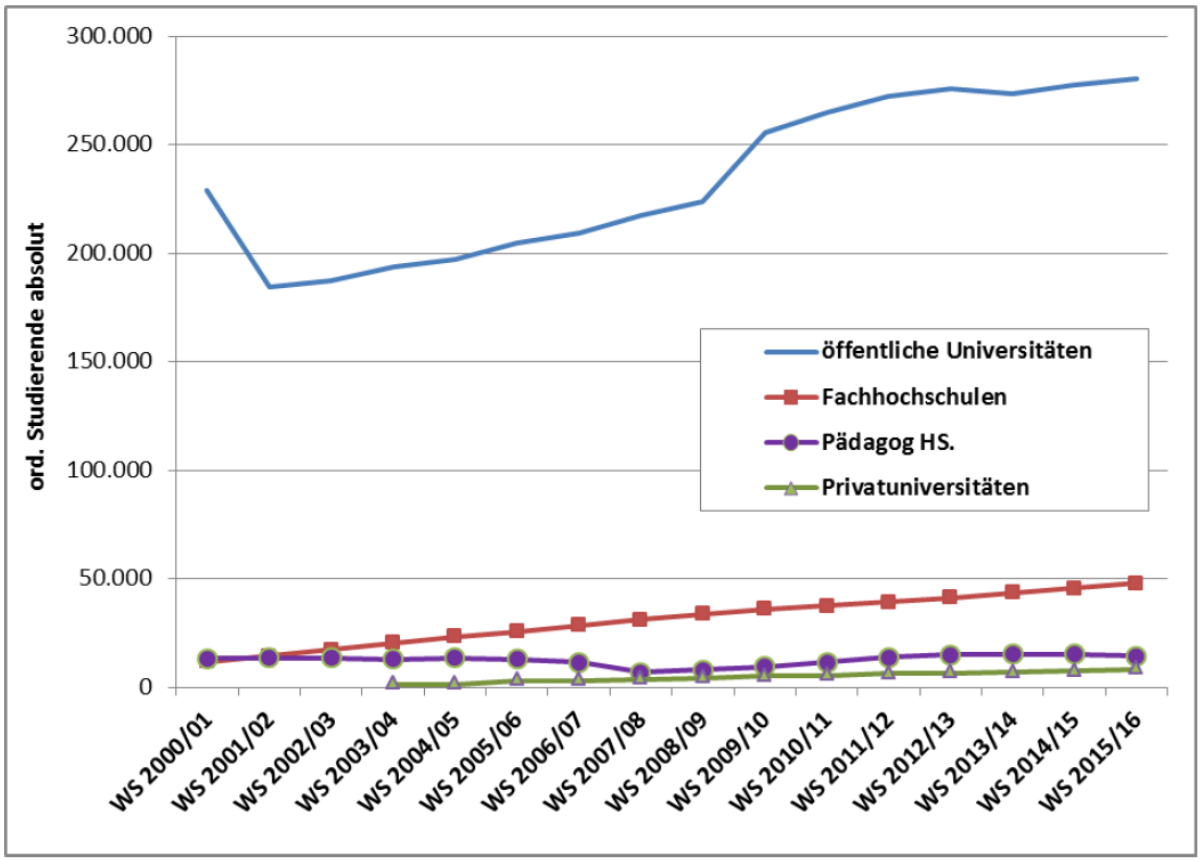
AT	Martin Unger	IHS – Institute for Advanced Studies (IHS)	+43 1 59991 133 unger@ihs.ac.at	5 July 2017	yes

* Interviewee agrees that his/her name can be included in the final publication

10. Annexes

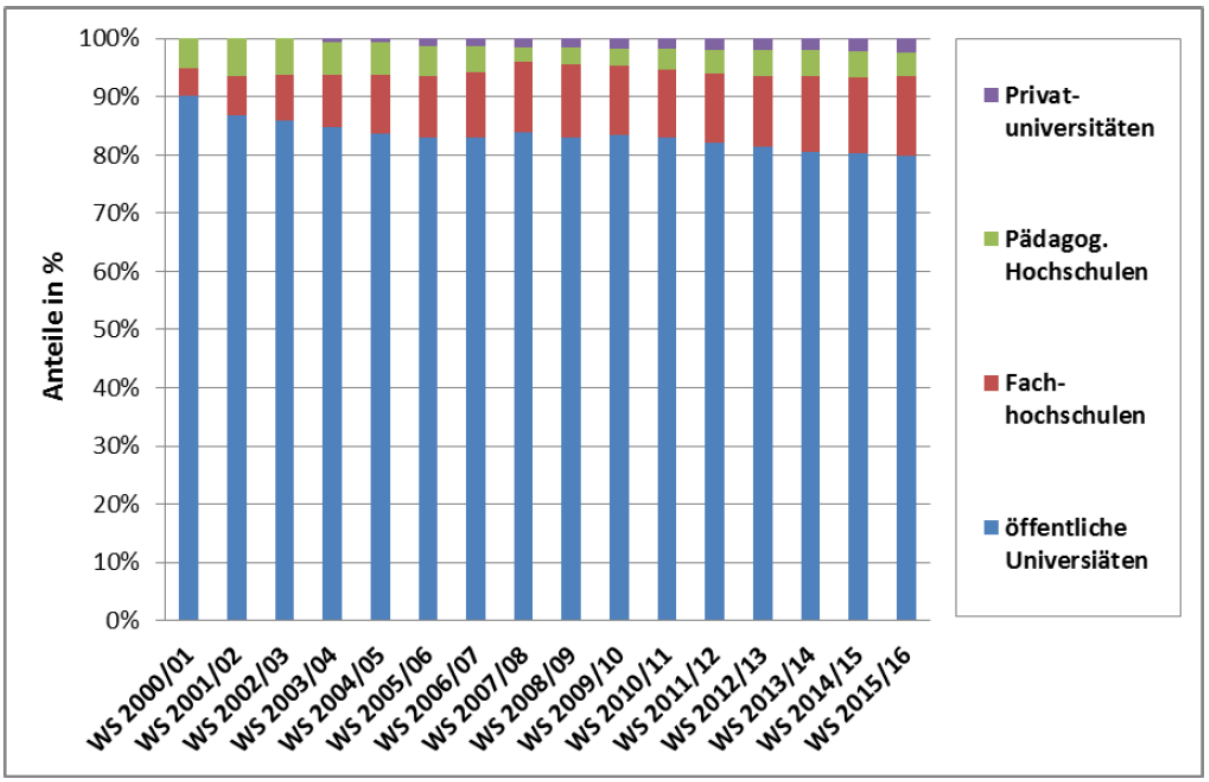
Figure 2 **Development of the number of ordinary students by sector of higher education***



Source: Schmid et al., 2017, p. 145

**Reading help: Öffentliche Unviersitäten = public universities; Fachhochschulen = UAS; Privatuniversitäten = private universities; Pädagogische Hochschulen = Universities of Education; WS = winter semester*

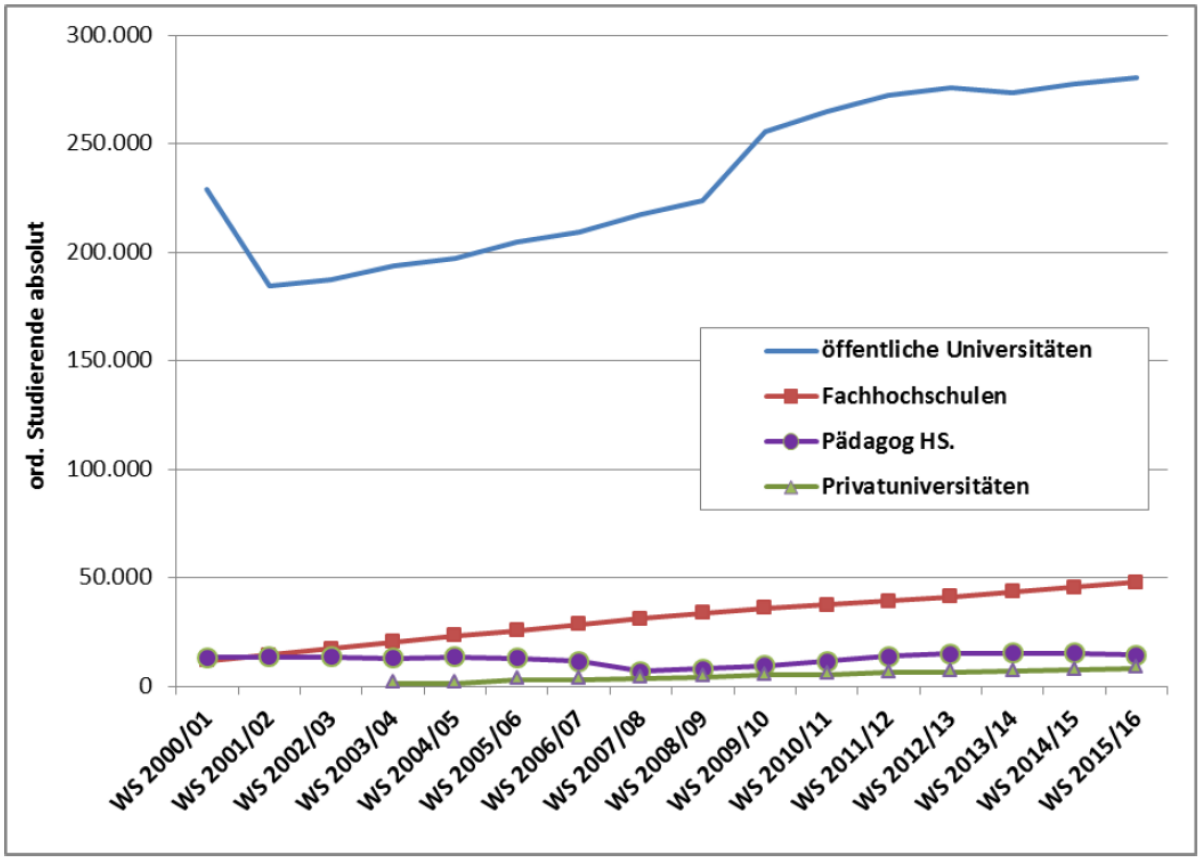
Figure 3 **Distribution of ordinary students by type of higher education institution ***



Source: Schmid et al., 2017, p. 26

**Reading help: Öffentliche Unviersitäten = public universities; Fachhochschulen = UAS; Privatuniversitäten = private universities; Pädagogische Hochschulen = Universities of Education; WS = winter semester*

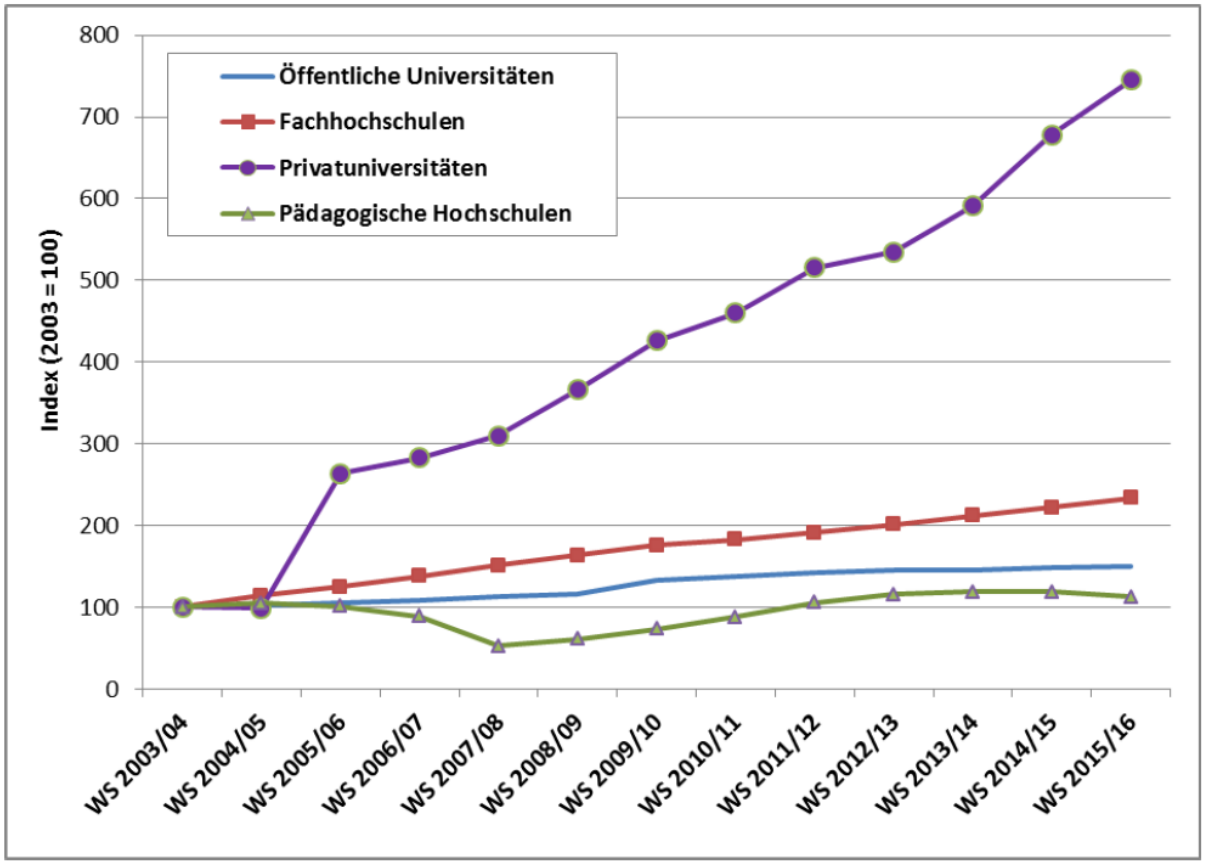
Figure 4 **Development of the number of ordinary students by higher education institutions***



Source: Schmid et al., 2017, p. 27

**Reading help: Öffentliche Unviersitäten = public universities; Fachhochschulen = UAS; Privatuniversitäten = private universities; Pädagogische Hochschulen = Universities of Education; WS = winter semester*

Figure 5 **Index of the development of student numbers (full-time and extraordinary) by higher education sector***



Source: Schmid et al., 2017, p. 26

**Reading help: Öffentliche Unviersitäten = public universities; Fachhochschulen = UAS; Privatuniversitäten = private universities; Pädagogische Hochschulen = Universities of Education; WS = winter semester*

Case study

Country: Germany

Author: Ute Hippach-Schneider

Title of the case study: Higher VET and higher education with practice-orientation in Germany

1. Introduction

On one hand, there is an **academic drift** in Germany when looking at the entrance number of students in higher education. On the other hand, the main growing sector is the sector of universities of applied science that traditionally provide practice-related study programmes. Having in mind the different types of dual study programmes that are characterized by a very close link between theory and practice with long periods of in-company learning there is also a basis to talk about a **vocational drift** in higher education.

Traditionally in Germany, besides higher education there is a formal and state-recognized vocational pathway from IVET to **advanced vocational education on higher levels** of qualifications. There should be no qualification without the possibility of a subsequent programme leading to a higher level VET qualification or higher education.

The two pillars somewhat lost their borders, permeability for the benefit of the learner and its individual biographies became an important issue on the political level. There are many links and possibilities to transfer between them and the dual study programmes even form a hybrid approach integrating vocational and academic elements.

The establishment of the national qualifications framework was a process in which the equivalence of VET and general/academics education became a crucial issue. They are looked upon not as the same in content but as equal in esteem. This was a political setting but the debate included all stakeholders of the education system and the coherent shape of the framework can be seen a strong signal of the relevance of VET in Germany.

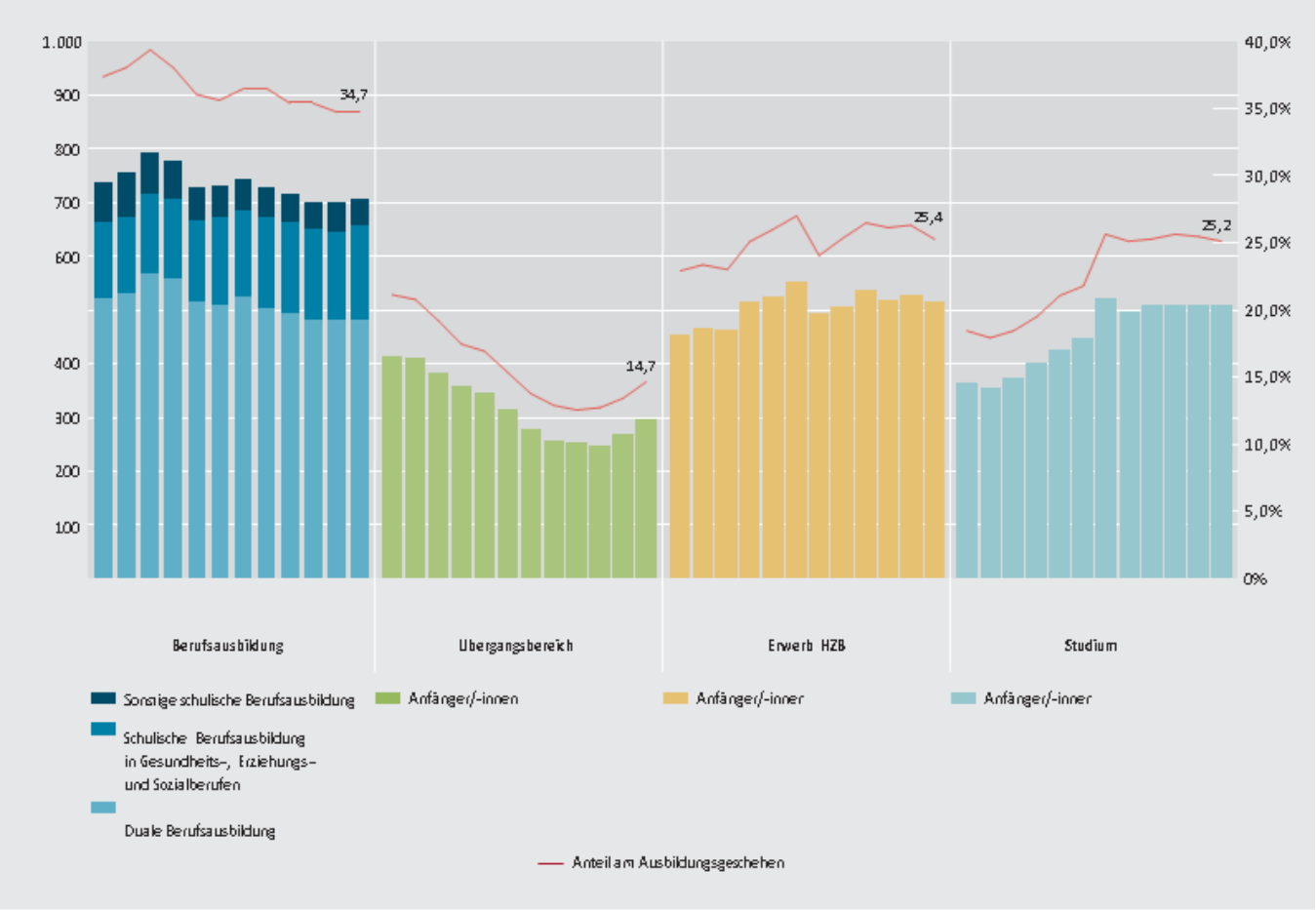
So there are signs of a vocational as well as an academic ‘drift’ in Germany.

2. VET at higher levels

In Germany there is a slight and steady decrease of IVET and a quite constant development in the number and rate of entrants to higher education after some years with a strong growth. The figure below shows the development of new entrants into different sectors of the education system after secondary education and provides an overview about the size of the different sectors. 34.7% of all new entrants in 2016 opted for IVET, which is also seen as part of secondary education area, 25.4 % entered in a programme leading to a higher education entrance qualification, 25,2% started in a higher education programme. The numbers are independent from age or an age cohort, but cover all entrants in a year.

The numbers of entrants to advanced vocational programmes (i.e. HVET) are not included in the integrated education report system (iABE), since these programmes require a previously acquired VET qualification and therefore don´t follow directly the secondary school sector.

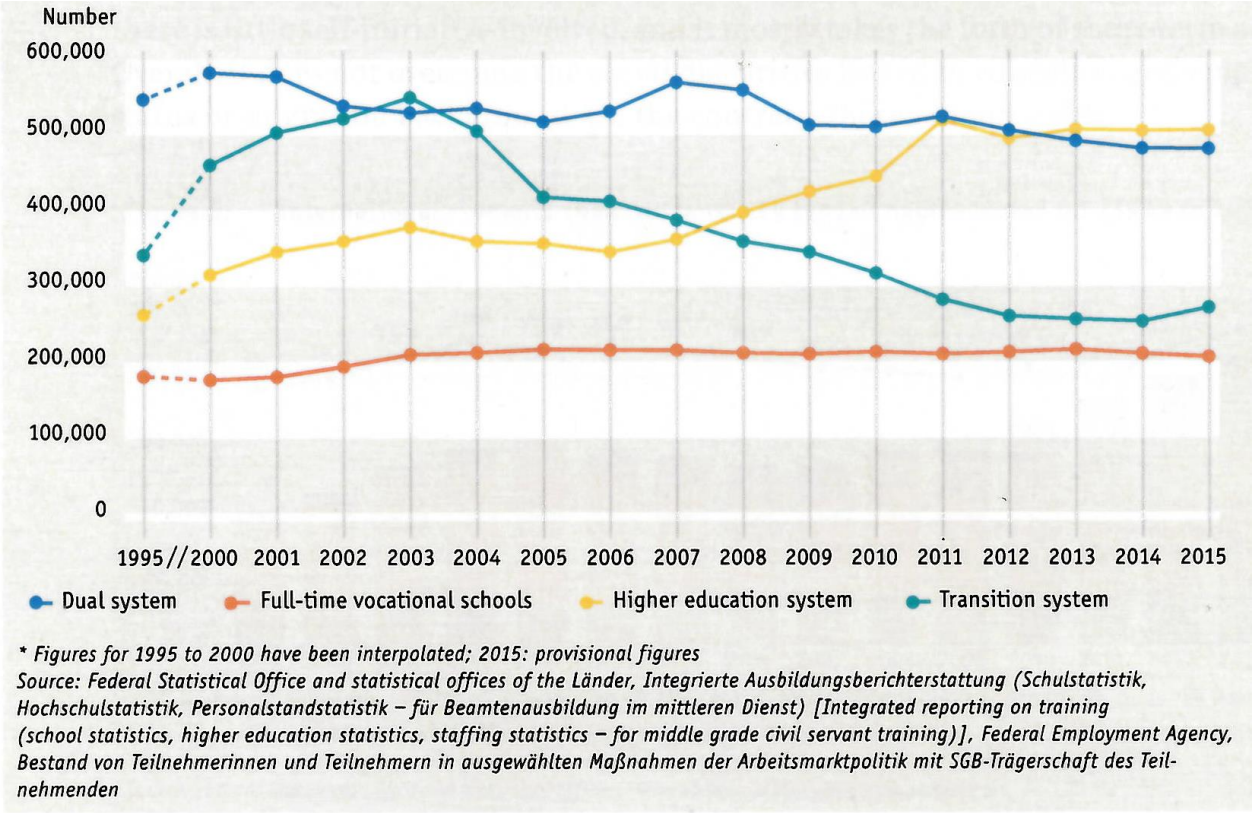
Figure 1: Development of the education sectors 2005 to 2016, in numbers and rate



Source: BIBB Datenreport 2017, p. 97; from left to right: IVET (medium blue: dual system VET; dark medium blue: VET in fulltime school i.e. social and health occupations; dark blue: others), Transition programmes, e.g. VET preparation (green), Acquisition of higher entrance qualification (yellow), New entrants in Higher education (light blue) from 2005 to 2016

From 2013 on the number of new students in higher education was greater than the number of young people entering the dual system of vocational education and training. This was the result of the rising number of people qualified to enter higher education and the slight increase the percentage of people transferring to higher education as well as the increase on the number of international students, see Figure 2.

Figure 2: Number of new entrants in different sectors of education 1995 to 2005*



** Figures for 1995 to 2000 have been interpolated; 2015: provisional figures*
Source: Federal Statistical Office and statistical offices of the Länder, Integrierte Ausbildungsberichterstattung (Schulstatistik, Hochschulstatistik, Personalstandstatistik – für Beamtenausbildung im mittleren Dienst) [Integrated reporting on training (school statistics, higher education statistics, staffing statistics – for middle grade civil servant training)], Federal Employment Agency, Bestand von Teilnehmerinnen und Teilnehmern in ausgewählten Maßnahmen der Arbeitsmarktpolitik mit SGB-Trägerschaft des Teilnehmenden

Source: Authoring Group Educational Authoring Group Educational Reporting, 2016, p.9.

The tertiary education sector comprises two different pillars that provide various options of permeability, i.e. higher vocational education with advanced vocational education as well as the trade and technical schools and higher education.

- Advanced vocational education

Besides higher education programmes there are advanced vocational education programmes in tertiary education that are leading to a nationwide recognised vocational qualification on higher qualification level (EQF levels 5 to 7), i.e. ‘Meister’, ‘Techniker’ or ‘Fachwirt’-qualification. These federally-regulated advanced training regulations do not contain a curriculum - unlike the training regulations for IVET in the dual system - but they are defining and describing examinations.

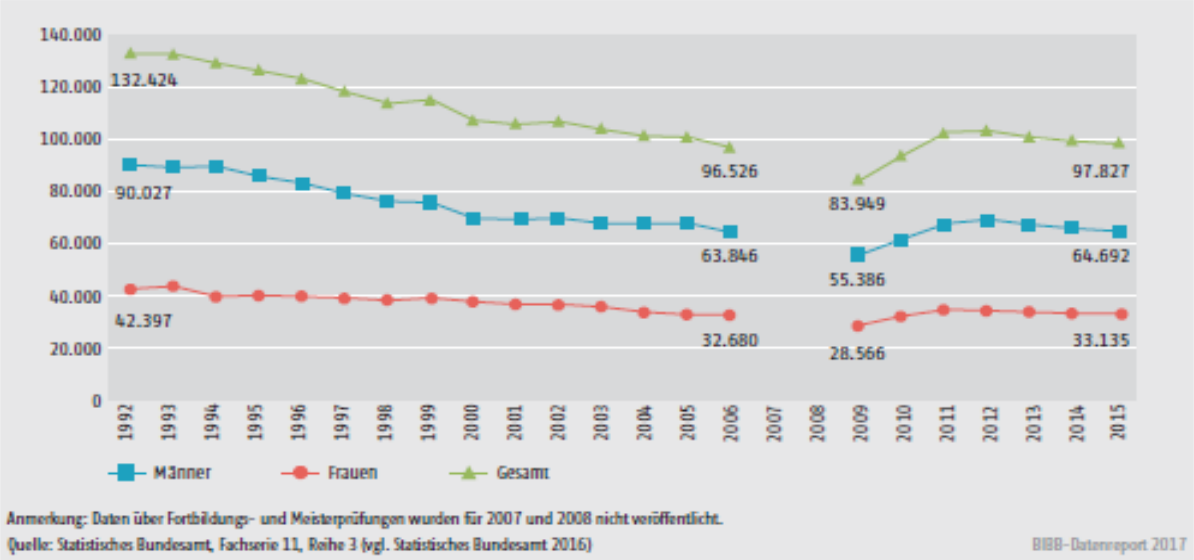
Advanced vocational education as a ‘Meister’ entitles the holder to practise a craft trade independently and to employ and train apprentices and opens up access to courses at craft academies and UAS (Fachhochschulen) or even universities. The data about this programme are not fully recorded in the ISCED statistics for two reasons. First, the examinations basically don´t require a participation in a preparatory course. And secondly, even if a huge number of examinees participate in preparation classes, these courses offered by the chambers are not seen as part of the education system. There is the political objective to change this insufficient visibility in international statistics and to include all programmes that meet the ISCED-2011 level definition in the next years. All qualifications in the area of advanced vocational education are allocated to the German qualification

framework on levels 5 to 7. This is an important signal for the equivalence with academic degrees.

The Table below shows the development of passed **advanced vocational examinations**. There is a distinct decline in the annual number of advanced vocational examinations passed in the period from 1996 to 2006. The decrease is stronger for male graduates compared to female students. In the last years the decreasing development has stabilized. Since 2011 the number of passed examinations is constantly higher than in 2006, although since the peak in 2012 the number is again decreasing (BIBB, 2017b, pp.414).

In some cases, entire examination groups are affected by a discernible decline in numbers of examinations. This is the case for the Fachkaufmann/-frau (certified commercial specialist) and Fachkraft für Schreibtechnik (specialised office clerk) qualifications, among others. Examinations for the qualification of Fachkraft für Datenverarbeitung (specialised data processing clerk) have undergone a very marked decline in significance. An explanation might be that the jobs for which the qualifications prepare have undergone a severe change in the companies. Technological change and restructures in the work processes might have contributed to this development. In this respect the close relation between the area of advanced vocational education with the world of work becomes evident.

Figure 1: Development of passed examinations of advanced vocational education according to BBiG/HWO (legal basis), gender, total numbers.



Source: BIBB, 2017, p. 415. Blue: men, red: women, green: total

- The trade and technical schools

The trade and technical schools regulated according to Länder law can be attended after having obtained an initial vocational qualification followed by practical experience in the occupation, or alternatively in some cases, after lengthy practical experience in the occupation or by demonstrating a subject-specific aptitude. The teaching programmes, which may be organised in full-time or part-time form, lead to a state vocational qualification in accordance with Länder law. The duration of school attendance is between one and three

years for full-time courses. Trade and technical schools provide qualifications to assume more extensive responsibility and management functions in the workplace.

According to data from the Federal Statistical Office (Fachserie 11, Reihe 2 [technical volume 11, series 2] School statistics – vocational schools), in the 2009/2010 academic year, 936 trade and technical schools nationwide were established under the auspices of public providers, and were attended by some 118,000 persons in total.

As set out in the 'Agreement on acquisition of the university of applied sciences entrance qualification on vocational training courses' (KMK resolution of 05.06.1998 in the version currently in force), the university of applied sciences entrance qualification can also be acquired at trade and technical schools. This option is an important element of permeability in the education sector.

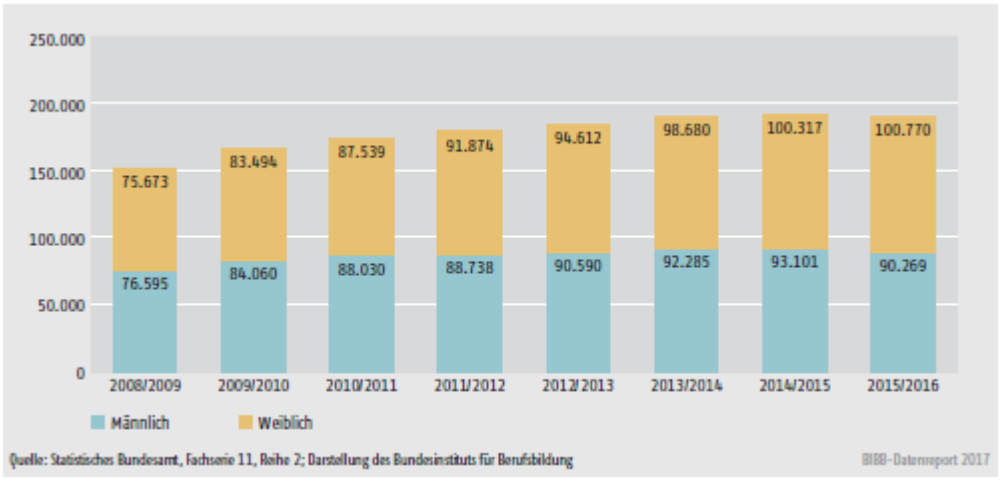
The trade and technical schools (and, in Bavaria, 'specialised academies') exist for the following occupational fields:

- agriculture
- design
- technology
- business
- social care.

They end with a final state examination under Länder law. The conditions for entrance vary depending on the subject area. For trade/technical schools an applicant normally needs a qualification in a recognised training occupation of relevance to the subject concerned, and relevant work experience of at least one year, or a qualification from a full-time vocational school and relevant work experience of at least five years.

The student numbers at **trade and technical schools** decreased slightly since school year 2014/15, compared to the continuous increase in the previous years, but remain generally stable. There is a different development re. gender. Looking closer at the data, they show an increase of female students, but a stronger decrease of male students, leading to a net increase. The reason might be the occupations to which the programmes of the trade and technical school are leading. Pre-school pedagogy and social sector occupations form the area with the largest number of graduates in year 2015. It´s a rate of approx. 38%, the number of graduates increased by 2.1% from 2014 to 2015. Traditionally in this sector the rate of female students is very high (80%) (BIBB, 2017, p. 412).

Table 3: Development of the number of students at trade and technical schools 2008/2009 to 2015 /2016



Source: BIBB 2017, p. 411. Blue: male, yellow: female

- Health sector schools

Furthermore, the two to three-year health sector schools are nationally considered to be tertiary, and by state regulation approximately two thirds of their contents are theoretical, while the other third is devoted to practical training in hospitals and other health care institutions. The reason for their assignment to ISCED level 65 (former 5B) is that ISCED 2 is not the only entrance requirement, but work experience and/or preceding vocational qualification is required, both of which are currently classified at level 35 (former 3B). In the national qualifications framework (DQR) the nurses' qualification is on level 4.

- Higher education sector with Universities of applied sciences (Fachhochschulen, UAS) and Vocational academies (Berufsakademien) and the Baden-Wuerttemberg Cooperative State University

In the last years the number of young people entering training leading to initial vocational qualification continuously decreased whereas the number of new students in **higher education** (e.g. universities, UAS) was steadily increasing. From 2013 on the number of new students in higher education was greater than the number of young people entering the dual system of vocational education and training. This was the result of the rising number of people qualified to enter higher education and the slight increase the percentage of people transferring to higher education as well as the increase on the number of international students.

Table 1: Number of students in higher education institutions from 2014/15 to 2016/17

	2014/15	**2015/16**	**2016/17**
Universities	1.705.723	1.729.503	1.747.515
Universities of	896.187	929.241	956.717

Applied Sciences			
Universities of Teacher education	24.748	24.456	25.109
Universities of Arts	35.326	35.536	35.980
Universities of Theology	2.568	2.493	2.476
Universities of Administration	34.349	36.570	39.213

Source: Statistisches Bundesamt: https://www.destatis.de/DE/ZahlenFakten/GesellschaftStaat/BildungForschungKultur/Hochschulen/Tabellen/StudierendeInsgesamtHochschulart.html, accessed: 16.11.2107

Universities of applied sciences were introduced to Germany's higher education environment in 1970/1971 as a new type of institution. They have an independent educational mandate that is characterised by a practical approach to teaching. This usually involves semesters of work experience and professors who have worked in the relevant profession outside of the university environment as well as having gained their academic qualifications. There is a large number of private institutions. The UAS are offering Bachelor and Master degrees, but no PhD programmes. In 2016/17 34% of all students in higher education institutions participated in an UAS programme, see table 1 above.

Universities **of cooperative education** ([36]) were first established in Baden-Wuerttemberg in 1974 as a pilot project. They still exist in several Länder as state-run or state-accredited institutions. There are universities of cooperative education in Baden-Württemberg, Saxony and Thuringia as well as in Hesse, Lower Saxony, Saarland and Schleswig-Holstein, some are public some are private. The idea of a dual study programme was created by the universities of cooperative education. At the beginning there was not the objective to provide academic degrees, the focus was on providing a practice-related qualification on a higher level than the dual system in secondary education. But then the involved companies criticized that the certificate of the universities of cooperative education lack the formal equivalence to academic degrees. Since 2004, the Bachelor degree of the Universities of cooperative education is recognized as equivalent to university bachelor degrees (Ratermann 2015). The companies bear the costs of on-the-job training and pay the students a wage, which is also received during the theoretical part of the training at the study institution.

Baden-Wuerttemberg Cooperative State University (Duale Hochschule Baden-Württemberg / DHBW) was the first higher education institution in Germany which combined on-the-job training and academic studies and, therefore, achieves a close integration of theory and practice, both being components of cooperative education, i.e. dual study

([36]) Or also called in ISCED classification 'Vocational Academies'.

programmes. The university developed from a vocational academy, founded in 1974, to a special University of applied Sciences and is the largest individual provider of dual study programmes. In 2009, the German Federal State of Baden-Wuerttemberg granted 'Berufsakademie Baden-Wuerttemberg' the legal status of a university. Further on, the corporate university status means the institution can grant academic degrees. One of the main innovations is the ability to implement cooperative research projects, thus tightening the bonds with the partner enterprises and institutions and bringing academic studies on a more up-to-date level. Throughout its nine locations and three campuses, the university offers a broad range of undergraduate study programmes in the field of business, engineering, and social work. All degree programmes are both nationally and internationally accredited. In addition, DHBW offers postgraduate degree programmes with integrated on-the-job training. The Baden-Wuerttemberg Cooperative State University is also offering PhD programmes and is part of the group of universities in table 1 above. DHBW still is offering only dual study programmes on bachelor level and practice integrated Master study programmes.

Public higher education institutions are run by the Länder. Because of this, the Länder provide the vast majority of their funding and largely decide on the allocation of resources.

Dual study programmes

Dual study programmes combine a university course with practical training or work experience with an employer. Unlike part-time courses, in a dual programmes the employment and/or training element is an integral part of the course. A dual programme is defined as a course of study with integrated vocational training or periods of practical experience in a company. It differs from traditional courses of study in its increased practical orientation. Another key feature are the two learning locations: university and business. Vocational practice and study are closely integrated with one another in terms of both organisation and curriculum. So far there are different models of dual study programmes with big differences how the correlation between the two learning sites is organized and how closely working and learning is linked.

A dual programme can incorporate training, employment or work-experience.

- A dual programme **with training component** (occupation integrated dual study programmes) combines a course of study with training in a recognised occupation. In addition to your degree, students obtain a vocational qualification. As a general rule, to enrol on a dual programme with training component a general university entrance qualification (Allgemeine Hochschulreife or Fachhochschulreife) and a contract of employment is required.
- Dual programmes **with a work experience component** combine a course of study with extended practical phases with an employer. Students obtain a university degree but not a recognised vocational qualification. As a general rule, to enrol on a dual programme with a work experience component a general university entrance qualification (Allgemeine Hochschulreife or Fachhochschulreife) is required.

These two models of dual study programmes are regarded as initial study programmes

- A dual programme **with employment component** (practice integrated dual study programmes) is primarily aimed at people who have already completed vocational or

professional training and/or already have a number of years of professional experience. It is designed to offer further professional development and combines a course of study with professional experience that is directly relevant to the course. A general university entrance qualification (Allgemeine Hochschulreife or Fachhochschulreife) is no access requirement. The amount of time the student spends in the classroom and at the place of work is agreed in a contract between the institution, the student and the employer.

This model of dual study programme is regarded as continuing education.

The first common feature of all dual courses of study is that they are framed as an academic degree programme leading to a tertiary qualification – normally a Bachelor's degree. Some dual courses of study lead to the acquisition of other recognised qualifications from the vocational sector in addition to the higher education qualification, meaning that these educational formats confer double or multiple qualifications. The most familiar at the level of initial vocational training in Germany is the training-integrated format, in which a qualification in a recognised training occupation is acquired in addition to the Bachelor's degree. Typically the programme duration is longer than the university bachelor programmes, mostly four years.

Dual study programmes are offered in a wide range of sectors. Most of them in engineering (60%) in economics (34%), 12% in IT, Social sector, Kindergarten pedagogy and the heath sector. This ranking doesn´t correspond to the number of students in the specific programme sectors. 50% of the students participate in economic studies, in the field of engineering are approx. one third, followed by IT with approx. 10% and the others with 10%.

In the dual study programmes that combine a bachelor programme with IVET (integrated initial dual study programme) the different occupations are offered. The most popular is Industry Mechanics, Mechatronics, Information technology specialist, Industrial clerk etc.

The providers of the dual study programmes are mainly the Universities of Applied Sciences, The Duale Hochschule Baden-Württemberg (DHBW) and the Vocational Academies. The distribution shows the prominent role of the first three mentioned institutions.

Table 2: Distribution of students of initial dual study programmes on providers

Dual Study programmes	**University of applied sciences**	**DHBW**	**Universities of cooperative education**	**Universities**	**other**	**total**
public	28.780	33.326	7.411	1.182	1.823	72.522
private	18.535		6.373	2.279	1.300	28.217

Source: BIBB, 2017.

Despite the increasing number of students and programmes, see table 4 below, the rate of students participating in a dual study programmes is still comparatively small.

Table 2: Rate of students in dual study programmes related to students in total (first-study students) from 2006 to 2012, in %

	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Rate of	2.5	2.5	2.6	2.7	2.8	3.4	3.4

students in dual study programmes							

Source: Wissenschaftsrat 2013, p. 45

Table 3: Structure of the German Qualifications Framework on levels 5 to 7

Level 7	Master of Science M.Sc. Advanced vocational qualification
Level 6	Bachelor of Science Advanced vocational qualification (Fachschule): State-Certified Technician Advanced vocational qualification (state-recognised advanced training certification): Certified Master Craftsman
Level 5	Advanced vocational qualification

3. Change processes during the last 20 years - educational system perspective

3.1. Change processes and their impact on the system

The developments described in chapter 2 reflect a shift to higher education. But higher education means different kinds of programmes and there is a greater number of pathways to higher education entrance qualification.

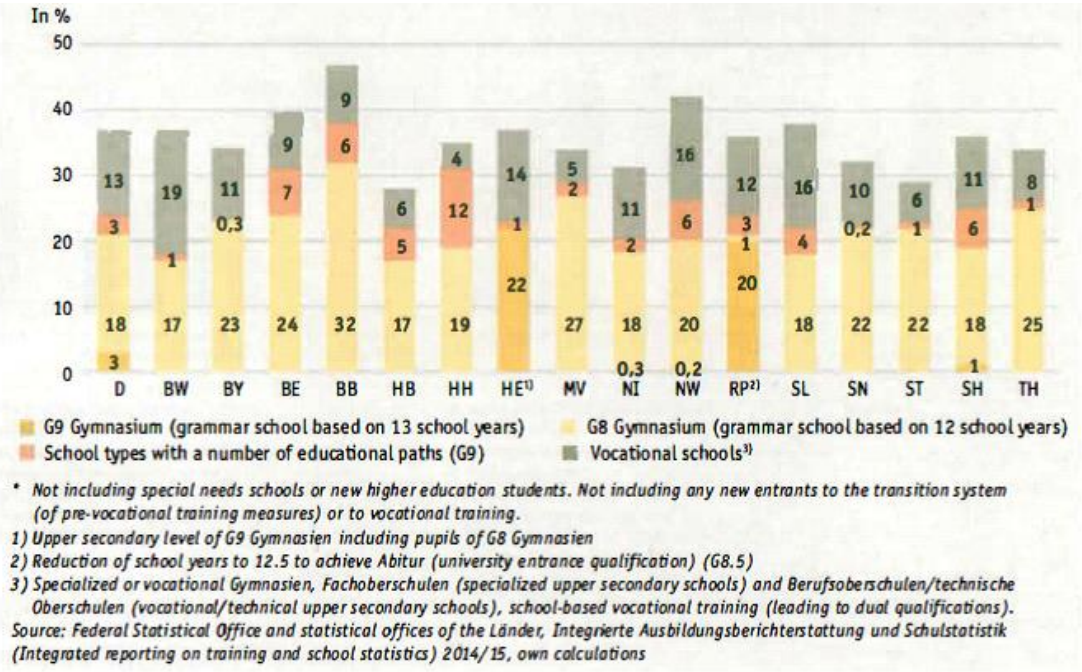
- Additional access pathways to higher education

Developments in tertiary education are also reflections or consequences of developments in secondary education. Increasing numbers of graduates from secondary education with a higher education entrance qualification or changing access requirements in higher education have an impact on numbers of participants in tertiary education programmes.

Additionally to the traditional route via the Abitur, a higher education entrance qualification can be acquired in schools with several educational pathways or in vocational schools.

About one fifth of new students entering in higher education already have a vocational qualification. When having a vocational qualification at the beginning of a higher education study there is very often a high correlation between the vocational and the academic subject (Autorengruppe Bildungsberichterstattung, 2014).

Figure 3: Entry into upper secondary general education by type of school 2014/15 (in % of beginners)*



* Not including special needs schools or new higher education students. Not including any new entrants to the transition system (of pre-vocational training measures) or to vocational training.
1) Upper secondary level of G9 Gymnasien including pupils of G8 Gymnasien
2) Reduction of school years to 12.5 to achieve Abitur (university entrance qualification) (G8.5)
3) Specialized or vocational Gymnasien, Fachoberschulen (specialized upper secondary schools) and Berufsoberschulen/technische Oberschulen (vocational/technical upper secondary schools), school-based vocational training (leading to dual qualifications).
Source: Federal Statistical Office and statistical offices of the Länder, Integrierte Ausbildungsberichterstattung und Schulstatistik (Integrated reporting on training and school statistics) 2014/15, own calculations

Source: Authoring Group Educational Reporting, 2016, p. 12.

- Dual Study programmes

In recent years the number of dual courses of study has risen sharply. At the same time, dual study models have evolved into increasingly diversified forms with marked structural differences from one another (Leichsenring, König et al. 2015). In many places, discussions as to what constitute the essential characteristics of a dual study programme are taking place without ever having agreed upon a universal definition. In autumn 2013 the German Science Council published its recommendations on the development of the dual degree programme (‘Empfehlungen zur Entwicklung des dualen Studiums’) and suggested some criteria. (Wissenschaftsrat 2013)

The area of dual study programmes increased regarding the number of programmes, the number of cooperating companies and students:

Table 4: Development of cooperating companies and students in dual study programmes from 2004 to 2016

year	Number of programmes	Cooperating companies	students
2004	512	18,168	40,982
2006	608	22,003	43,536
2008	687	24,572	43,991
2010	776	27,900	50,764
2012*	910	45,630	64,093
2014*	1,505	41,466	94,723

2016*	1,592	47,458	100,739

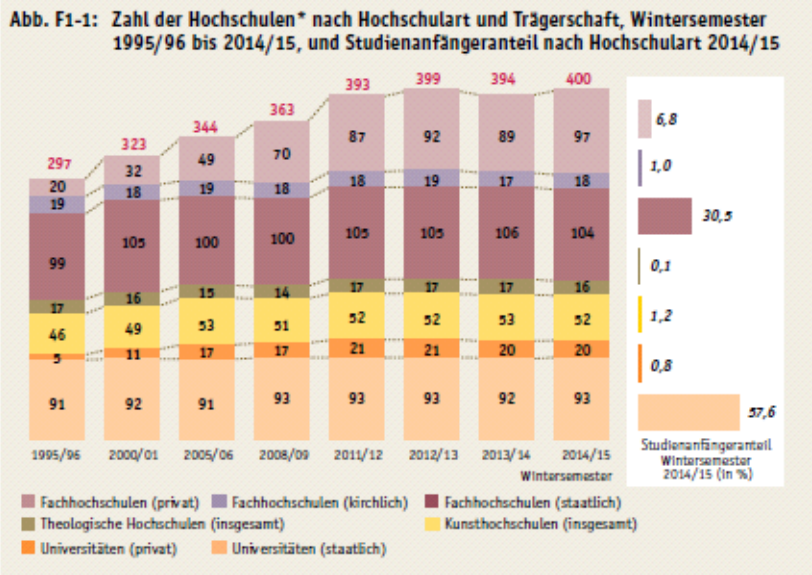
*Numbers relate to the initial dual study programmes only, not to dual study programmes that are defined as CVET. The initial dual study programmes are programmes designed for graduates from secondary education in contrast to dual study programmes that are designed for people that are already working and very often continue working while studying, see above.
Source: AusbildungsPlus, 2016.

There is a remarkable increase from 2012 to 2014. The number of cooperating companies has more than doubled since 2004, similar to the growth of the student number, where the number exceeded 100,000 in 2016.

- Growth of the University of applied science sector in general

Not only the numbers of dual study programmes and students are increasing, but the sector of Universities of applied sciences in general. This is important to recognize, because these programmes are in general more practice-oriented than university programmes. The figure below shows that the sub-sector that leads to a statistical increase of higher education are the universities of applied sciences. Therfore the interpretation of the growing number of higher education has to consider the growing area of practice-related programmes, a development which could be better categorized as a **vocationalisation of higher education** than academization of VET.

Figure 4: Number of higher education institutions according to type and funding (public vs. private) 1995/96 to 2014/15 and proportion of new students at each type of HE institution for 2014/15



Source: Autorengruppe Bildungsberichterstattung (2016), p. 124.

In 2015 42% of all new higher education students went to Universities of applied sciences (Authoring Group Educational Reporting, 2016, p. 127).

In general it can be stated, that there have been no new subsectors in tertiary education developed in the last 20 years but there are changes in participation rates and numbers as mentioned above.

3.2 Changes related to characteristics of ‘VET at higher levels’

3.2.1 Changes related to governance and institutional structures of ‘VET at higher levels’

In the area of the processes and governance structures haven´t changed in the last 20 years.

Advanced vocational education is regulated within the scope of the legal bases mentioned (§ 53 BBiG, § 42 HwO) by advanced training regulations together with associated examination regulations, which are issued by a federal ministry, normally the Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung, BMBF). In the skilled crafts sector, responsibility for issuing training regulations at master craftsperson level (pursuant to § 45 HWO) rests with the Federal Ministry of Economics and Technology (Bundesministerium für Wirtschaft und Technologie, BMWi). Normally it is the employers' organisations and trade unions who initiate new advanced vocational training qualifications.

The legal base for advanced vocational examinations is the Vocational Training Act (§ 56 BBiG). Recommendations on the conduct of examinations by the competent bodies are laid down by the Board of the Federal Institute for Vocational Education and Training (Hauptausschuss des Bundesinstituts für Berufsbildung, HA BIBB), http://www.bibb.de/dokumente/pdf/ha-empfehlung_128_mpo_fortbildung_bbig.pdf (in German), accessed: 04.10.2017). The competent bodies establish boards of examiners for the examination. The membership of the board of examiners must include delegates of the employers and the employees in equal numbers, and at least one teacher from a vocational school (§ 40 BBiG). The members must have expert knowledge of the areas to be examined. The contents of the examination are set out in the federally-regulated advanced vocational training regulations or the advanced vocational examination regulations.

A total of 223 federally-regulated advanced training regulations were issued in 2016 (BIBB, 2017, p. 407). These advanced training regulations are nationally recognised and the examination regulations are also standardised throughout Germany.

According to the Vocational Training Act (§ 54 BBiG) and the Crafts and Trades Regulation Code (§ 42a HwO), the sectoral bodies responsible for training – known as competent bodies – can pass examination regulations for advanced vocational qualifications, which are known as chamber regulations (Kammerregelungen). Examples of competent bodies are the IHKs (chambers of industry and commerce) and the HWKs (chambers of crafts and trades) as set out in the Vocational Training Act, § 71 ff. BBiG. They make active use of these powers. In 2016, 2,598 legal regulations are issued by individual chambers on 755 advanced training occupations which they were responsible for regulating (BIBB, 2017, p. 407). These examination regulations are valid only in the issuing chamber’s particular districts. For example, the qualification of Fachkraft für regenerative Energietechnik (regenerative energy technology specialist) exists in only four out of the total of 53 chamber districts. These qualifications are currently not represented in the international education statistics. This will be changed in the next years.

The initiative for the development of advanced vocational training regulations originates largely from the top-level employers' organisation and the confederation of trade unions. In 2008 the top-level organisations of industry, represented by the German Employers’ Organisation for Vocational and Further Training (KWB, membership of which includes inter alia the top-level chamber organisations ZDH and DIHK) along with the Confederation of German Trade Unions (DGB), concluded an agreement on advanced vocational training, in

which they reached a consensus on the criteria and procedures to which advanced training regulations of the competent bodies and the German federal government should generally conform (DBG and KWB, 2008).

In their role as private enterprises they play an important role as providers of preparation courses for the advanced vocational examination. The Chambers of Industry and Commerce as well as the Chamber of Crafts and Trade have established numerous education and training centres. Additionally, there are other private providers of preparation course as well as public schools, mainly the trade and technical schools, that also offer courses. All providers charge fees for the courses.

For the examination the competent bodies establish boards of examiners. The membership of the board of examiners must include delegates of the employers and the employees in equal numbers, and at least one teacher from a vocational school (§ 40 BBiG). The members must have expert knowledge of the areas to be examined. The contents of the examination are set out in the federally-regulated advanced vocational training regulations or the advanced vocational examination regulations.

In the area of **trade and technical schools** the processes and governance structures haven´t changed in the last 20 years. For the trade and technical schools, the curricula development lies in the jurisdiction of the Länder. In order to achieve nationwide recognition and a common classification system for training provision, the 16 Länder reach consensus within the Standing Conference of Ministers of Education and Cultural Affairs of the Länder (KMK) and set it down in the 'Framework agreement on the trade and technical schools'. This contains some basic statements on the agreement reached with regard to objectives, qualifications, admission requirements and forms of organisation.

According to the 'Framework agreement on the trade and technical schools'[37] passed by the Standing Conference of Ministers of Education and Cultural Affairs of the Länder (Kultusministerkonferenz, KMK), which lays down fundamental requirements with regard to the structure, amount of teaching, organisation and standards of the educational provision, the function and purpose of the trade and technical school is defined as follows:

Trade and technical schools are institutions of continuing vocational education and training. The training courses in the subject areas follow on from an initial vocational qualification and subsequent occupational experience. Following a teaching programme (which may be organised in full-time or part-time form), they lead to a state postsecondary vocational qualification in accordance with Land law. Furthermore, they may offer supplementary/extension training courses and updating training programmes.

Trade and technical schools provide qualifications for the assumption of management functions and support preparation for self-employment.

Dual study programmes were created as a form of educational provision offering both an academic and a practical vocational qualification. The coupling of competence acquisition in both higher education and practical company-based contexts is aimed at supporting learning transfer and hence achieving a benefit over purely academic or purely hands-on forms of initial vocational training.

[37] 'Framework agreement on trade and technical schools' (Rahmenvereinbarung über Fachschulen), KMK resolution of 07.11.2002 as last amended on 03.03.2010

The role of the companies differs in the different dual study programmes. In some study programmes, e.g. the universities of cooperative education, the employers or specific large employers play a crucial role in the process of curricula development, in some cases they contribute to funding.

As they are part of the higher education area, the programmes have to be accredited. The accreditation of study programmes resp. of internal quality assurance systems of higher education institutions is carried out by accreditation agencies, who in turn are accredited by the Accreditation Council of the Foundation for the Accreditation of Study Programmes. The legal basis of the accreditation system is set out in the Accreditation Foundation Law as well as in the contracts concluded between the Foundation and the agencies and defining the rights and obligations of the partner institutions involved in the accreditation system.

For the occupation integrated programmes there is a specific constellation of stakeholders, because additionally to the companies and the higher education institution there are the VET schools involved, i.e. the same VET school like in IVET (apprenticeship system, Duales System), because these programmes lead to a Bachelor degree but also to a full vocational qualification. In practice this means for the students that they have in fact three learning venues.

The other programmes provided by the UAS are also practice and applied oriented, some require practice experience in internships of four to six months per bachelor programme, but the two learning venues and learning phases are not as continuously merged and linked as during the dual study programmes. During the practice phase, the students acquire credit points. Typically, a bachelor programme at a UAS is one or in some cases two semester longer than at universities, especially when there is a specific practice semester integrated in the programme.

The role and commitment of the companies is not as intense as in the dual study programmes, but traditionally the UAS are very much related to the regional economy and labour market. The learning groups are smaller compared to universities, which is an additional important asset for the students.

The main sectors of UAS programmes are economics, engineering as well as the health and social sector, Furthermore they offer programmes in economic law, social work or design.

The most relevant aspect re. UAS, however, is the development of the dual study programmes, s above.

Financial support for people in initial and continuing vocational education and training in Germany is governed by three statutory bases: the Federal Education and Training Assistance Act (Bundesausbildungsförderungsgesetz, BAföG), the Upgrading Training Assistance Act (Aufstiegsfortbildungsförderungsgesetz, AFGB) and the Third Book of the Social Code (Sozialgesetzbuch III, SGB III) in which the vocational training grant scheme (Berufsausbildungsbeihilfe, BAB) is regulated.

Their respective scopes of application divide up broadly as follows: wholly school-based and university-based IVET is supported under the Federal Education and Training Assistance Act (BAföG), in-company IVET under the vocational training grant scheme (BAB), and recognized upgrading training, for which a recognized initial occupational qualification or equivalent is a prerequisite, under the Upgrading Training Assistance Act (AFGB). The

AFBG is used to fund the costs of training courses, examinations and the skilled-craft masterpiece (all independent of income and assets) and – for full-time courses – to contribute to maintenance (depending on income and assets), partly as a grant and partly as a loan

Generally, the AFBG relates to federally-regulated advanced vocational training and chamber-regulated training while the BAföG relates to school-based and academic education and training. Learners at trade and technical schools, who must meet the prerequisite of holding an initial qualification in a recognized occupation, can claim payments under either the BAföG or the AFBG. In the academic sector, the BAföG is applicable.

3.2.2 Changes related to the target groups of 'VET at higher levels'

The goal of **advanced vocational education** is to extend occupational proficiency and obtain career promotion (§1 para. 4 BBiG). Advanced vocational education as a 'Meister' entitles the holder to practise a craft trade independently and to employ and train apprentices and opens up access to courses at craft academies and universities of applied sciences or even universities.

The reform of the Vocational Training Act in 2005 introduced a modification of the concept of occupational proficiency. Under the old version, this had to be installed by teaching the necessary occupational skills and knowledge in the course of vocational education and training (VET). In the reformed version of 2005, this definition was augmented with the dimension of 'capabilities'. It now states that the "necessary occupational skills, knowledge and capabilities (occupational action competence)" must be taught. This new definition is indicative of a greater emphasis on competence-orientation in VET in general, an orientation that is increasingly being taken up in the stipulations of regulatory policy.

Other aspects which must be specified in the advanced training regulations are (§ 53 para. 2 BBiG, § 42 para. 2 HwO):

- designation of the advanced qualification,
- aim, contents and requirements of the examination,
- admission requirements and
- examination procedure.

To be admitted to an examination, a completed course of vocational training and/or appropriate vocational experience is generally required. These regulations are laid down by the BMBF by agreement with the competent ministries and following consultation with the Main Board (Hauptausschuss) of the BIBB. In the regulations that have been updated in the last years, the access has been explicitly opened to university graduates with related work experience. An IVET qualification is no longer a prerequisite for the advanced vocational examination. This is a signal for permeability between higher education and higher VET and a good example for its mutuality.

Access requirements and target groups of the **trade and technical schools** are similar to advanced vocational education. The participants have a VET qualification and mostly several years work experience.

Trade and technical schools exist for the following occupational fields: Agriculture, Design, Technology, Business, Social care.

Due to the fact that demand for training provision in the CVET sector can be highly specialised and fine-tuned, occupational fields are internally differentiated into 'specialisations' (Fachrichtungen), which can be further subdivided into "specific focuses" (Schwerpunkte) to take account of special regional requirements. Trade and technical schools are offering around 170 specialisations.

Dual study programmes were created as a form of educational provision offering both an academic and a practical vocational qualification. The coupling of competence acquisition in both higher education and practical company-based contexts is aimed at supporting learning transfer and hence achieving a benefit over purely academic or purely hands-on forms of initial vocational training. There is, however, a lack of clear criteria for describing this duality. Depending on the type of dual study programme, the students have a specific contract with a company as well as the education institution.

In general, students have to apply for occupation integrated study programmes to the company, whereas the education institution decide on the application for practice integrated study programmes. To get access to an occupation integrated study programme the student needs to have a contract with a company first before applying to the higher education institution, they select the students. Furthermore access requirement is a higher education entrance qualification (Hochschulreife), a subject-specific certificate confirming such a standard (fachgebundenes Abitur), or a certificate confirming the academic standard required for entrance to a UAS (Fachhochschulreife).

Target groups for the other **UAS programmes** are similar to the dual study programmes. There is only one difference regarding the access requirement, that mostly access to a dual study programmes requires a specific study contract with a company. This is not the case in the other programmes.

3.2.3 Changes related to the main purposes and functions of 'VET at higher levels'

The goal of **advanced vocational education** is to extend occupational proficiency and obtain career promotion (§1 para. 4 BBiG). Advanced vocational education as a 'Meister' entitles the holder to practice a craft trade independently and to employ and train apprentices and opens up access to courses at craft academies and universities of applied sciences or even universities. The graduates are prepared for the intermediate company level jobs.

The trade and technical schools provide qualifications to assume more extensive responsibility and management functions in the workplace. At some specific trade and technical schools also a Meister qualification can be acquired with the above described consequences.

One important reason for the commitment of companies in the **dual study programmes** are the changing skill needs of the companies driven by changing technology and work processes or the increasing difficulty to find adequate apprentices for the dual system in secondary education. The companies communicate their difficulty to find apprentices with an adequate previous general education level, e.g. in the banking sector (Sirikit, 2015, p. 73). In general, the graduates from dual study programmes are prepared for intermediate level jobs

in the companies. The bachelor graduates from the other **UAS programmes** focus on the same occupational status and job level.

3.2.4 Changes related to the perception of 'VET at higher levels'

The qualifications in the area of **advanced vocational education** and the trade and technical schools are allocated to the German qualifications framework on levels 5 to 7. This is an important signal for the equivalence with academic degrees, additionally because the German qualifications framework has a comprehensive structure, including VET as well as general and academic qualifications. But the German qualifications framework is strictly considered as an instrument for transparency, so it doesn´t provide any individual access rights or rights to be allocated to a specific wage group defined in the collective agreements.

The attractiveness of the **dual study programmes** for initial students mainly comes from the perception of a good transition from the education to the labour market and the chance to learn in a practice oriented or applied way. The work experience during the programme and integration in work processes in the company seems to be a perfect basis for a subsequent job. Furthermore, the bachelor programme is at least co-financed or even fully financed by the companies and it provides the option to proceed to a master study programme. Additionally, the students get wages, similar to dual system-apprentices in secondary education or even higher.

For most of the involved companies the dual study programmes serve a recruitment instrument, for some it is in the meantime even the only recruitment source for jobs on the intermediate company level. The advantage for the companies is that they avoid periods of integration and insecurity about the competence of newly employed skilled labour. Additionally, via their cooperation with the partner education institutions they facilitate a transfer between research and practice (Berthold et al., 2009; Heidemann, 2011).

The attractiveness of **university bachelor graduates** especially in research connected study courses for the companies is lower compared to bachelor graduates from UAS. In general they miss the practice orientation and work experience compared to UAS bachelor graduates or advanced qualified workers on one hand and the lack of academic level compared to master programme graduates.(Bergs and Konegen-Grenier, 2005)

There are different signals re. the relation between UAS-bachlelor degree graduates and advanced vocational qualified skilled employees. In Germany there is no significant tendency that bachelors would replace vocational qualified work force (Hippach-Schneider et al. 2013; Sirikit, 2015). The companies prefer to use the learning outcomes of **both** groups. (Werner et al., 2008). A study from 2016 shows that neither HE graduates nor graduates from advanced vocational education have consistently better income or labour market chances. Both groups are very heterogeneous, there are big differences regarding employment situation and career perspectives between economic sectors, occupational sectors, branches and job areas. It is stated that in general they are not equal but have the same value.(Flake et al., 2016).

Employees with advanced vocational qualification have in average a different kind of job to academic graduates and are often working in different sections in the company. But these differences do not automatically mean different career levels. A majority of companies regard

the career chances of vocationally qualified employees as equal to the Bachelor graduates in the company.

4. Impact on content and delivery of qualifications and programmes - the epistemological or pedagogical perspective

4.1 Changes in relation to content and profile

Advanced vocational education is part of the vocational pathway on tertiary education level. It provides occupation specific upskilling but also new competences e.g. they are considered as preparation to set up a business. They provide entrepreneurial knowledge and skills. Therefore, most graduates have an IVET qualification in a corresponding occupation and/or several years of occupation related work experience.

The teaching is divided in an occupation specific part and the interdisciplinary part. The objective of the interdisciplinary part is to stimulate methodological, personal, social and learning competences. The objective of the occupation specific subjects is to promote a wider occupational action competence. Complex exercises that are developed out of the future work area facilitate the learning process. (Kultusministerkonferenz 2002)

UAS are institutions that provide **programmes** on an academic basis combined with practice orientation. Compared to universities the focus on teaching applied competences plays a larger role. (Wissenschaftsrat 2010). During the internships the students try to deepen or enlarge their theoretical knowledge.

This linkage is much more important in **dual study programmes**. The phases in the companies and practice of the initial dual study programmes are regarded as learning phases in contrast to the work integrated dual study programmes for people with work experience, see above. There are different models of how the learning in the two sites are organized, see below.

This organized connection between the two learning site provide the possibility of applying knowledge straight away and developing practical skills.

Re. Trade and technical schools and UAS there are no applicable changes to be identified.

4.2 Changes in relation to the delivery

Advanced vocational education

Preparation courses for the examinations are not compulsory. Mostly they are offered in part time, which provides the opportunity to work and learn at the same time.

Normally the teachers and tutors involved in preparation courses are equipped with a relevant initial vocational qualification in a recognised occupation and longstanding occupational experience. Frequently they had already been appointed members of boards of examiners. However, there are no uniformly defined standards.

Trade and technical schools

The programmes may be organised in full-time or part-time form. The duration of school attendance is between one and three years for full-time courses.

The educational mission of vocational schools, and hence of trade and technical schools, is characterised by a particular combination of vocational and general education, developing personal qualities and building proficiency for employment, developing competence and acquiring qualifications (Bader, 2008). This mission has a reciprocal interaction with the qualifications of teaching staff, which span a range of requirements from 'expert in occupational know-how' to 'educator'. Fulfilling these requirements is a particular challenge for teaching staff.

Two types of teachers can be distinguished at vocational schools: firstly, academically-qualified teachers trained at universities, known as 'Lehrer für Fachpraxis' (teachers of vocational practice). Teachers with a university degree normally have senior civil servant status. Teacher training consists of two phases: university studies in the different vocational fields of specialisation at Master's degree level, and a subsequent period of preparatory service, after which the Second State Examination must be taken. In hands-on subject areas, Beamte des gehobenen Dienstes für die Fachpraxis (senior civil servants for vocational practice) known as Fachlehrer (technical teachers) are also employed. Technical teachers do not need a university degree but have, instead, a relevant professional background, a master/foreman/certified supervisor, technical engineer or equivalent qualification, and formal training in educational practice.

Professors teaching at **universities of applied sciences** have usually worked in the relevant profession outside of the university environment as well as having gained their academic qualifications. There is a variety of programme structures, requiring practice phases of different duration, full-time or part-time, some are offering distance-learning modules, especially for students that are working ([38]).

Dual study programmes lead to an academic degree and at least one additional qualification from the vocational education sector. A further possibility for linkage is offered in terms of how the learning phases are scheduled between the institutions in both sectors. In the last evaluation of the AusbildungPlus database of these data in 2013, the preponderant structure in the initial vocational training sector, accounting for more than two thirds of courses, was the block model, in which the higher-education based and in-company phases are approximately the same length, rotating within the semester. In other courses of study, the practice phases always take place in the lecture-free period at the end of a semester (Leichsenring et al., 2015, p. 35). A special form of the block model is the semi-separated model with a preceding initial vocational training phase. In this case, training begins between 6 and 18 months before the study programme so that the bulk of the initial vocational qualification has been completed prior to starting the degree programme. These models with a preparatory phase of the initial vocational training frequently last considerably longer than three years; up to five years in individual cases (Leichsenring et al., 2015). Other models shuttle between the higher education institution and the practice establishment within a working week (rotation model) or work with self-study and distance-tuition elements so as to increase the frequency or number of days spent in the practice establishment.

Typically, a bachelor programme in a dual study programme is four years, at a UAS the duration of a Bachelor programme is one or in some cases two semester longer than at universities, especially when there is a specific practice semester integrated in the programme.

Teachers in dual study programmes, i.e. UAS and Universities of cooperative education need specific qualifications. Besides the scientific expertise as a higher education professor, they have to have several years of related practice experience outside the higher education institution.

The German Science Council (*Wissenschaftsrat)* recommends a rate of 60% of full-time higher education professors and 40% lecturers with a specific contract from practice. For

([38]) See https://www.fachhochschule.de/, accessed 16.10.2017.

UAS generally they recommend a rate of 80% full-time higher education professors and 20 % practice lecturers. (Wissenschaftsrat 2013). In order to meet the scientific level of the institutions as higher education institutions the lecturers from practice, very often from the cooperating companies, should have equivalent qualifications to the full-time education professors.

In 2016, the German Science Council recommended to increase the attractiveness and to strengthen the **UAS teacher careers** in order to attract more applicants from Germany but also from abroad. The challenge is that researchers from universities lack the practical work experience and for successfully integrated researcher there often is a lack of incentives to go back to a higher education institution.

The traditional career pathway should be complemented by newly created qualification models. There is a need for UAS teachers especially in the fields of engineering and economics but also in health and nursing science. Nevertheless, the double qualifications of the UAS teachers should remain an essential feature. According to a group of UAS a new educational pathway should make it easier to acquire both qualifications, academic grade and practice experience, e.g. by a new form of phD-Programme a so-called Tenure Track. This model means that future researchers would work for at least three years after their PhD or post-Doc in a company on a beforehand agreed and reviewed research project. (Hochschulallianz für den Mittelstand 2016)

Furthermore an additional funding should promote the recruitment of new UAS teachers.

5. The context of change: rationale and drivers for change or persistence

In the context of the OECD-publication 2017 the German Minister for education and research pointed out that the employability rate of young adult with an initialvocational qualification (86%) is almost as high as the one of young adults with a tertiary qualification (87%). Additionally, more and more young people start a tertiary education programme, be it a higher education programme or a programme leading to an advanced vocational qualification i. e. **'Meister' or 'Techniker' qualification**. In the period from 2005 to 2015 the rate of new entrants in any kind of tertiary education programme increased from 43 to 63% (BMBF, 2017).

This statement reflects that in the meantime the term 'tertiary' is no longer used as an equivalent to higher education. Vocational education finally is also noticed as an important pillar in tertiary education and no longer seen as (only) part of secondary education.

The Main Board at BIBB, where representatives of the four stakeholder groups are represented and that is the 'voice' of VET policy in Germany ([39]), stated in an official legal document from 2014 that the federally regulated **advanced vocational education** provides equivalent options for professional development compared to higher education. From its point of view advanced vocational education becomes more and more relevant due to demographic development, longer active working life, technological development, in order to provide employees with latest professional knowledge and skills. In their view the need for vocationally high skilled people is growing. Competitiveness of industry and economy as well as individual employability requires a strong system of advanced vocational education (Bundesanzeiger, 2014).

The growing number of study programmes and students in the sector of **Universities of applied sciences** in general and the increasing attractiveness of **dual study programmes** for initial students but also for working people puts a pressure on the advanced vocational education sector. It becomes more relevant to make this option visible and show the benefit

([39]) Federal government, Länder governments, employers´ associations and trade unions

for career development. One consequence is the idea of developing a brand for VET on higher education levels (see Section 7).

A study from 2016 shows that graduates from advanced vocational education have a clear advantage compared to IVET graduates and enter income areas of academic graduates. Enterprises appreciate and value the competences of these employees. Many companies pay comparable wages like for academic graduates, but there are different factors relevant like professional sector or concrete job (Flake, Werner et al. 2016). Regarding advanced vocational qualifications in the management sector for instance, they show that more than 60% of the asked companies pay almost the same wages for graduates of this advanced vocational education compared to bachelor graduates; both at the beginning of the contract and after 5 years of work. In about one quarter of the companies, wages of advanced vocational qualified employees are slightly lower directly after recruitment, the difference diminishes during the subsequent years of work. At the same time the rate of companies where advanced vocational qualified employees get higher wages even in the first five years is increasing from 12.2% to 20.4 %. They state a clear tendency towards the employees with this higher vocational qualification.

6. Zooming in on nursing and engineering

- *Nursing*

Nursing is not part of the dual system of apprenticeships in secondary education, but is an occupation regulated by Länder law. But in fact, the education and training is very much work-based organized with long periods of learning in hospitals or other institution of health and care. In most cases nurses start to learn the profession in a special nursing school that is mostly connected to a hospital. Before starting the school they need a few weeks of practical training in a hospital setting. The nursing course is done according to EU regulations and is three years long including around 2,100 hours for theoretical knowledge and 2,500 hours of practical training in different hospital settings. In the first year of education, nurses are paid about 750-800 Euro a month. In the second year of education, nurses are paid about 800-900Euro a month. In the third and last year of education, nurses are paid about 930-1,030 Euro a month.

Since 2004, there is the possibility to study nursing on a B.Sc. base (mostly in universities of applied sciences). This is a possibility for further education and specialization. These study programmes are not an alternative for the nursing qualification programmes, described above and therefore cannot be qualified as an ‘academic drift’, but they provide further career prospects. So the graduates still need the official state exam to get the registration as nurse. Some universities offer a special program with local nursing schools where students learn in school and university to get the B.Sc. and state registration. Some universities offer post-graduate studies leading to a master's degree and the possibility to continue studies for a Ph.D. degree.

This ‘upgrading’ approach should contribute to changing demands in the work place and increase attractiveness of this profession by providing career perspectives in education and on the labour market.

There are different ways to specialize after the nursing schools, called ‘Fachweiterbildung’. Salaries are typically higher with a ‘Fachweiterbildung’. Specialization includes some 720–800 hours of theoretical education and practical training. In the end, there is a state exam or writing of a thesis.

- *Engineering*

Engineering is a professional area that is strongly represented both in advanced vocational education and training as well as in dual study programmes. It is traditionally very much

practice oriented. There are no special aspects for engineering studies compared to other study areas.

7. Current debates and future perspectives

The shift to higher education institutions

The shift in the flow of school-leavers towards higher education has prompted public debate in Germany in the past few years to increasingly focus on the relationships between dual training and higher education. There is need to continue to make the necessary differentiations in this context and to investigate whether and to what extent new lines of segmentation and social disparities are emerging in relation to vocational training and higher education. It will have to be clarified what consequences this trend has both for vocational education and training and for the higher education system (Authoring Group Educational Reporting, 2016).

Structure and organization of dual study programmes

'Dual study programme' is a term that covers different kinds of study programmes that combine theoretical and practical learning. In some cases, though there even is no link between the job and the study at the higher education institution, but still the term 'dual study programme' is used. In its recommendation on the development of the dual study programme, the German Science Council (Wissenschaftsrat, 2013, p. 28) therefore proposes that in dual study programmes at least half of the study programme should be spent at the academic learning venue and at least two thirds of the credit points should be acquired from theory-based work, but not necessarily at the higher education institution. Furthermore, it calls for at least organisational and/or scheduling coordination between the learning venues, and for the degree subject to be chosen for its affinity to the vocational training programme or job, in order to create content-based reference opportunities. ([40])

Development of a brand 'Higher VET' ('Höhere Berufsbildung')

In order to make the **advanced vocational education** more visible an initiative, strongly supported by the chambers, was started to establish a brand and intensify the public communication about this traditional vocational pathway. Attractiveness and career chances should be emphasized as well as the parity of esteem with higher education. (Source: Interview with Dr. Schenk.) To create a brand "Höhere Berufsbildung" is also suggested in a study of an institute related to the German industry (Flake, Werner et al. 2016).

([40]) Leichsenring, https://www.bibb.de/en/29035.php, accessed: 02.10.2017.

8. Overview

Table 5 **Overview**

Direction of change	Object of change	Context/target area	Key processes observed / results	Timeframe	Section
Academic drift	**Higher Education**	professionally-oriented HE	Number of UAS students and programmes is increasing ([41])	During the last 20 years	2
		traditional (or academic) HE programmes	Number of HE students is growing	During the last 20 years	2
	VET (outside HE)	VET transformed to HE	Introduction of Bachelor study programmes for nurses as further specialisation.	2004	6
		VET offered at higher levels outside HE	The number of participants in advanced higher education is decreased	From 2007 to 2009	2
Vocational drift	**Higher Education**	professionally oriented HE	Strong increase of number and participants in dual study programmes	Since 2004	2
		traditional (or academic) HE programmes			
Expansion of VET at higher levels (outside HE)	**VET at higher levels (or 'higher VET') offered outside HE**		The number of participants in advanced higher education is stable	Since 2014	2

([41]) This is considered as academic drift because the programmes are also academic and therefore part of the statistics that show the increase of numbers of students. When looking at the HE sector in general, this process could be considered as vocational drift of HE since the sub-sector of UAS is the growing area.

9. Sources of information

List of interviewees:

Country	Name	Organisation and function	Contact information (Email, phone) List of interviewees	Date of interview	Agreement*– yes/no
Germany	Prof. Dr. Hermann Hansis	Vice president for dual study programmes at European University of applied sciences in Brühl		12.09.2017	no
Germany	Dr. Gordon Schenk	Head of section for Management occupations at the Association of German Chambers of Commerce and Industry (DIHK)		19.09.2017	no

* Interviewee agrees that his/her name can be included in the final publication

References*:*

Authoring Group Educational Reporting (2016). Education in Germany - Summary of important results.

Autorengruppe Bildungsberichterstattung (2014). Bildung in Deutschland 2014.

Autorengruppe Bildungsberichterstattung (2016). Bildung in Deutschland 2016.

Bader, R. (2008). Konzepte und Modelle der Lehrerbildung. Berufspädagogische Forschung in sozialer Verantwortung. U. Faßhaueret al. Stuttgart: 97-114.

Bergs, C. and C. Konegen-Grenier (2005). Der Bachelor aus Sicht der Unternehmen Karriere mit dem Bachelor - Berufswege und Berufschancen. Essen, Stifterverband der deutschen Wirtschaft 24-41.

Berthold, C., H. Leichsenring, et al. (2009). Demographischer Wandel und Hochschulen - Der Ausbau des Dualen Studiums als Antwort auf den Fachkräftemangel. http://www.che.de/downloads/Endbericht_Duales_Studium_091009.pdf.

BIBB (2017a). AusbildungPlus - Duales Studium in Zahlen 2016. https://www.bibb.de/dokumente/pdf/59df505289ed7_bibb_09-282_ausbildungplus_barrierefrei_korr_urn.pdf.

BIBB (2017b). Datenreport zum Berufsbildungsbericht 2017.

BMBF (2017). Deutschland ist OECD-Spitze in der MINT-Bildung

Bundesanzeiger (2014). Empfehlung des Hauptausschusses des Bundesinstituts für Berufsbildung vom 12. März 2014 für Eckpunkte zur Struktur und Qualitätssicherung der beruflichen Fortbildung nach Berufsbildungsgesetz (BBiG) und Handwerksordnung (HwO). BAnz AT 07.04.2014 S1. Bundesinstitut für Berufsbildung.

DBG and KWB (2008). Vereinbarung zur beruflichen Fortbildung. http://www.wir-gestalten-berufsbildung.de/fileadmin/user_upload/BBA_-_Material/Aktuelles/2008_Fortschreibung_Fortbildungsvereinbarung_DGB_KWB_Internet.pdf.

Flake, R., D. Werner, et al. (2016). Karrierefaktor berufliche Fortbildung: Eine empirische Untersuchung der Einkommens- und Arbeitsmarktperspektiven von Fachkräften mit Fortbildungsabschluss im Vergleich zu Akademikern. http://www.dihk.de/ressourcen/downloads/iw-studie-karrierefaktor-fortbildung.pdf/at_download/file?mdate=1453895661262 [accessed 23/02/2016].

Heidemann, W. (2011). Duale Studiengänge in Unternehmen. https://www.boeckler.de/pdf/p_arbp_236.pdf.

Hippach-Schneider, U., T. Weigel, et al. (2013). "Are graduates preferred to those completing initial vocational education and training? Case studies on company recruitment strategies in Germany, England and Switzerland." Journal of Vocational Education & Training 65: 1-17.

Hochschulallianz für den Mittelstand (2016). "Positionspapier der Hochschulallianz für den Mittelstand zur Personalgewinnung und -entwicklung an Hochschulen für angewandte Wissenschaften - Modell eines „Professional Tenure Track“."

Kultusministerkonferenz (2002). Rahmenvereinbarung über Fachschulen.

Leichsenring, A., M. König, et al. (2015). Duales Studium in Zahlen: Trends und Analysen. http://www.ausbildungplus.de/files/Duales-Studium_in_Zahlen_2014.pdf.

Ratermann, M. (2015). Verzahnung von akademischen und betrieblich-beruflichen Lerninhalten und -orten. Dual Studieren im Blick: Enstehungsbedingungen, Interessenlagen und Umsetzungserfahrungen in dualen Studiengängen. S. Krone. Wiesbaden Springer: 166-210.

Sirikit, K. (2015). Neue Karrierepfade in den Betrieben. Dual Studieren im Blick. S. Krone. Duisburg, Springer VS.

Werner, D., C. Hollmann, et al. (2008). Wie entwickelt sich angesichts des Strukturwandels zur Wissensgesellschaft und der Einführung der Bachelorstudiengänge die Chancen für duale Systeme? https://www.iwkoeln.de/studien/gutachten/beitrag/63725.

Wissenschaftsrat (2010). Empfehlungen zur Rolle der Fachhochschulen im Hochschulsystem. https://www.wissenschaftsrat.de/download/archiv/10031-10.pdfaccessed: 16.11.2017.

Wissenschaftsrat (2013). Empfehlungen zur Entwicklung des dualen Studiums : Positionspapier. http://www.wissenschaftsrat.de/download/archiv/3479-13.pdf

Case study

Country: Finland

Author: Vesa Kokkonen

Title of the case study: Raising the national educational level

1. Introduction

Please provide a concise introduction that gives an overall indication of the change processes observed (during the last 20 years) related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)'.

The Finnish education system has been expanded and developed for decades. The primary motivations have been the equality of the people, the raising of the educational level in general and guaranteeing the supply of skilled labour to all segments of the Finnish economy.

To understand the trends in Finland, there are few things to keep in mind. Finland is very centrally led country. Formal degrees are licenced by the Finnish Ministry of Culture and Education. Universities have freedom to design curricula but the ministry has control over most of the degrees.

The Finnish educational system has two paths for further education for those who have a vocational upper secondary qualification. One is to go for specialist vocational qualification. The specialist qualification corresponds to EQF level 5.

The other path is to continue to a higher level educational institution. In this path there has been a major shift over the last two decades, especially in 1990's. The major reform was to transform former post-secondary level vocational colleges to the universities of applied sciences. At first, the former vocational colleges were called polytechnics but later they changed their translation to universities of applied science to underline the **academic drift**. In Finnish the name is *ammattikorkeakoulu* (for ins. Auvinen, 2004).

The purpose of the reform was to increase the general level of education in Finland. A goal was set that 70% of the population should obtain higher education. Later that goal was given up as too ambitious. The target had raised critical remarks already when introduced in the 1990's (for ins. Auvinen, 2004).

At the same time all secondary level vocational degrees were expanded to last three years. This was done to include more general studies, thus qualifying all graduates to apply for higher degrees (Ahola & Anttila, 2013).

For that reason, it can be said that in the 1990's the focus was strongly on the academic aspects. Meanwhile in the universities there was a minor counter trend when innovativeness and industry–university relations became more important. Back then the trend was driven by the rise of the telecom industry in Finland. That created a demand for highly educated labour while innovation became a driving force in economic policy.

Even so, there was a really significant academic focus in the Finnish educational system in late 1990's. The most significant change was the transformation of the post-secondary

vocational colleges to the universities of applied sciences. That upgraded those degrees to bachelor's degrees. The trend continued in 2005 when master's degrees were introduced to the universities of applied sciences.

Finnish system of higher education is defined by that binary system – professionally oriented universities of applied sciences and scientifically oriented universities. In the recent years these two kinds of universities have started to collaborate more and create new channels for mobility for the students.

2. VET at higher levels

Please briefly describe the current situation related to 'VET at higher levels' in your country and refer to the following questions:

*Which **types of vocationally oriented degrees/qualifications** are currently awarded at **EQF levels 5-8** and **since when**? Please include the titles of these types and their NQF/EQF level and **describe them briefly**! Please use the most commonly used English translation for the titles of qualification types and use these titles consistently*! ([42]) *To which **educational segment** do they belong (e.g. higher education, post-secondary level VET, CVET)? What is the **'importance' of these types** (e.g. in terms of number of learners or graduates) compared to other types (such as number of students enrolled in academic HE programmes)? Are there any prevailing economic sectors?*

*Please include any **figures or diagrams** (time series), if possible!*

The Finnish education system is characterized by the binary model and mobility between the sectors. Speaking broadly, the universities of applied sciences are professionally aligned and the universities have a scientific alignment. Binarity means that there are both UAS and universities. That could be also understood that upper secondary VET and general upper secondary give same qualifications for further education.

There are mainly specialist vocational qualifications at EQF 5 level. These degrees are fully vocational and they require a secondary level vocational qualification and work experience. The aim of these studies is to deepen the skills in a specific occupational field. These specialist vocational qualifications are available in every field of study, enabling professional development for people with different educational backgrounds. The degrees are accomplished as apprenticeships so there are close ties to working life. These degrees are provided by vocational colleges and they are significant for continuing the education of the adult/working population. ([43]).

The EQF level 6 degrees there are bachelor's degrees. They are available at both universities of applied science and universities. The universities of applied sciences are more professionally orientated. That is also reflected in their names in Finnish '*ammattikorkeakoulu*', which could be translated as 'professional or vocational university'. In Finnish language the term 'bachelor' is not used in the degree title and there is wide variation in naming degrees. The traditional one like nurse and engineer are called nurse (UAS) and engineer (UAS). Other degrees are typically based on Greek 'nomos'; 'tradenomi' for business, 'medianomi' for media, 'sosionomi' for social work etc.

The universities of applied sciences provide education in all major fields of education. The biggest fields are engineering and the name of the corresponding degree is bachelor of engineering, business administration with degrees labelled bachelor of business

([42]) If applicable, refer to the Cedefop NQF monitoring reports – see: http://www.cedefop.europa.eu/en/events-and-projects/projects/national-qualifications-framework-nqf/european-inventory

([43]) In addition, the Sub-Officer Qualification (Fire and Rescue Services) and the Vocational Qualification in Air Traffic Control are linked to level 5. However, these are exceptions and are therefore not treated further in this case study. http://www.oph.fi/english/curricula_and_qualifications/qualifications_frameworks

administration, and social and health care with bachelor degrees in nursery and social services. Beside these major fields, there are universities of applied sciences in art, culture, beauty service, defence, police etc.

For EQF level 7, there are professionally oriented master's degrees from universities of applied sciences (UAS). These have only existed since 2005 and new degrees have been gradually introduced. A difference between UAS and the universities master's degrees is that the former requires three years working experience before enrolment. Typically, the students also work while studying for the degree and carry out the assignments related to their degree for their employer.

In universities there are some master degrees that qualify the student for a specific profession. These are teachers, social workers, speech therapists and psychologists for instance. There are corresponding bachelor's degrees also, but typically the university bachelor's degrees don't qualify for any profession. The only exceptions are pharmacists and kindergarten teachers. In this study these are mainly regarded as academic. The kindergarten teachers would be interesting topic from academic and vocational drift perspective since the qualifications have altered through the time. Now the profession is open also for UAS graduates from social service degree if the person has also studied pedagogical studies at the university level.

The EQF level 8 consists of licentiate and PhD degrees which are practically always academically oriented and offered at universities. Physicians' degrees are at that level, and those degrees have strong professional orientation in addition to their academic focus. The medical sciences are in any case also strongly academic degree and in that sense, it is reasonable to consider them more as academic. At EQF 8 level it is anyway important to realize that UAS don't provide PhD or similar degrees in Finland.

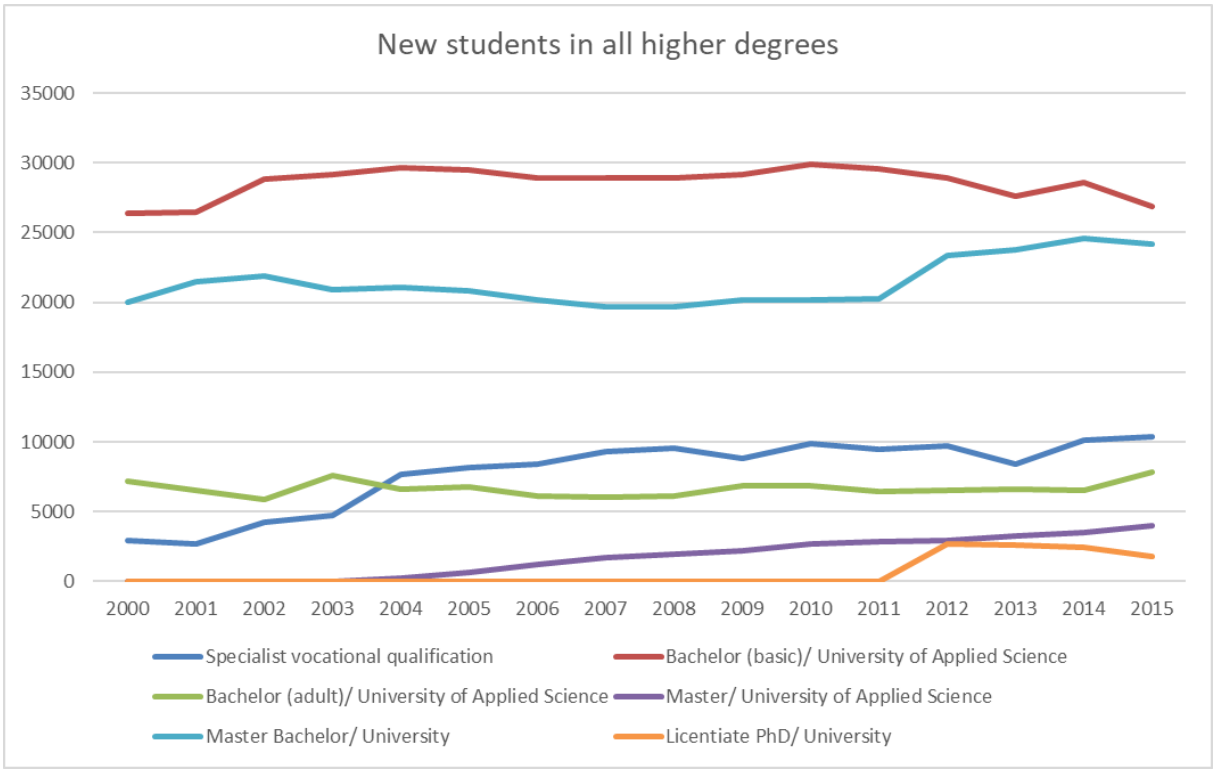


Figure 1 new students in all higher degrees

Figure 1 shows the number of new students at higher level. At the university level bachelors and masters are counted together since in Finland university students get right to study for master degree and for that reason bachelor and master student cannot be separated at the university.

The number of the new licentiate and PhD students is not correct before 2011. That is because the way of collecting statistics has changed.

All in all, the UAS bachelor are the most common degrees. In all the figures the adult and basic degrees are separated. The basic degrees are more school based while

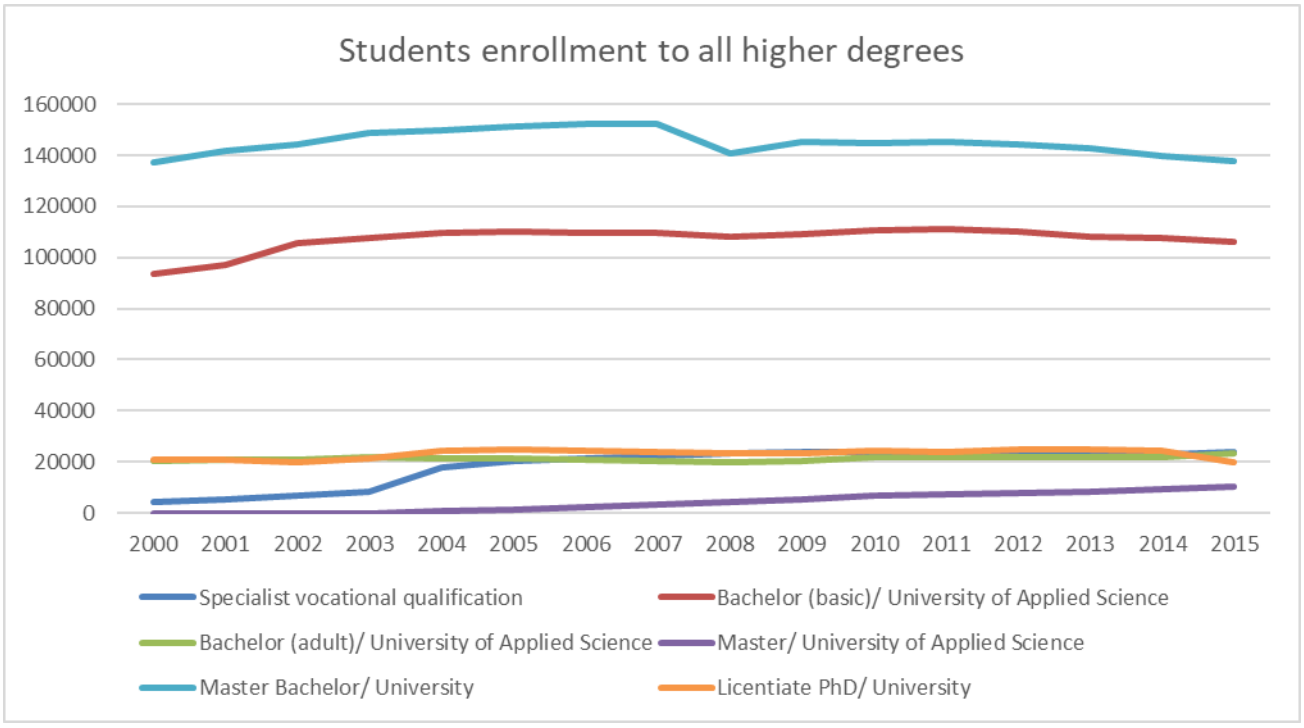


Figure 2 Student enrolment to all higher degrees

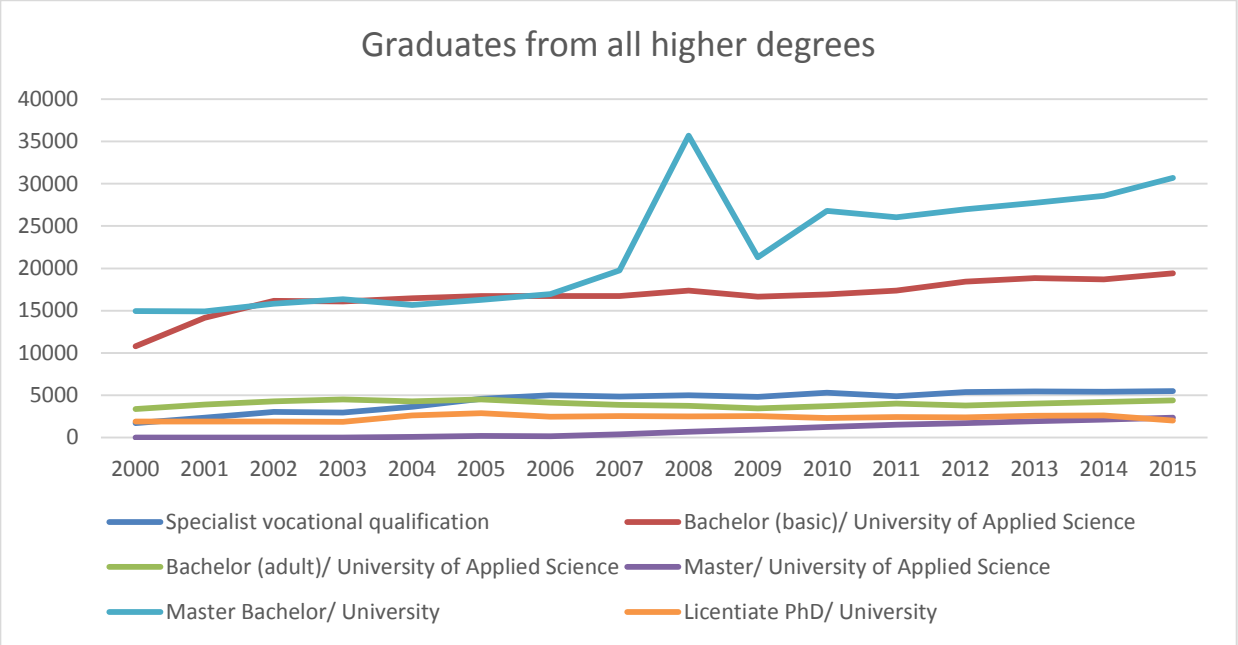


Figure 3 Graduates from all higher degree

There is a peak in the university graduation in 2008. That is because of reform in the curriculum which harried up the graduation of those who did not want to shift to new curriculum. That would have required extra work for most of the students. After 2008, the university and UAS graduation figures are not fully comparable. That is because the students are mainly studying for the master degree but they have to do also bachelor degree. For that reason, the same student graduates two times without applying and entering the school two times.

3. Change processes durig the last 20 years - educational system perspective

One of the unique features of this study is the emphasis given to the historical development of VET systems. In this section, the focus is on the change processes that have taken place during the last 20 years related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' from the perspective of the educational system.

Depending upon the situation in your country, relevant developments might have started already before the 1990s. In other cases there may be no need to take such long-term perspective, but at the very least the commentary should go back to the middle of the 1990s.

Please describe first these change processes and their impact on the overall system (3.1), before presenting characteristics of VET offered at higher levels from the perspective of the educational system (3.2). Please clearly distinguish between the different objects and contexts of change, respectively the different types of VET qualifications/programmes offered at higher education levels.

Please refer to the "Characteristics and indicators of 'academic drift', 'vocational drift' and 'expansion of VET at higher levels (outside HE)'" (presented in Table 2 of the guidance note; the relevant aspects are included in each section here below): Please reflect whether any of these characteristics and indicators can also be identified in your country and which ones – identified in your country - should be added.

The Finnish educational systems went through significant reforms in 1990's. One of these reforms was the reforming IVET. That brought the upper secondary vocational college graduates to the same level with those who had passed the matriculation examination.

Previously the process has been different. The IVET graduated could apply for the post-secondary VET studies in their fields and after those they could continue to the university in the same field.

The second reform was the UAS reform. That expanded the higher education when former post-secondary VET college became university level. That eased naturally the access of IVET graduate to higher educations but also increased the attractiveness of UAS among those graduated from general upper secondary education.

There Finnish reform was partly related to the Europe-wide Bologna process. That created for instance the master's level programs in the Finnish universities. That increased the flexibility in the different study paths since the UAS graduates have sometimes gained direct access to the university level master's studies. The UAS and the universities are becoming closer and they may for instance have joint courses and the credits have become more transferable. (Arene, 2007).

3.1. Change processes and their impact on the system

The Finnish educational system has gone through systematic change that can be described as **academic drift**. The official goals have been to increase the education level of the Finnish people and to remove barriers in the study paths.

That has led to the introduction of the universities of applied sciences which replaced the post-secondary level vocational colleges. That change also increased the appeal of those schools in the eyes of high school graduates. The former colleges emphasized previous working experience and for a few decades it was a requirement. Later it was changed to just be one of the ways to attain entry points (Auvinen, 2004).

That could be considered a difference between universities and UAS in that the universities do not typically credit working experience in their admission processes.

The reformation of universities of applied sciences began already in 1991 when the first post-secondary vocational colleges started a temporary trial as universities of applied sciences. Gradually all former colleges were upgraded to UAS by the end of the decade. In 2003, the UAS got the same rights and internal autonomy as the universities and in 2005, first UAS master's degrees were launched (Auvinen, 2004; Ojala, 2017). From the overall higher education point of view, that is mainly **vocational drift**. That is mainly because it opened more vocational pathways to the master degree. From UAS point of view, the drift is only weakly academic since the UAS masters are studied in close cooperation with employers with clear working life development objects.

An important change at secondary level VET was that all those degrees were extended to last three years and qualify for access to a higher level. The intention behind that shift was increase the attractiveness of vocational education compared to general upper secondary education. Also, this change emphasized the academic drift while increasing the importance of general and theoretical studies in the whole system and opening new paths to higher degrees (Ahola & Anttila, 2013).

All in all, the 1990's was a decade of rapid development of vocational education at all levels. That started the development of the binary system of higher education in Finland.

From the vocational point of the view, the development of the university sector is of some importance as well. In the universities there was a reform to explicitly distinguish bachelor's degrees from master's degrees. That was due to the Bologna process and to make the Finnish system more comparable with the European one. That process also increased mobility from UAS to universities since UAS bachelors could apply directly to the master level at universities. This route is however not always open for UAS bachelors. So far there has not been an exhaustive evaluation on what kind of entry requirements universities typically

have for UAS graduates. In some cases, the requirements may include, for instance bridge studies, if it is considered that UAS graduates are lacking same academic skills.

When resources have been tightened the UAS and the universities have increased collaboration like joint courses or teaching facilities. All these processes are decreasing the differences of the two sub-systems of higher education. That can be considered **both vocational drift for the universities and academic for UAS**. For time being, the joint courses are more with practical orientation but in the future, it will be seen what kind of forms the collaboration will take place.

The changes over the last 20 years in specialist vocational qualifications have not been significant. The major change has been that skills demonstration examination was introduced in vocational education in 1998.That opened more flexible way to study also the specialist degree and that increased the degrees' popularity.

3.2 Changes related to characteristics of 'VET at higher levels'

3.2.1 Changes related to governance and institutional structures of 'VET at higher levels'

There have been administrative changes in Finnish higher education. Previously it used to be that universities were owned by the state and vocational institutions were owned by the municipalities. That included also UAS's.

Recently over few last years the UAS's have adopted an organization structure of companies. The major shareholders are still the municipalities but the ltd structure enables new kinds of ownership and funding channels – for example, a UAS has more freedom to sell its services to public markets including continuing education (Mikkola et al., 2017).

The vocational colleges are going through the same change and becoming companies while some of them are still owned and managed by municipalities or a consortium of municipalities. There are also private companies that provide secondary vocational degrees including the specialist vocational qualification (EQF 5). The secondary and post-secondary VET is expanding more to the private sector after the on-going reform in the secondary VET that makes private educational institutes more equal to public ones.

Universities are state owned but with wide autonomy. They are mainly institution governed by public law and two of them are foundation the main source of funding is still public but the universities like other schools have developed other sources of funding and they are encouraged to do so (Mikkola et al., 2017).

Despite the changes, the whole Finnish educational system is still centrally led. Finnish Ministry of Education and Culture approves the degrees and guide all the educational institutes. The educational institutes have the freedom to decide the content of the degrees to some extent. For instance, each faculty at the university may decide whether internship is a compulsory part of the degree or not. That means that educational institutes have some freedom on where they place themselves on the academic and vocational axis. Finnish Education Evalution Centre evaluates and assess the different educational institutes to maintain quality (Finnish Education Evalution Centre, 2016).

The collaboration with industry and the educational institutions, both UAS and universities has grown over the last years. In the Finnish system the funding of the education is public and so is the planning of the programs. The industry representatives may have access to the board of the educational institutes and they may have an impact on the decisions made also in the content of the education. The educational programs are not tailored directly for company needs. The industry is not funding directly the education to a large extent. In principal, the degree orientated education is funded by government. To a smaller extent the industry may sponsor professorships or there may be similar small-scale funding. This is done to guarantee the important research and education for the companies. That is not anyway a primary source of the funding.

In continuing VET and adult education, privately funded education is more common. Continuing education is typically organized by a company which may be owned by universities, and is paid for completely by private funding or supported by the government. In Finland, degree education is always free of charge, including specialist vocational qualifications etc. For that reason privately funded education does not qualify in any specific degree, even though there could be certificated programs.

According to the Finnish ministry of Culture and Education (2015) UAS are meant to be kept publicly funded and 79 % of public UAS funding is based on educational indicators while 15 % is based on RDI related indicators. The specific allocation of the budget is done by each UAS but the funding is based on both – the indicators of the UAS activity and negotiated contracts between the ministry and the UAS.

The key providers of the VET kind of education at higher levels are UAS and to a smaller extent they are universities. The vocational colleges provide the specialist qualifications. Generally, each level of the educational system is responsible for its own degrees and continuing education for those who have graduated from that level. The mobility in between the different educational institutes has increased in continuing education.

3.2.2 Changes related to the target groups of 'VET at higher levels'

The major trend has been to equalize the entry requirements so that people with different educational backgrounds may apply for different programs. That reform was started in the 1990's when upper secondary vocational graduates became qualified to apply to all higher degrees (Meriläinen, 2011). The changes have brought more vocationally orientated people to the higher level educational institutes and later on graduates with both vocational and academic competences. From the point of view of the whole educational systems, that was more academic shift, because it increased general studies in all vocational degrees.

The entry requirements depend on the study path. For the UAS, the only entry requirement is the accomplishment of upper secondary level education. Working experience gives extra points in student selection. That may be critical in some fields, where there is more competition like some healthcare related degrees. The approach is still quite academic, previous studies and the entrance exam matter the most. There are multiform programs combining self-studies and less contact hours aimed for adult students. That approach is driven mainly by the fact that people already in working life cannot participate in the school training (Arene, 2017).

The entry requirements have changed for UAS compared what they used to be for post-secondary vocational colleges. The emphasis of working experience has declined and grades from previous education and entrance examination weigh more in the entry requirements. That development started earlier than in 1990's. This is obvious **academic drift** in UAS/ post-secondary vocational college education.

The UAS master's programs are different in that respect. Three years relevant (after bachelor's degree) working experience is required and the master's programs are designed so that they can be accomplished while working. Those degrees are for adults and they are more professionally oriented that any other degrees in the Finnish educational system (Arene, 2017).

The specialist vocational qualifications are also considered higher qualification. Those typically require the IVET in the same field. The special qualifications are typically accomplished as apprenticeships where working experience is also required. That qualification path is fully vocational and those doing the degree are identified as employees. The target group has been same since 1980's when most of the degrees were introduced.

Generally, there is a drift to an academic direction, emphasizing the access of people with different backgrounds. Even though the young are the main target group, are there more

flexible study paths like multiform studies. Multiform studies require less on-the-school training and they consist of more individual projects, e-learning and other methods which require less contact teaching. Those are made to ensure that adult students are also able to upgrade their degrees or to re-educate themselves. The increased flexibility enables the possibility to work while studying.

3.2.3 Changes related to the main purposes and functions of 'VET at higher levels'

The UAS reform strengthened the professional status of the graduates compared to the previous colleges. At the same time, some more technical qualification like technician were removed, leaving engineer as the only higher level technical qualification (Lahtinen, 2013). The target was to bring all post-secondary vocational degrees to the same professional level. The technician degree was typically between vocational specialist and engineering degree, and it was intended that engineers could cover also those tasks carried out by technician.

The UAS inherited the professional qualification from the previous post-secondary level VET colleges. The professional qualifications are the strictest in social and health care sectors. The qualifications include for instance nurse, midwife, and physiotherapist. Most of the titles of UAS degrees are the same as the previous colleges and the degrees gives typically at least the same qualifications as previous colleges. To some extent the UAS reform has opened the public posts for the graduates (Aro, 2014).

The qualification issue is troublesome after all the reforms. Even though the UAS graduates do not gain only the same professions than previous colleges, the UAS graduates are more qualified than holders of the previous qualifications. That means that some people who graduated before the UAS reform are not fully qualified to their professions anymore. Typically, that doesn't affect the people who already have an existing job contact but finding new work may be challenging if the qualification is not updated. That has left a kind of grey area in those professions in which qualifications matter.

In business or technical professions, the qualification has not changed that much. There is no researched evidence, but some expert views found that UAS degrees are more helpful for one's career than previous post-secondary vocational degrees. The UAS master's degrees have not had the same effect. It seems that it takes time before the status of the new degrees is recognized in the labour markets (Ojala, 2017).

One main target of the reform was to increase the attractiveness of the vocational path of education compared to academic degrees and enable more mobility between different professions and study paths. To some extent that goal has been reached but at higher levels the academic degrees are slightly more valued and especially the UAS master's degrees are not acknowledged that well.

3.2.4 Changes related to the perception of 'VET at higher levels'

The UAS degrees aim to strengthen the vocational path to make it equal to the university degrees. Nowadays UAS degrees are officially equal to university bachelor's degrees and the master's degrees are comparable, at least in theory.

Even so, the two universities are no fully found equal. There is confusion in the names of the degrees in the Finnish language. In English translations the UAS degrees are called bachelor's and master's degrees whereas in Finnish those terms are not used. These titles are reserved for the university degree. There are some historical titles as well as new titles for new degrees, like people with engineering degrees are just called engineers and nurse degree graduates are nurses. When they accomplished the master's degree, they are just referred as engineer higher UAS, not masters.

That labelling blurs the level of the qualifications, especially in the higher degrees. UAS would like to start using the master (maisteri in Finnish) also for the Finnish names for the degrees but that is objected to by the universities. All in all, there is this kind of dispute between universities and UAS which make it difficult to gain the full recognition for the UAS degrees (Arene, 2016).

All in all, the UAS path should be comparable to the university path but this is not always the factual case. The university degrees have higher status. The university students mainly study for the master's degree while UAS graduates always obtain the bachelor's degree first. That serves to maintain the view that UAS degrees are lower than the university degrees.

The vocational specialist degrees perception has not changed that much over time. They are still a path to strengthen one's vocational skills. The popularity of the degrees has grown and they are important part of Finnish adult education. Some degrees, like managerial vocational specialist qualification has gained popularity also among those who have qualification at higher level. It is also open for people with different educational background unlike many other specialist vocational degrees. One main target of the reform was to increase the attractiveness of the vocational path of education compared to academic degrees and enable more mobility between different professions and study paths. To some extent that goal has been reached but at higher levels the academic degrees are slightly more valued and especially the UAS master's degrees are not acknowledged that well.

4. Impact on content and delivery of qualifications and programmes - the epistemological or pedagogical perspective

The UAS reform has been multidimensional and it has affected the content of all the degrees. New degrees were also introduced through the reform. That was partly due to the process of homogenizing the Finnish educational system. For instance, in the media sector Finnish national broadcasting company Yle was educating media personnel in its own school. That school was closed and new media degrees were established at two upper-secondary colleges which were later transformed into UAS. Later, similar degrees were launched in several UAS. Similar process has been going on in Finland when UAS have absorbed previously private post-secondary colleges and incorporated their degrees with new UAS degrees.

4.1 Changes in relation to content and profile

There are two major paths in the higher VET. Those are the vocational specialist qualifications and the UAS degrees.

The vocational specialist degrees are fully vocationally based mainly on on-the-job-learning and to a smaller extent on-the-school theory learning. The specialist degrees are aimed for people who have a solid working background. These degrees are important for continuing education for those in the working life. Even so, the changes in the content are not well documented.

These special qualifications are somewhat reactive to meet the needs of the labour market demand. The content of the degrees varies and some of them emphasise management skills with the idea that experienced professionals could become team leaders. There is also special qualification specifically for management. That has become popular among quite many who have been promoted to a managerial position. That is not limited to those having vocational qualification, but that degree is also popular among people with university level qualifications. The qualification is a flexible way to acquire managerial skills and the qualification can be combined with whole time working. (Kåla, 2015).

The most significant shift was the UAS reform. That made the obvious **academic shift** for all former post-secondary colleges. The form of the shift has varied from field to field, but **theory based learning has increased** in every field.

An example of that is that a **thesis** has become compulsory in every degree. Similar academic study methods have become more popular in the UAS. During the 2000's, **RDI activities** became an integrated part of the UAS programmes, increasing the emphasis of innovativeness and research orientation in all the degrees.

The process has not been linear in any way. There have been arguments that abstraction of the UAS has gone too far, creating a demand for more working life orientated degrees. Bologna process has changed the direction from 2008 onwards. That increased the orientation towards work life needs in UAS education. That has emerged especially in engineering degrees.

There is balancing between profession specific and more universal learning outcomes. There are degrees that qualify to certain profession which can be strictly regulated like health care professions. Even though a nurse's education is intended to give a good general foundation, the education must meet the requirements to become a professional nurse.

At UAS level there are vocational teachers' qualifications. That is additional qualification for those who wants to qualify as a teacher at the secondary VET level. It can be studied by both UAS and university graduates.

The engineering degrees for instance have fluctuated from strictly professional to more academic and back to professional oriented again. That means for instance that the amount of compulsory mathematics and physics has been reduced. Those subjects have been an obstacle for IVET graduates to successfully complete the engineering degrees. That is partly a resource problem. Earlier the upper secondary graduates and IVET graduates had different lines at UAS. That meant that upper secondary graduates had more vocational studies while IVET graduates could be supported more in mathematical subject and language studies. Later, these lines were merged leading to the situation were IVET graduates started to have problems with mathematical subjects.

All in all, there has been a strong **academic drift** in the **late nineties** when UAS degrees replaced the former post-secondary degrees. The academic orientation was strengthened when RDI operation became an integrated part of the UAS in early 2000's. The shift has been in a more **vocational direction 2008** onwards partly due the Bologna process and more skill-based curriculums. All the UAS degrees are a combination of both professional and academic knowledge, some having a more professional and some a more general focus. All the UAS degrees contains at-the-job learning and the intern period varies from ½ - 1 year. Typically, part of these internship periods can be accomplished during the summer breaks.

The vocational drift in the recent years has been driven by two different factors. One is the **multiform studies** for those adults willing to study while working. Multiform requires less contact or on-the-job learning and in concluded more on e-learning, individual project work and assignments etc. The other is the **recognition** of the acquired skills and knowhow. The latter means that UAS gives credits for those skills the student has acquired in the working life, sometimes even in their spare time. That helps the students to get a degree when he or she has had a long working history or to finish interrupted studies.

4.2 Changes in relation to the delivery

The UAS bachelor degrees are strongly on-the-school learning with compulsory internship periods. The internship periods vary from degree to degree but in total they last for from half year to a year.

The main learning site for a UAS bachelor's degree is the school/classroom. That is to some extent challenged in the multiform studies for adults. Popularity of internet-courses is

increasing as well. That does not change the fact that the learning at the higher level is school oriented (Arene, 2007).

UAS are not strongly science oriented but RDI activities are an integrated part of UAS activities. The aim of the studies is to give qualifications for research, development and innovation at work. The development projects are an important part of the studies in many degrees. These are carried out for real companies and there is plenty of the companies/other employer – UAS interaction. All in all, the **project work** – different from internship – is not strictly work-based learning. The difference is that the goals of the projects are given by the school and the work is not typically done at the company's premises. The aim is naturally that both benefit from the project – the company and the student. Typically, the different project works are presented at the school and graded according to the school's requirements.

The development projects are also carried out as multidisciplinary projects that bring together students from different fields like engineering and nurses working together with health care technologies. Most of the UAS are multidisciplinary and they have emerged through several merges of former colleges. That helps to facilitate the multidisciplinary approach in many cases.

There are increasing opportunities for part-time and multiform studies. Those are tailored to enable both working and studying at the same time. The multiform emphasizes individual learning work and methods of e-learning are used widely (Kiviniemi et al., 2013).

The UAS masters' degrees emphasize work-based-learning. The thesis constitutes a major part of the degree and that is made typically for the employer of the student. It is important to notice that UAS master's students are not interns but the degrees are aimed for those in the working life and most of the students have permanent jobs. The idea is that the master's students can develop their expertise while working and the employer benefits from the development work (Ojala, 2017).

The teachers have at the UAS academic degrees. The minimum is a master's degree from the university, teacher's qualification and a minimum of 3 years of relevant working experience. The UAS value PhDs or licentiate degrees which are required from senior faculty. More than 20% of the faculty have PhDs at the UAS.

Industry merit is typically valued over academic merit and that is one difference between the universities and the UAS. While university faculty is typically recruited based on academic merits like publications, the UAS faculty usually have a long working history in the field they will be teaching. After the UAS reform the qualification criteria changed. Even though only senior faculty is required PhD or licentiate, higher degrees are valued in recruitments. Finland has also invested in PhD education and there is a growing number of graduating PhD's. For that reason, UAS has managed also recruit them. The UAS requirements for teachers can be considered as part of the academic drift that took place when post-secondary VET colleges were transformed to UAS.

To be fully qualified for a senior teacher's position, it is required to have a PhD or licentiate degree, 3 years working experience and teacher's pedagogical qualifications. It is natural that not too many candidates meet all these requirements. For that reason, it is common that the most feasible candidate can study the pedagogical studies while working.

The interesting requirements are for those who teach healthcare. There the teachers must first study the healthcare degree at the UAS (like nurse of physiotherapist), then they can continue their studies at the university for nursing or health science and then they can qualify for healthcare teachers at UAS. That is the only qualification which requires both UAS and university studies.

The teaching faculty are typically full-time at the UAS, but visiting lecturers are used as well. There are also some specific courses that can be hold by outside experts. There are no

statistics how common those are. Typically, the outsiders' expert requirements are not that strict. The arrangements are typically that someone from permanent staff is responsible for the course or grading and the visitors to part of the teaching.

5. The context of change: rationale and drivers for change or persistence

The aspiration in the Finnish educational policy has been for many decades the inclusion of all people, meaning that the education should be available for all. The Finnish educational system is centrally led so reforming it is in that sense straightforward. Of course, the political landscape has affected the choices made but historically the path has been to increase both the level of education and equality between citizens. The development of VET (both IVET and higher VET) was based on two major drivers (Kalenius, 2014).

First of them was the acknowledgement that Finland was internationally lacking behind in the higher education and the educational base had to be expanded. The reform took place at the same time as the 1990's recession and its aftermath with rapid growth of the Finnish telecom sector. That created the demand for skilled labour while creating trust that higher level education and innovation is the key for economic success.

Back in those days the goal was set that 70% of the population should reach higher education. The target was questioned in the beginning but that drove the expansion of the UAS system through the country. The UAS reform did not happen without criticism. One of the points of the criticism was that previously work orientated degrees were transformed into too theoretical studies and they didn't meet the requirements of the working life that well any more.

The second driver was the rationale for the life-long learning. That meant also more flexibility to made changes in one's educational paths. That was significant especially for the people with secondary vocational degrees. The reform opened higher studies for everyone and made the vocational path of studies equal to academic paths. When before 1990's reform people with vocational degree could continue their studies only in the same field, nowadays they are free to apply to any field of studies at higher level.

From the economic point of view the rationale was to support economic growth and welfare. There was a strong view that education, equality and innovation are the Finnish competitive advantages.

Equality is also an underlying factor behind the reform. It is not typically emphasized but it is a fact that expanding higher education gives more people equal access to it. Finland is also a country of relatively equal distribution of income and its believed that investments in education helps to keep the situation like that.

The process of reforms has shaped the higher VET mostly in the 1990's. Later the Bologna process has started to affect the Finnish educational system as well. There have been two major effects for higher VET.

First of them was that harmonization of degrees separated bachelor's and master's degrees. Typically, the university students in Finland studied for the master's degree and in the some fields the bachelor's degree didn't even exist. When the two were separated, basic UAS degrees became comparable with the bachelor's degrees and the UAS gradates sometimes got the opportunity to apply for the master's programs at the universities. UAS master's degrees became comparable to the university master's degrees. The process is still on-going and Finnish terms for master's and bachelor's degrees are not used when speaking of UAS degrees in Finnish, even though they are used in English translations of the degree names.

Second impact of the Bologna process is that the curriculums are changed to be more skill-based. That **has partly turned the trend of academic drift to a more vocational direction**. There is a constantly ongoing process balancing between the demand from labour markets and more academic or general goals.

In the bigger picture, there are wider societal drivers for the change. Over the last years, since the beginning of the financial crisis, Finland has suffered from high unemployment and a public budget deficit. That has led to significant cuts in the public spending on education at all the levels. That naturally has affected also UAS and other forms of the education. Because of prolonged unemployment, the employability of different programs was evaluated more carefully and for that reason especially programs in both culture and the arts were closed. Access to employment has become a more crucial issue, at the same time when education should be provided at a lower cost. That has put the pressure to create new models of collaboration with working life and the education providers.

In recent years it has observed that Finland is lagging in the number of graduates in higher learning compared to other OECD countries (OECD, 2017). That has raised concerns about Finnish economic competitiveness. That is combined with other worrisome signals like falling PISA-results (Jyväskylän yliopisto, 2016). It is not clear so far to which direction these concerns would take the Finnish educational system. It is obvious anyway that these issues create pressure to develop the educational system further.

6. Zooming in on nursing and engineering

The Finnish educational structures are centrally led and for that reason the development has been relatively simultaneous. Naturally there are some differences.

e) Nursing

When zooming in on nursing, it is important to note that in the health care sector the formal qualifications are important. For that reason, the qualifications systems are much less flexible than in other disciplines.

The nursing education has a long history dating back to the 19th century in Finland. Throughout the history of the profession, nursing has been strengthened as a profession and the education has been broadened. That has created a relatively independent profession for Finnish nurses. (Haho, 2006).

Nowadays there are nursing degrees at secondary vocational level, at the UAS and in some forms at the university level. The actual nurse degrees are at UAS level.

Even though upper secondary level vocational education is out of the scope of this study, it is essential to understand the development that took place at that level. Until 1992 – 1993 there were several secondary level degrees in nursery like assistance nurse, home care qualification etc. These degrees varied from one year to two years and they did not qualify one to apply for higher level education. For that reason, nurses typically had a high school background (Hakala and Tahvainen, 2009).

In the 1992 – 1993 the secondary level education was reformed and the older degrees were merged into one degree covering more than the previous degrees. The new degree was named practical nurse and it lasts 3 years. Like all the other 3 years' degrees, it also qualifies

the students to apply for higher levels. The practical nurse is the basic degree for both health care and social sector. The practical nurses could work in assisting roles in hospitals, basic care in rest home or domiciliary care or at kindergarten. The degree has different fields of specialization but in principle it gives very wide qualification to work in different roles in health care and social sector.

For higher education, the practical nurses can continue to study in further vocational qualification and special vocational qualification. The special vocational qualification is equal to EQF level 5. The qualification includes for example team leader skills. The specialist qualification is studied typically as apprenticeship while working.

According to expert interviews, there is a strong view that especially the public sector does not acknowledge the specialist qualifications for team managers but in private rest homes that is sometimes accepted for lower managerial positions. That is a very typical situation in health care where qualification is strictly regulated. The idea is that practical nurses do the basic jobs and nurses or senior nurses are in the leading position. To some extent that means that the specialist qualification does not change the content of the job compared to those having only IVET. That is a significant difference compared to most other fields where the further qualifications open new career prospects.

The nurse qualification changed also in the 1990's when the university of applied sciences reform took place. There was an **academic drift** in nurse education. For instance, nurses needed to do thesis for their degrees and overall there was more theoretical education. That reform upgraded the nurse training to UAS level and nurse qualification became equal with a bachelor's degree.

The UAS reform lead to dissolution of special nurse degrees. In the previous system the nurses could continue their studies in the specialization studies but that option is not available any more. The UAS provide similar courses but they do not lead to formal qualification. The dissolution of the special nurse degrees some extent made it more difficult for nurses to advance in their careers based on acquired skills. There is on-going work to create a model on how to recognize acquired skills in promoting nurses career development.

The nurses have many ways to specialize further and that is required for senior positions. The typical path it to continue one's studies at the university, obtaining a master's degree in nursing science. That is typically required for senior positions. Since the mid-2000's there has also been UAS master's degrees which are more professionally oriented. That master's degree requires three years working experience and a relevant bachelor's degree.

Many of the UAS masters are targeted for management. Even so they are not always sufficient to qualify for senior positions. That is the typical challenge for UAM masters. They are not fully recognized at the same level with university master's degrees. That is common for UAS masters since they have been available only for a while and they are not widely recognized.

f) Engineering

Engineering qualification have developed to a more **academic direction**. The academic drift started already in the 1970's. Until the 1970's all engineering degrees required relevant

working experience for eligible candidates. The path to the studies were through lower secondary education and working experience.

That pattern started to change in 1972 when the fist classes for general upper secondary school graduates were created in electrical engineering. That was followed by the reduction of working experience requirements. Finally, the 1980's reforms in secondary education removed the working experience requirements and since 1986 there were separated programs for secondary VET graduates and general upper secondary graduates.

Later, the engineering degrees were reformed in the UAS reform so that the post-secondary VET colleges became the universities of applied sciences. That also lead to the merging of the different programs for secondary VET and general upper secondary graduates (TAMK, 2003).

The engineering degrees like other all other UAS degrees award points for working experience in their admissions criteria. Their importance has been reduced over time and especially in engineering degrees that is not a requirement anymore. That's particularly because of the number of the engineering students have grown over decades making the admission easier.

An interesting aspect of the Finnish higher technical vocational education was the technician training. It was between engineering degrees and secondary VET. The degree always required working experience and it was mainly aimed for site management. Similar degree between secondary VET and post-secondary VET college/UAS degrees did not exist in the other fields.

The technician degree was discontinued in the UAS reform in the 1990's. The idea was that engineers could carry out the task the technician used to do. There has been an on-going debate ever since whether there is a need for practice oriented higher vocational degree for site management and similar initiatives. The industry has complained that there is lack of professional site management when old technicians are retiring. The engineering degrees last for four years and there are views that that is unnecessarily long for many tasks available in the industry.

The problem was most urgent in the construction industry. That finally lead to launching a similar degree again in 2007. The new degree is at the same level as engineering degree i.e. it is comparable to bachelor's degree. It lasts a bit less at only 3,5 years while engineering degree is 4 years. The degree is translated now as bachelors of construction management. The main difference compared to the engineering degrees is that it lacks a lot of the theoretical studies and the focus is on work site management, logistics etc. (Stenius, 2016).

Engineering like other higher degrees have always needed to balance between theory and practice. In the late 1990's the trend in engineering studies was more theoretical and the degree included plenty of mathematics and physics. That was partly a reason why upper VET graduates had problems completing the degree. In general, the Finnish engineering schools were complaining that too few students master sufficient mathematical skills for the studies. The university programs had the same problem.

Since 2008, the engineering degrees' curriculum started to develop in a more practically oriented direction. The amount of mathematics and physics was reduced and ICT skills was increased. That was partly because IT software had been developed to solve mathematical

problems. The process partly supported the upper secondary VET students to continue their path to UAS.

The engineering degree reflects in good way the challenges in the Finnish 'dual' system. The general upper secondary and vocational upper secondary qualifications both qualify the student to apply to the higher education. There are plenty of the students who have gone the vocational path but there is always the challenge that the two paths mean the students start in different places at the higher level. At secondary VET there is much less mathematics, languages etc. That may be a problem at higher level. In the same way the general upper secondary graduates lack vocational skills. Both used to have separated programs to facilitate that problem but now the programs have been merged.

There are also professional oriented UAS master's degrees available for the engineering people. Since UAS bachelor is 4 years, relatively long one, the master degree is only a year. For that reason, the whole UAS master degree could be studied in 5 years plus the 3 years working experience required for master's.

UAS masters are not very well established in Finnish educational system. Engineering degrees have even more problems since they only last a year. In the international comparison they are not truly valid master's degrees even though together with Finnish UAS engineering bachelor's degree they are valid for international comparison since UAS engineering degrees are broader than typical bachelor's degrees.

All in all, the **engineering degree has developed from professionally oriented to academic direction, and now the trend has slightly changed** again. The next trend could be to adapt the international frameworks. Meanwhile, the engineering degrees need to balance with academic goals, working life requirements and creating feasible study paths for the different student groups i.e. vocational and general upper secondary VET graduates, the young and adults etc.

7. Current debates and future perspectives

The Finnish educational system is under development in many ways. To understand the impacts on the higher VET degrees, it is important to understand the bigger picture. In particular, changes at the secondary level will be reflected to the higher levels as well.

One major theme in public debate are the concerns that Finland is lagging in higher education graduates compared to OECD average (OECD, 2017). There is a firm belief that -level know-how, education and innovation are the Finnish competitive advantages. Meanwhile studies and statistics indicate that Finland is not doing that well anymore. Even though still excellent, PISA – scores are falling, less young people have higher degrees and number of school drop-outs is growing.

The Finnish governments have made budget cuts in the education at all levels from the upper secondary VET to universities. For that reason, there have been lay-offs in many educational institutes, schools have been merged and many study programs have been discontinued.

That paints the wider picture of Finnish educational framework. The downsizing of the educational systems coincidence with worries of the competitiveness and social inclusion through education.

That has raised the question of how the educational system can create more with less resources.

There is an on-going reform in the upper secondary level VET. The aim of the reform is to individualize study paths and make the study paths more flexible. The structure of the degrees is being made more modular so that each student can choose the modules for his/her own study path.

The reform decreases the number of the IVET, further VET and specialist VET degrees by merging former degrees. The idea is that each degree is wider and there could be individual variation within each qualification.

From the higher VET point of view there are two hot topics. The first one is that will the reform affect the vocational path from upper secondary VET to UAS and universities. The reform will cut the general studies and that will potentially **weaken the IVET graduate's abilities to study** at the higher level. The challenge is the admission. When applicants can have backgrounds in general or vocational upper secondary, there are difficulties putting them on the same line when giving points for the admission.

From the UAS point of view, the critical question is their status. The UAS are promoting that they should be more recognised as equal with the universities. One debate is about the title of UAS master's degree. In Finnish language the title master (maiseri) is not used but the degrees are referred as 'higher UAS' ([44].

The debate has been going on since the establishment of the UAS system. There are still prevailing opinions that universities are higher and UAS are lower level universities even though they should be on the same level. The universities are defending their position strongly.

The next step in the development could be naturally introducing the doctoral programs for UAS and improving the path from UAS master's degree to the university doctoral programs. Nowadays the access of the UAS master for university doctoral programs is case by case. The universities may choose their students and they have not been willing to open their degrees for UAS students. Some universities have opened more their master degrees to UAS bachelors than others.

An important trend is the increasing collaboration between the universities and UAS. There are on-going processes in which UAS and the universities seek to merge. That naturally raises the question what the distinguishing difference between these two school of higher education will be. That affects especially engineering and to some extent business studies. In those two fields the degrees are already overlapping.

The nursing degrees have been debated for two major reason. First of them is that health care sector is lacking employees and there is a need to educate more nurses. So far that has not affected nursing training that much.

The second factor is the financial pressure on health care system in general. That has created a need that nurses' job descriptions should be broadened. That could be writing prescriptions in some cases or writing documentations for sick leaves etc. That means some basic jobs now done by physician could be done by nurses. The driver for that development is that because of the lower salaries, nurses are less expensive and health care cost could be reduced in that way. That anyway raises the question about continuing education of the nurses. The debate in linked to the question of how the nurses can develop their professional skills, how the skills are recognized and how that would affect career prospects, salaries etc.

([44]) The Finnish term is ylempi ammattikorkeakoulututkinto that could be translated higher university of applied science qualification, abbreviation yamk where y=ylempi higher, amk= uas.

8. Overview

This table should provide an overview of what types of changes due to 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' can actually be observed in the country.

Please indicate the main processes and phenomena identified during the last 20 years in the table below – referring to the direction of change, the object of change, the context of change (or target area of change), the key processes observed and the results of these processes as well as their time frame and indicate the sections in which they are presented! Examples of key processes/results are presented in table 1 of the guidance note.

Table 1 **Overview**

Direction of change	Object of change	Context/target area	Key processes observed / results	Timeframe	Section
Academic drift	**Higher Education**	professionally-oriented HE	Including RDI activities to UAS responsibilities Requirement of PhD or licentiate degree for senior teachers	Early 2000's onward In UAS reform 1990's	4.1 4.2
		traditional (or academic) HE programmes	Tenure track to some universities to straighten academic careers	2000's	
	VET (outside HE)	VET transformed to HE	The post-secondary VET colleges transformed to UAS	1992 – 2000	3.1
		VET offered at higher levels outside HE			
Vocational drift	**Higher Education**	professionally oriented HE	UAS: balancing between academic requirements and working life requirements	On-going	4.1
		traditional (or academic) HE programmes	Universities: Increasing internships etc. Professors of practice position established	On-going 2014 -	
Expansion of VET at higher levels (outside HE)	**VET at higher levels (or 'higher VET') offered outside HE**		Only higher degree outside of HE is specialist vocational qualification. There is ongoing reform on the vocational education. For the academic/ vocational changes are too early to estimate.		

9. Sources of information

References

Ahola Sakari, Anttila Aino (2013): AMMATILLISEN KOULUTUKSEN JA TUTKINTOJÄRJESTELMÄN KEHITTÄMINEN - TILANNEKATSAUS - MAALISKUU 2013, Opetushallitus, Muistiot 2:2013

Arene (2017): AMMATTIKORKEAKOULUJEN VALINTAPERUSTESUOSITUS 2018,

Arene (2016): Ammattikorkeakoulujen maisterikoulutus osaamisen uudistajana ja kansallisena koulutusinnovaationa Ammattikorkeakoulujen rehtorineuvosto Arene ry:n selvitys YAMK-tutkintojen rakenteellisesta kehittämisestä, Ammattikorkeakoulujen rehtorineuvosto Arene ry

Arene (2007): Ammattikorkeakoulut Bolognan tiellä AMMATTIKORKEAKOULUJEN OSALLISTUMI NENEUROOPPALAISEEN KORKEAKOULUTUSALUEESEEN

Aro Mikko (2014): KOULUTUSINFLAATIO Koulutusekspansio ja koulutuksen arvo Suomessa 1970–2008, TURUN YLIOPISTON JULKAISUJA ANNALES UNIVERSITATIS TURKUENSIS SARJA - SER. C OSA - TOM. 376 SCRIPTA LINGUA FENNICA EDITA

Auvinen Pakka (2004): AMMATILLISEN KÄYTÄNNÖN TOISTAJASTA MONIPUOLISEKSI ALUEKEHITTÄJÄKSI? Ammattikorkeakoulu-uudistus ja opettajan työn muutos vuosina 1992-2010, UNIVERSITY OF JOENSUU PUBLICATIONS IN EDUCATION N:o 100

Education Evaluation Centre (2016): NATIONAL PLAN FOR EDUCATION EVALUATION 2016–2019,

Haho Annu (2006): HOITAMISEN OLEMUS HOITOTYÖN HISTORIASTA, TEORIASTA JA TULKINNASTA HOITAMISTA KUVAVIIN TEOREETTISIIN VÄITTÄMIIN, ACTA UNIVERSITATIS OULUENSIS D Medica 898

Hakala Raili, Tahvanainen Sirpa (2009): LÄHIHOITAJAT 2020 - sosiaali- ja terveysalan perustutkintoon johtavan koulutuksen kehittämisstrategian taustaselvitys,

Jyväskylän yliopisto (2016): PISA – ensituloksia – Huipulla pudotuksesta huolimatta, Opetus- ja kulttuuriministeriön julkaisuja 2016:41

Kalenius Aleksi (2014): Suomalaisten koulutusrakenteen kehitys 1970–2030, Opetus- ja kulttuuriministeriön julkaisuja 2014:1

Kiviniemi Kari, Leppisaari Irja, Teräs Hanna (2013): Autenttiset verkko-oppimisratkaisut asiantuntijuuden kehittäjänä, IN VUOROVAIKUTUKSEN JÄNNITTEITÄ JA OPPIMISEN SÄRÖJÄ Aikuispedagogiikan haasteiden äärellä, (edit) Juha T. Hakala & Kari Kiviniemi, KOKKOLAN YLIOPISTOKESKUS CHYDENIUS Luokanopettajien aikuiskoulutuksen 25-vuotisjuhlajulkaisu

Kåla Jenni (2015): Johtamisen erikoisammattitutkinto (JET) esimiehen ammatillisen identiteetin tukijana Lähiesimiesten kokemuksia Johtamisen erikoisammattitutkinnon suorittamisesta ja sen merkityksestä heidän ammatilliseen identiteettiinsä, Aikuiskasvatustieteen pro gradu –tutkielma Syyslukukausi 2015 Kasvatustieteiden laitos Jyväskylän yliopisto

Lahtinen Heikki (2013): Työnjohtokoulutusselvitys kaikilla koulutusaloilla Uusien tutkintojen tarve ja olemassa olevien tutkintojen soveltuvuus työelämän työnjohto- ja lähiesimiestarpeisiin, Opetushallitus

Meriläinen Riitta (2011): Valkolakki vai haalarit, vaiko molemmat Koulutuspolitiikan vaikuttajien näkemykset toisen asteen kehityksestä, superin julkaisuja • 1/2011

Mikkola Ella, Nurmisto Mikko, Saarnivaara Veli-Pekka (2017): Korkeakoulujen, tutkimuslaitosten ja elinkeinoelämän yhteistyö – miten erilainen oikeusasema vaikuttaa?, Valtioneuvoston selvitys- ja tutkimustoiminnan julkaisusarja 34/2017

Ministry of Culture and Education (2015): Ehdotus ammattikorkeakoulujen rahoitusmalliksi 2017 alkaen, Opetus- ja kulttuuriministeriön työryhmämuistioita ja selvityksiä 2015:18

OECD (2017): Education at Glance

OECD (2015): PISA

Ojala Kristiina (2017): YLEMMÄT AMMATTIKORKEAKOULUTUTKINNOT TYÖMARKKINOILLA JA KORKEAKOULUJÄRJESTELMÄSSÄ, Doctoral Dissertation, Publication of the Univeristy of Turku, Serie C, 437.

Stenius Antero (2016): RAKENNUSMESTARIKOULUTUKSEN KEHITTÄMINEN RKM(AMK)-tutkinnon ohjeellinen opetussuunnitelma 2016,

TAMK (2013): Ins inöör ikoulutusta 100 vuotta suomessa juhlakirja, Tampereen ammattikorkeakoulun julkaisuja. Erillisjulkaisu. Tampere 2013

List of interviewees:

Please provide the following information:

- Name (Mr/Ms, forename, surname)
- Organisation and function
- Please ask whether the interviewee agrees that his/her name will be included in the final publication (in case Cedefop decides to list interviewees)!

Country	Name	Organisation and function	Contact information (Email, phone) List of interviewees	Date of interview	Agreement*– yes/no
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Finland	Ms Riitta Rissanen	Arene ry, Executive director	Riitta.rissanen@arene.fi	2.10.2017	Yes
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Finland	Mr Juha Lindfors	Metropolia University of Applied Science, vice principal	Juha.lindfors@metropolia.fi	4.10.2017	Yes
Finland	Mr Petri Lempinen	The Finnish	Petri.lempinen	6.10.2017	Yes

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* Interviewee agrees that his/her name can be included in the final publication

Case study

Country: FRANCE

Authors: Alain MICHEL and Jean-François CERVEL (EIESP)

Title of the case study: Main evolutions of higher VET in France

1. Introduction

Please provide a concise introduction that gives an overall indication of the change processes observed (during the last 20 years) related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)'.

In France, while there is no ambiguity about IVET in upper secondary education (IVET is one of the three tracks proposed - general academic, technological, and vocational, i.e. the vocational pathway either through vocational high school or through apprenticeship), like in many other European countries there is no consensus about the definition of 'higher VET'. As stated in a European report (Ulicna et al., 2016) there are two possible approaches to delimitating higher VET: a narrow and a broader one. In France, the tendency over the last 20 years has been to adopt more and more a broad approach. This is due mainly to two concomitant evolutions: an academic drift and a vocational one. Another major aspect of the French system of higher education is that there is not a true 'dual system' with an academic system on one side and a more informal vocational system on the other side, even though some large private or public companies have developed high-level courses (partly through MOOCs) or applied doctorates in tight relationship with universities or 'grandes écoles'.

As mentioned in the Cedefop European Inventory on NQF (France 2016): 'The French NQF operates with less clear distinction between VET and higher education than many other European countries, signalling a wish to promote vocationally and professionally oriented qualifications at all levels' (Cedefop, 2017). Another important preliminary remark about the French situation is that in France IVET is not limited to the upper secondary level: it includes at least in a narrow sense qualifications at EQF level 5 (like BTS, DUT or equivalent qualifications proposed by the Chambers of trades and crafts), and in a broader sense it also includes qualifications offered at EQF levels 6 to 8. The term 'higher education' (*enseignement supérieur*) is a generic term which defines all qualifications at EQF levels 5 to 8. The term 'higher VET' (*enseignement et formation professionnels de niveau supérieur*) includes IVET tracks and CVET tracks at EQF levels 5 to 8. All these qualifications can be obtained either by IVET tracks, or through CVET ([45]), or through validation of informal and non-formal learning (which requires sometimes specific complementary training programmes) sometimes by attending the same institutions (e.g. universities or engineering or business schools). ([46])

CVET, also called 'adult education' (*formation professionnelle des adultes*), is one the missions of higher education institutions (universities, '*grandes écoles'* and other types of institutions) which offer such training programmes to about 300,000 learners every year. ([47])

([45]) In France, CVET is equivalent to professional adult education: *formation continue des adultes*.

([46]) The qualifications are the same but they can be obtained through 4 pathways: initial education in schools or universities (for students), apprenticeship pathway (apprentices), continuing education (*formation continue),* validation of informal and non-formal learning (VAE)

([47]) http://www.enseignementsup-recherche.gouv.fr/pid24823/la-formation-continue-des-adultes-dans-l-enseignement-superieur.html

All degrees can be acquired either through IVET or through CVET. CVET applies to learners who interrupted their initial education for at least one year and who are either occupied in a job or unemployed.

In formal higher education, for a long time, some degrees have been perceived as 'professional' in opposition with more general academic degrees. It is the case of short-cycle higher education (SCHE) which are mainly prepared in STS (*Sections de Technicien Supérieur*) that are post-*baccalauréat* classes in high schools or within universities in IUT (Instituts Universitaires de Technologie). Both STS and IUT prepare the students in 2 years to take respectively a BTS (*Brevet de Technicien Supérieur*) and a DUT (*Diplôme Universitaire de technologie*) which are qualifications at EQF level 5. It is also the case of public or private schools or institutes like engineering schools, business schools (run by the Chambers of Commerce and Industry), architecture schools, veterinary schools, nursery schools, social working schools, etc. Moreover, even among long-cycles higher education in universities, some have been for a long time considered as 'professional' (i.e. medicine, pharmacy, teacher education, physical education and sports, etc., and to a less extent 'law') compared to more general studies like humanities or sciences.

However, as it will be further described below, the distinction between these types of higher education has become less relevant because of concomitant academic and vocational drifts. On the one hand, the **academic drift** is mainly due to the new knowledge and competences required by the technological evolution, mainly in ITC, artificial intelligence and big data, or new societal challenges (like ecological transition or democratic issues): there is a need for more general culture and interdisciplinarity, more research capacity and other high-level transversal skills. This has led to increase the general level of education of the population (part of the academic drift) by introducing more academic knowledge in short-cycle higher education and more research in long-cycle professional curricula, but also by a general prolongation of studies: an increasing number of students enter higher education, an increasing number of DUT and BTS graduates prepare a professional Bachelor (*licence professionnelle*), created in 1999, during one additional year of study (EQF level 6), an increasing number of students take a Master (2 more years after their Bachelor) which is a EQF level 7 qualification, and more and more students prepare a *Doctorat* (EQF level 8). This evolution has been much influenced by the implementation of the Bologna process.

On the other hand, mainly over the last 20 years, there has been a **vocational drift** in all the universities, except for specialities like medicine which had already been for a long time a model of very good integration of work-based learning and theoretical learning. For example, the creation in 1999 of a '*licence professionnelle'* (professional Bachelor) in most specialities was an important step, but much before universities had already developed professional institutes, like for example the *Instituts d'Administration des Entreprises (IAE)* established in 1955 and called also today '*Ecoles Universitaires de Management'* (about 15,000 students are enrolled today) or the '*diplômes d'études supérieures spécialisées'* (*DESS*) established in 1992 and replaced in 2002 by the professional Masters (with the implementation of the Bologna process). Also, an increasing number of universities have created internal engineering schools as we will see below. But still a more general feature of the **vocational drift** has been the progressive generalisation of the definition of university curricula (of all subjects and specialities) in terms of learning outcomes and competences, including transversal skills required by the labour market (see CEDEFOP, 2016). A symbolic aspect of such a vocational drift and a greater concern of universities about the expectations of the labour market has been the creation by a Decree of 17 February 2014 of a Directorate of the Ministry of Higher Education called '*Direction Générale de l'Enseignement Supérieur et de l'Insertion Professionnelle',* with a department specialised on the issue of the transition to work.

Emphasis has been increasingly given to implementing the learning outcomes approach in higher education. The law of August 2007 (*Loi sur les responsabilités et libertés des universités*) created the obligation for universities to set new services dedicated to

employability. This law requires universities to improve their learning outcomes descriptions, both for employers and students. The learning outcomes descriptions form the basis on which all qualifications are approved by *the Commission Nationale de la Certification Professionnelle (CNCP).* The number of qualifications covered by the CNCP has been steadily increasing in recent years. A significant part of this growth was caused by vocationally and professionally oriented higher education qualifications, mainly at EQF levels 5 and 6 (Cedefop, 2017).

Thus, as a result of the concomitant academic and vocational drift, there has been a convergence between different higher education institutions which will be further analysed below.

However, given the complexity and heterogeneity of short-term training programmes organised by the industries or within some medium and large companies for managerial staff or engineers (i.e. at higher VET levels) it is difficult to give an exhaustive account of all training programmes of higher VET, particularly for higher CVET.

2. VET at higher levels

Please briefly describe the current situation related to 'VET at higher levels' in your country and refer to the following questions:

*Which **types of vocationally oriented degrees/qualifications** are currently awarded at **EQF levels 5-8** and **since when**? Please include the titles of these types and their NQF/EQF level and **describe them briefly**! Please use the most commonly used English translation for the titles of qualification types and use these titles consistently*! ([48]) *To which **educational segment** do they belong (e.g. higher education, post-secondary level VET, CVET)? What is the **'importance' of these types** (e.g. in terms of number of learners or graduates) compared to other types (such as number of students enrolled in academic HE programmes)? Are there any prevailing economic sectors?*

*Please include any **figures or diagrams** (time series), if possible!*

Main types of vocationally oriented degrees/qualifications at higher levels

1) Short-cycle studies (2 years after the baccalauréat): **EQF level 5** (NQF: level III)

The two main pathways (both established in 1966) are:

- STS (post-baccalauréat classes in an upper secondary school) to take a BTS (*Brevet de technicien supérieur)*
- IUT (within universities) to take a DUT (*Diplôme Universitaire de Technologie*)

A few other pathways and qualifications at EQF level 5 that are much less important in terms of enrolment are:

- **Qualifications at EQF level 5 provided by the 107 Chambers of Trades and Crafts** (*Chambres des Métiers et de l'Artisanat*): *Brevet de Maîtrise Supérieur* (BMS) and *Brevet Technique des Métiers Supérieurs* (BTMS). The BMS concerns mainly some craft activities such as hairdresser, bricklayer or bakery/pastry. The BTMS concerns mainly stone cutters (*tailleurs de pierre)*, cabinet makers (*ébénistes*), dental technicians (*prothésistes dentaires)* In all cases, the qualifications give the title of Master Craft Person (*Maître Artisan*) which certifies the ability to run a small private enterprise. (See RNCP on www.cncp.gouv.fr). However, it should be noticed that

([48]) If applicable, refer to the Cedefop NQF monitoring reports – see: http://www.cedefop.europa.eu/en/events-and-projects/projects/national-qualifications-framework-nqf/european-inventory

most of the qualifications provided by the Chambers of Trades and Crafts are at EQF levels 3 and 4. The distribution between the levels of qualification for the apprentices in the economic sector of crafts (artisanat) is according to the *Institut Supérieur des Métiers (ISM)*[49]*:*

- EQF level 3; 69%
- EQF level 4: 22%
- EQF levels 5 or 6: 9% (the great majority are BTS in the sector of crafts: the total number of BMS delivered in France in 2011 was 130 (source: Eurostat) compared with about 130,000 BTS and 47,000 DUT.

- **Diplomas of Applied Arts** (*Diplômes des Métiers d'Art*: *DMA)* at EQF level 5 provided by public and private institutions which require 2 years of study after a baccalauréat or a BMA (*Brevet des métiers d'art*). There are various specialities such as jewellery, graphic arts, ceramics/pottery, circus arts, etc. (source: www.onisep.fr). This degree can be prepared either in a special school or through apprenticeship or through CVET (source: http://designetartsappliques.fr/content/dipl%C3%B4me-des-m%C3%A9tiers-d%E2%80%99art-0). For some specialities, like graphic arts, the qualification requires 4 years and is classified at EQF level 6. There are about 500 DMA graduates each year (http://www.culturecommunication.gouv.fr/Thematiques/Enseignement-superieur-et-Recherche/L-enseignement-superieur-Culture)

Table 1: Evolution in France of the number of students in short-cycle higher education (by main types of institution) since 1990 (thousands of students)

Type of institution	**1990**	**2000**	**2005**	**2010**	**2015**	**2025***
(IUT)**	74	119	113	117	116	128
STS	199	239	230	242	256	273

*Forecast

** *IUT*: *Instituts Universitaires de Technologie*

Sources: *L'état de l'enseignement supérieur et de la recherche en France,* n° 2 (2008), Ministère de l'enseignement supérieur et de la recherche ; *L'état de l'enseignement supérieur et de la recherche en France*, n° 10 (2017), Ministère de l'enseignement supérieur, de la recherche et de l'innovation

This evolution depends partly on the demographic data, but in the long run there has been a dramatic increase of the proportion of students entering higher education (including higher VET) as well as of the graduates at different levels (LMD, ISCED or EQF). **In 2015, there were more than 2.5 million students in higher education against about 310,000 in 1960: their number has been multiplied by eight during this period.** This increase was particularly important between 1987 and 1995 because of the sharp increase of the proportion of an age-cohort passing the *baccalauréat* (from 33% in 1987 to 63% in 1995 and 79% in 2016). The **vocational *baccalauréat***, **established in 1985**, has been a major factor of this increase. Between 2000 and 2015 the number of students in private institutions has increased by 62% while the total number of higher education students increased by 18%.

[49] http://ism.infometiers.org/ISM/Barometre-de-l-artisanat/Les-chiffres-de-l-apprentissage

This private sector represents about one third of the students in STS and in engineering schools, and all the students in business schools.

In 2015, 70.3% of general *baccalauréat* graduates entered university, more than 50% of technological baccalauréat graduates entered a DUT or a BTS. In the upper secondary education system in France, there are three tracks; the general academic track which is supposed to prepare for higher education studies leading to a degree of at least EQF level 6, the technological track which is supposed to prepare to vocational short-cycle higher education at EQF level 5 and the vocational track leading to the vocational baccalauréat which has as a first goal to prepare students to enter the labour market as qualified workers (*ouvriers qualifiés*). If a majority of vocational baccalauréat graduates enter the labour market, about 30% enter a STS (6.7% through apprenticeship). One current issue is to manage to give a priority to technological baccalauréat graduates for entering IUT and a priority to vocational and technological baccalauréat graduates to enter STS, because as these two short-cycle higher VET tracks are selective, the paradox is that too many general academic baccalauréat graduates enter these cycles which should be first reserved to vocational and technological baccalauréat graduates. The main reason for general baccalauréat graduates to choose these courses is that the rate of passing the exams is much higher than in long-cycle courses of university. So, an increasing strategy is to take a DUT or a BTS with the intention to pursue by a third year for obtaining a vocational[50] Bachelor (EQF level 6).

- **The STS (*Sections de Techniciens Supérieurs*)**: In 2016-2017, around 257,000 students attend these courses: one third in the production sector of the economy and two-thirds in the tertiary sector (commerce and services). About 133,000 students pass the BTS each year. 90% of the students are in a STS (public or private) controlled by the Ministry of Education and nearly 8% by the Ministry of Agriculture. There are 113 specialities of BTS. The most attractive for the students are for the tertiary sector: Commerce/Selling (46,000 students) and Accounting and Management (31,000); and for the production sector: Basic Industrial Technologies (13,000) and Electricity/Electronics (10,500). On average, these qualifications are renovated every 5 years to take into account the new expectations from employers. The curricula are defined in terms of learning outcomes by the *Commissions Professionnelles Consultatives* (CPC) as it is the case for the CAP (certificate of vocational ability) and for the *baccalauréat professionnel* / vocational baccalauréat (qualifications at EQF levels 3 and 4, respectively). These commissions include representatives of employers, trade-unions and experts (like pedagogical inspectors from the Ministry of Education). The total number of BTS delivered in 2016 was 133,144: 41,208 in the production sector (32,237 men and 67,601 women) and 91,936 in the tertiary sector (33,306 men and 58,630 women).

- **The IUT (*Instituts Universitaires de Technologie*)**: In 2016-2017, 116,600 students attend courses in an IUT (there are 111 IUT in France). There are 24 specialities offered in the 1st year and more in the second year by the possibility to choose electives. The distribution between the production sector and the tertiary sector is less unequal than for the STS: 58% in the tertiary sector and 42% in the production sector. In the tertiary sector 2 specialities attract 60% of the students: 'Management of enterprises and administrations' (8,500) and 'Techniques of commerce' (8,500). In the production sector the most attractive specialities are: Electric engineering and industrial computing (7,400); Mechanical engineering and computer-integrated manufacturing (7,100); Civil engineering (4,100). The specialities of DUT are defined in accordance with state regulations: *Arrêtés* of 7 and 15 May 2013, and of 19 June 2013. The curricula are

([50]) In the French language, there is not a distinction between 'vocational' and 'professional': there is only one word: '*professionnel*'. So, the term '*licence professionnelle'* can be translated into English either by 'vocational Bachelor' or by 'professional Bachelor'

defined and revised by 17 *Commissions Pédagogiques Nationales (CPN)*. They give much importance to professional competences through internships, project approaches, teaching by professionals, etc. These commissions include academic researchers of the speciality, representatives of employers, employees, and students, and other qualified experts. The 17 commissions participate in a National Consultative Commission of IUT which also evaluates them since 2000. The National Association of IUT Directors and the National Union of IUT Presidents play also a major role for the management of the whole network of IUT and for developing tight relationships with the industry and the business world. The total number of DUT delivered in 2015 was 47,616 (42% of women): 18,787 in the production sector (25.5% women) and 28 829 in the tertiary sector (52.8% women).

2) 3 year-cycle studies and qualifications at EQF level 6 (NQF level II)

- ***Licences professionnelles*** **(Professional or Vocational Bachelors):** created in 1999, they are organised mainly within universities or in post-baccalauréat classes of some high schools (3rd year after a BTS), or in a few cases in other institutions through apprenticeship (*Centres de formations d'Apprentis: CFA).* In all cases, the degrees are defined in partnership with industry branches. There are 173 specialities that are proposed (e.g. Design, Human Resources Management, Multimedia, or Tourism) and this national diploma corresponds to 180 ECTS credits. The recent evolution shows a steady moderate progression of enrolment: 38,700 students in 2007; 52,708 in 2015 and 52,821 in 2017 (RERS-DEPP, 2017, p. 158). Students are recruited from an analysis of their personal file and an interview. The curriculum is defined with professionals of the economic sector. It includes an internship of 12 to 16 weeks in France or abroad and a project (individual or within a team) supervised by a tutor which must lead to a written report. About 30 % of graduates choose to further study towards a Master or another degree of a professional school. For the 70 % who try to enter the labour market, this professional bachelor is much appreciated by the employers: about 90% of graduates have a full-time job one year after their graduation (source: ONISEP website). In 2015, the total number of delivered vocational bachelors (licences professionnelles) was 48,744 (49.4% women) against 128,396 general Bachelors. The two main fields of vocational Bachelors were: Sciences (Maths, Physics, Chemistry, Computer Science, Natural sciences): 19,389 (27.7% women) and Economics and Management: 18,185 (62.5% women).
  More generally, for all Bachelor graduates the criteria for learning outcomes must be divided into 4 main areas: 1) Common general competences; 2) Pre-professional competences;3) Transferable competences; and 4) Specific competences related to broad disciplinary subject areas (Ministère de l'enseignement supérieur et de la recherche**,** 16 July 2012).

- **Paramedical and social work schools at EQF level** 6: These include various specialities, mainly nursing schools that will be described in further detail in another section: their recruitment is organised through a competitive examination and the total enrolment of their students is limited at national level. The public schools have very low tuition and fees compared with the private schools. They all prepare to a state diploma which gives 180 ECTS and is classified at EQF level 6 (NQF level II) since 2009. All the diplomas can be prepared through the apprenticeship pathway in some of the institutions.

- Nursing schools: There are about 300 nursing schools across France: they are called '*Instituts de Formation de Soins Infirmiers' (IFSI).* In 2017, the total number in France of students enrolled in the 1st year of these institutes must not exceed 31,000. They prepare in 3 years to the state diploma of nurse, which gives equivalence to a Bachelor degree since 2009. There is an ongoing project to reform these schools in order to further integrate them within universities (see section 6 below).

- Other paramedical schools: they prepare to various specialities. For example, there are **24 Institutes of Occupational Therapy** (*Ergothérapie*) distributed in all the regions of France which prepare in 3 years to the same state diploma of occupational therapist. For 2017, the maximum number of enrolments in the first year is about 1,000. Another example is the **assistant radiologist (specialist of medical imagery)**. This other state diploma at EQF level 6 can be prepared in 3 years either in special institutes run by the Ministry of Health and integrated in hospitals or in a few special schools run by the Ministry of Higher Education. Third example at this EQF level is the state diploma of **podiatrist – chiropodist** (*pédicure-podologue*) which is prepared in 3 years, after passing a competitive exam, in one of the 12 institutes (10 private and 2 public) having passed a contract with a university of medicine.

- Social work schools: About 350 schools (public or private) propose education programmes to prepare in 3 years one of the 11 state diplomas in the field of social work. The 3 main diplomas at EQF level 5 (but at level 6 from 2018 on) are: 1) **Diploma of 'social worker'** (*Assistant ou Assistante de Service Social: **DEASS**;* 2) **Diploma of 'educator of young children'** (*Educateur de Jeunes Enfants: DEEJE*) which can be prepared in 30 schools; 3) **Diploma of 'specialised educator'** (*Educateur Spécialisé*) that can be prepared in 53 schools. The curricula of these schools are under the control of the Ministry of Labour. **Two national schools** preparing vocational state diplomas at EQF level 6 under the tutorship of the Ministry of Justice are the **National School of Penitentiary Administration** (*Ecole Nationale de l'Administration Pénitentière*) which recruits about 2,500 students each year at different levels and the **National School of Judiciary Protection** (*Ecole nationale de la Protection Judiciaire*). These schools recruit through a competitive exam students having attended 2 years in higher education and prepare them in 2 years to the state diploma.

- **Professional Bachelor programmes offered by schools of tourism and by some business schools:** A great number of schools managed by the Chambers of Commerce and Industry propose Bachelor programmes (in 3 years) in some specialities such as tourism, marketing, web marketing, etc. The business schools will be further described for their programmes at a Master or Doctorate level (EQF levels 7 and 8).

- **Professional Bachelor programmes or equivalent programmes are also proposed by 90 schools of arts, design, interior design,** etc. They are attended by about 37,000 students. Some degrees delivered are classified at EQF level 6. However, other degrees (like in architecture or cultural patrimony conservation)[51] can be classified at level EQF 7 or 8. The schools, under the tutorship of the Ministry of Culture deliver overall 11,700 degrees each year. In 2013, for architecture, there were about 3,400 graduates at EQF

[51] http://www.culturecommunication.gouv.fr/Thematiques/Enseignement-superieur-et-Recherche/L-enseignement-superieur-Culture/Formations-diplomes-et-metiers

level 7 (Master) and 2,400 at EQF level 6; In fine arts: 960 at EQF level 7 and 113 at EQF level 6[52].

- Each year 5 Regional Institutes of Administration (*Instituts Régionaux d'Administration*: *IRA*) recruit through a competitive entrance exam about 700 students who attend a training programme for one year before being appointed as middle-managing staff in the civil service (public administrations). To take the competitive exam the candidates who are students must hold a Bachelor degree, while the civil servants must have at least a baccalauréat and 5 years of seniority within a public administration. All the students at the end of the year are supposed to get the title of 'Attaché d'Administration', i.e. the status of civil servant. Since 2012, the IRA have passed an agreement with a university in order to allow for the students to attend complementary courses for getting an equivalence of Master 1 or Master 2 depending on their precedent degree. About 25% of the students managed to do so.

3) Five-year cycle programmes for Masters (EQF level 7) (NQF level I)

- **Engineering schools:** There are about 250 schools or institutes (76 private and 68 integrated in a university). All of them deliver a diploma, called '*titre d'ingénieur*' (Master level) after a studying programme of 5 years. The number of engineering students enrolled in these various institutions have been multiplied by 3 since 1991:

  1991: 59,300; 2001: 95,000; 2011: 138,400; **2017**: **152,500** (source RERS-DEPP, 2017)

  The number of diplomas (titres d'ingénieur) delivered has also increased significantly (multiplied by 2.4):

  1990: 14,500; 2000: 21,000; 2010: 29,000; **2016: 35,000** (Source: CDFI web site)

- All schools recruit students through a competitive process. Some schools recruit baccalauréat graduates who attend a 5-year programme, while other more prestigious schools recruit students from very selective special 'post-baccalauréat classes' of high schools called '*Classes Préparatoires aux Grandes Ecoles' (CPGE)* after 2 or 3 years of intensive preparation. Other schools (mainly those within universities) can recruit students after a scientific Bachelor. Since the nineties, it is also possible to obtain the *titre d'ingénieur* through apprenticeship. The quality of the 'titre d'ingénieur' is controlled by a national Commission (*Commission des titres d'ingénieur*) established in 1934. The engineering schools are further described in section 6. A special mention must be made for the **three universities of technology** (*Universités de technologie*) established which work within a network and prepare about 10 000 students each year to become engineers through an interdisciplinary approach (see section 6).

- **Master's programmes in business, commerce and management**: these degrees are prepared either within Universities or in private business schools (the most famous being run by Chambers of Commerce and Industry). **The programmes within universities** are

[52] http://www.culturecommunication.gouv.fr/Thematiques/Enseignement-superieur-et-Recherche/L-enseignement-superieur-Culture

organised either within special institutes called '*Instituts d'Administration des Entreprises'* which recruit Bachelor's graduates, or in departments of Economics and Management. In 2017, about 64,500 students are registered in a Master of Economics and Management within a university. **The Master programmes in business and management are also organised in 3 types of schools**: group 1: 94 schools that deliver a diploma agreed and controlled by the Ministry of Higher Education (126,500 students). The 3 most famous are in the Paris area: HEC, ESSEC and ESCP-Europe; group 2: 34 schools that are recognised by the Ministry but the diploma that they deliver is not controlled by the Ministry (10,500 students); and group 3: 108 schools not recognised by the Ministry (15,000 students). Within the schools of the 1st group 82,500 students prepare a Master degree. A national Commission, created in 2001, is evaluating the curricula and the procedures for obtaining a Master and so the conditions to be recognised by the Ministry of Higher Education (quality label): the '*Commission d'Evaluation des Formations et Diplômes de Gestion (CEFDG)'.*

- **Other Master Programmes in Universities:** Since 2014, the distinction between the Professional Masters (*Masters Professionnels*) and the Research Masters (*Masters de Recherche*) has been suppressed because of an evolution of all university degrees towards curricula more oriented to a professional goal and defined in terms of learning outcomes and competences. However, some Master programmes are more related to specific jobs and professions than others. It is particularly the case of **Masters in Law and Political Science** (64,600 students in 2017), **Masters in Education** prepared within special schools within the universities, called *Ecoles Supérieures du Professorat et de l'Education (ESPE),* which prepare to a Master for teaching and training: *Master de l'Enseignement, de l'Education et de la Formation (MEEF).* In 2017, there are 57,600 students registered in the 32 ESPE. Another Master is much professionally oriented: the **Master in Physical Education and Sports**: *Sciences et Techniques des Activités Physiques et Sportives (STAPS).* Among the 50,000 students registered in STAPS programmes (offered in most of the universities) only 7,000 prepare a Master after the Bachelor. Most of them take the competitive exam to become a teacher of physical education.

- **Some examples of other Master programmes and other professional programmes at EQF levels 7:** in terms of numbers of students the main other professional programmes are **Medical Studies** which last at least 9 years to get the title of medical doctor or physician (126 500 students in 2017) and **Pharmaceutic Studies** (22 500 students) which prepare in 6 years to the state diploma of '*pharmacien'.*

- **23 Schools of architecture** prepare in 3 years a Bachelor and in 5 years a Master in architecture. Students having passed an exam at the end of their 1st year of Master in Law can prepare during 18 months (including 12 months for 2 internships) a special certificate to become a lawyer (avocat): the ***Certificat d'Aptitude à la Profession d'Avocat*** *(CAPA).* Specific programmes prepare to **diplomas of Accounting**; in 3 years the *Diplôme de Comptabilité et de Gestion* (DCG) equivalent to a Bachelor, in 5 years the *Diplôme Supérieur de Comptabilité et de Gestion* (*DSCG*) equivalent to a Master, and in

8 years the *Diplôme d'Expert Comptable (DEC*) which gives the title of *Expert Comptable* (Chartered Accountant). Other example: Among the 14 **schools of Journalism** agreed by the Profession, 11 schools (5 private and 6 public) prepare to a Master (or an equivalent diploma) of journalism in 2 or 3 years after a Bachelor.

- There are other schools preparing to managerial responsibilities in the sectors of social security and of health institutions (hospitals). The **National school of higher studies in Social Security** (*Ecole nationale Supérieure de Sécurité Sociale – EN3S*) recruits each year about 60 students through an entrance competitive exam (half internal and half external candidates) who will become the future directors of the 400 social security institutions across France. This school delivers a Master in 'social protection engineering' (Ingénierie de la Protection Sociale) in cooperation with a university. It organises also many CVET sessions for the managerial staff of social security institutions.

  More important in terms of enrolment is the **School of Higher Studies in Public Health** (*Ecole des Hautes Etudes en Santé Publique*): this school enrols each year about 8,000 students in IVET and about 7,000 trainees in CVET preparing qualifications at EQF levels 6 and 7. They prepare to many future managerial responsibilities within the Public sector of health: managing staff and directors of hospitals, sanitary and health inspectors, etc.
- Several schools recruit and train the future Army officers (in different specialities (Air force, Navy, etc.)

4) Doctorate programmes (EQF level 8 diplomas)

- The doctorates can also be regarded as professional degrees in a broad conception of professional higher VET, to the extent that they are very specialised and generally prepared while working in a university, or a research institute, or an enterprise or a public administration. In 2015, the total number of doctorates delivered was: 12,086 (44.9% women): 7,330 in sciences and engineering, 2,911 in humanities, literature and languages, 614 in Economics and Management, and 803 in Law and Political Science.

3. Change processes durig the last 20 years - educational system perspective

One of the unique features of this study is the emphasis given to the historical development of VET systems. In this section, the focus is on the change processes that have taken place during the last 20 years related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' from the perspective of the educational system.

Depending upon the situation in your country, relevant developments might have started already before the 1990s. In other cases there may be no need to take such long-term perspective, but at the very least the commentary should go back to the middle of the 1990s.

Please describe first these change processes and their impact on the overall system (3.1), before presenting characteristics of VET offered at higher levels from the perspective of the educational system (3.2). Please clearly distinguish between the different objects and contexts of change, respectively the different types of VET qualifications/programmes offered at higher education levels.

Please refer to the "Characteristics and indicators of 'academic drift', 'vocational drift' and 'expansion of VET at higher levels (outside HE)'" (presented in Table 2 of the guidance note; the relevant aspects are included in each section here below): Please reflect whether any of these characteristics and indicators can also be identified in your country and which ones – identified in your country - should be added.

3.1. Change processes and their impact on the system

g) *To what extent can changes related to 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' be observed? To what extent have vocationally oriented programmes/qualifications at higher levels been introduced during the last 20 years and in which way (e.g. by up-grading VET institutions/programmes into higher education, by introducing new types of programmes within higher education without upgrading VET institutions/programmes, or by establishing new types of VET programmes/qualifications outside higher education)?*
h) *Can any different phases or stages of this development over time be identified?*
i) *What kind of impact does this have on the education and training system? E.g. development of a new sector outside higher education, development of a new sub-sector within higher education (and to what extent has this change led to the establishment of a - full or partial - 'unified', 'binary' or mixed higher education system)?*

The first important factor of change related to what can be perceived as an **academic drift** is the increasing number of students in higher education and in higher VET in particular. The new expectations in terms of competences and knowledge due to a fast-changing world and an increasing international competition resulting from the increasing globalisation in a knowledge economy have led over the last 30 years or so to increase the general culture of short-cycle higher VET programmes, to develop interdisciplinarity in the curricula and research capacity at all levels, mainly at levels EQF levels 6 to 8. But, at the same time, there has been a **vocational drift** through some reforms that have developed the professional dimension of education programmes, mainly by strengthening the links between schools or universities and the world of business and industry. This evolution has led to increase work-based learning and internships, access to all higher VET qualifications through apprenticeship, co-operation for applied research between enterprises and schools or universities, generalisation of a 'learning outcomes approach' of all higher education programmes and a design of curricula in terms of knowledge, competences and transversal soft skills required by the evolution of the labour market.

During the last 30 years or so, the main factors of change of the French higher VET programmes have been related to the necessity to improve the fit with the new qualifications required by the employers, to increase the sources of financing higher VET with more support of enterprises (in particular for some new forms of continuing training), to take into account the constraints of the Bologna process and of the European Qualifications framework, and also to take into account the experience of other countries and the recommendations of European institutions and OECD studies and surveys.

This evolution has been gradual over the last 30 years and it would be difficult to distinguish clearly different stages or obvious landmarks (except for the creation of the vocational *baccalauréat* in 1985 and of the vocational Bachelor in 1999).).

Even though there has been an increasing role of enterprises and of the industry sectors in higher VET, including some training programmes organised by the industries or some large companies, one cannot say that there is a 'dual' higher VET system in France as for the German model for example. On the one hand, the role of enterprises and of non-formal education is less developed than in Germany or Switzerland for instance. On the other hand, there is a long-term tendency towards more co-operation between the education system and the economy. But on the whole, some IVET programmes provided by universities remain still dominated by an educative/academic logic while the CVET programmes that they also propose are more influenced by an economic/business perspective. Moreover, the slow development of the validation of prior experience (informal or non-formal learning) for

acquiring higher VET qualifications has increased the influence of a vocational drift by taking more into account skills developed through a working experience.

3.2 Changes related to characteristics of 'VET at higher levels'

3.2.1 Changes related to governance and institutional structures of 'VET at higher levels'

i) What is the governance structure of these VET programmes/qualifications at higher levels and what kind of quality assurance regulations are in place (e.g. which national/regional authority provides accreditation/recognition, how are aspects of academic or vocational drift reflected in accreditation regulations)? To what extent and how has this changed?

Higher education in a broad sense, i.e. including higher VET at different EQF levels, is mainly governed by the competent Ministries and by the Regions in tight co-operation with representatives of employers and employees through consultative commissions which include also experts in education and training. This does not refer to specific short-term training courses or seminars organised by some industrial sectors or large enterprises, more and more supplied through digital devices.

Quality assurance is implemented through official documents (*Référentiels de formation*) defining objectives in terms of knowledge and competences - in relationship with descriptions of tasks and responsibilties: '*référentiels d'emplois* - as well as the assessment procedures of learning outcomes. The national diplomas – BTS, DUT, professional Bachelors, Masters, and Doctorates – are explicitly defined by regulatory texts of the competent Ministries: mainly the Ministry of Higher Education, but also the Ministry of Agriculture, the Ministry of Labour, the Ministry of Health and Social Affairs, the Ministry of Defence, the Ministry of Youth and Sports, etc. Other qualifications are regulated by various institutions. For example, the engineering degree delivered by any engineering school called '*titre d'ingénieur'* has to be agreed by **the national *Commission des Titres d'Ingénieurs (CTI).*** The *'titres professionnels'* are qualifications delivered under the supervision and agreement of the Ministry of Labour. 'Qualification certificates' (*certificats de qualification*) are delivered by industry sectors. These are not automatically registered in the NQF and are evaluated by the National Commission of Professional Qualifications (*CNCP*) while the degrees delivered under the control of any Ministry are automatically registered in the NQF.

Since the 1980s, **the role of regions** for organising and financing VET (including higher VET) has been gradually increased. They design forecasting plans about the future needs of qualifications at regional level and are responsible for IVET and CVET at this regional level. This evolution aims at better integrating universities and school training programmes in a regional economic and social development policy perspective.

j) What is the role of labour market stakeholders/companies in relation to these types of programmes/qualifications? To what extent and how has this changed?

The role of the labour market stakeholders has always been important in the design of IVET and CVET programmes. Their role has increased with the development of apprenticeship (mainly in higher VET) and the creation in 1999 of professional Bachelors and professional Masters programmes in universities. The very recent project (announced in November 2017) of reforming VET in France and to further develop the apprenticeship tracks will still increase the role of labour market stakeholders and enterprises, even for higher VET qualifications, even though the main priority should be to improve the insertion on the labour market of unqualified people and young people dropping out of the education system without any qualification.

k) What are the funding sources (and with what share) for these type of programmes/qualifications? E.g. what is the role of the State (educational or labour market budget) and of labour market stakeholders? To what extent and how has this changed?

The role of the state and of the regions in funding VET is important. However, the share of enterprises in financing higher IVET has slightly increased in the last years. It is more important for CVET since an Act of 1971. In 2015, the total spending for adult education was about 14.3 billion euros. From 2006 to 2015, this spending has increased of 0.5% in constant euros. The funding is shared by the enterprises (51.2%), local authorities, mainly Regions (21%), the state (11.6%) and the rest by households. During the last 40 years, the access of adults to continuing education has been multiplied by 4. The average length of training sessions is about 27 hours. The more qualified people have more access to these sessions than unqualified or low-qualified individuals: in 2013, 55 % of the engineers attended a training session financed by their employer against only 32 % of unskilled workers. It depends also on the size of the enterprise: large companies provide much more opportunities of training than the small enterprises. (*L'état de l'Ecole*, 2016).

In 2015, the universities, the higher education schools and the CNAM (see next section) have trained 457,600 adults at higher VET levels (RERS-DEPP, Ministry of Education, 2017).

l) Which are the key providers of such programmes/qualifications? Do they differ from other providers, such as IVET providers or providers of more academic higher education? To what extent and how has this changed?

For higher IVET the providers are either public bodies (Universities, some engineering schools) or private (business schools, some engineering schools, other schools or institutes). There are sometimes ruled by some professions (ex: lawyers, chartered accountants, certified geometricians, banking managers, etc.). For higher CVET, the providers are private (training firms and consultants, enterprises themselves for their own staff, private schools) but there is also a public sector (universities, engineering schools, AFPA, CNAM, etc.) which plays an important role.

The ***Conservatoire National des Arts et Métiers*** **(CNAM)** plays an important role for higher CVET. Created in 1794, this institution provides higher VET training to 62,500 adult learners (called '*auditeurs*') in more than 300 professional fields from short-cycle programmes to professional Bachelors, Masters and Doctorates (in 2017 there are 360 adults preparing a Doctorate). The CNAM delivers more than 1,350 diplomas and other qualifications through programmes organised in 150 centres across France (and 45 institutes abroad). The CNAM includes 21 research labs, 990 teaching/researching staff and 4,700 lecturers who are professionals of the various fields: food industry, chemistry, risk prevention, electronics, transports, marketing, tourism, industrial psychology, accounting, sociology of organisations, communication, artificial intelligence, etc. The CNAM contributes also to the dissemination of a scientific and technological culture across the French society.

An original sector where the representatives of the employers play a major role in providing a supply of qualifications at EQF levels 5 to 7 is the banking sector. Since 1972, the **Centre of Training of the Banking Profession (*Centre de Formation de la Profession Bancaire*: *CFPB*)** proposes training programmes through different tracks: initial education to students, initial education through apprenticeship in 14 Centres (CFA) across France, CVET training sessions in 60 Centres across France, and through validation of informal and non-formal learning (VAE) to 35,000 learners. Overall, the CFPB prepares to more than 300 qualifications.

There has not been dramatic changes about the main providers of higher VET over the last 20 years. But, the role of universities and higher education schools (engineering and business schools) has steadily developed in the field of higher CVET in the context of LLL.

3.2.2 Changes related to the target groups of 'VET at higher levels'

e) *What is the main target group of these types of programmes/qualifications, what are the access requirements? E.g. to what extent is possession* of an *IVET qualification, professional work experience or the school-leaving exam a requirement? To what extent and how has this changed?*

In France, CVET is equivalent to professional adult education: *formation continue des adultes*. The same qualifications can be obtained through 4 pathways:

- Initial education in schools or universities (for students)
- Apprenticeship pathway (apprentices)
- Continuing education (formation continue)
- Validation of informal and non-formal learning (Validation des Acquis de l'Expérience: VAE).

For higher IVET the access requirements are defined by a required degree/diploma: for starting a STS, an IUT or a Bachelor programme in a University, the Baccalauréat is required, as well as passing through a selective procedure, either based on a file, or an interview (or both), or a competitive exam. For access to an engineering school it necessary to pass a competitive exam; for starting a Master in a university, a Bachelor degree is usually required as well as a selective procedure.

The access requirements are different for the qualifications delivered by the Chambers of Trades and Arts: the prerequisites for preparing diplomas at EQF level 5 are their own diplomas at EQF level 4.

But one of the main innovations in France has been the introduction of new procedures to take into account informal learning and experience for delivering formal qualifications. France first introduced legislation to support **validation of prior learning** in 1984. This system, which is now referred to as validation of learning and experiences - ***Validation des Acquis de l'Expérience (VAE)*** - has evolved significantly over the past 30 years. VAE procedures, which recognise individual rights to validate non-formal and informal learning, are now embedded in all certificate-granting agencies, and may also be followed for industry-specific certificates. Successful applicants may earn partial or full certification at all EQF levels through the VAE procedure (Michel & Looney, 2015). The recognition and validation of informal and non-formal learning through professional or other experience was established by the **Social Modernisation Act of January 17, 2002.** According to this law, any person having at least three years' experience in any kind of activity (for example, professional or through volunteer responsibilities in a non-profit organisation) has the right to undertake a VAE procedure to validate informally acquired competences. Certifications awarded through this process are recognised by the National Commission of Professional Certifications ("*Commission Nationale de la Certification Professionnelle*", or *CNCP*)" also established by the 2002 Act. Individuals may also apply for certificates which are recognised only at an industry level. In 2015, the universities and the CNAM delivered about 4,000 degrees or diplomas of higher VET through a VAE procedure (RERS-DEPP, 2017).

At higher VET levels, the diplomas that are the most obtained through the VAE are the professional Bachelors and the Masters. The types of professional Bachelors the most acquired are: Commerce; Management of Organisations, Management of Human Resources; and Insurance, Banking and Finance. About 40 % of the new Bachelor graduates had previously a degree at EQF level 5 (i.e. BTS or DUT). The advantage of the VAE procedure is particularly significant for those obtaining a Bachelor degree without a previous

qualification at EQF level 5 and for those who obtain a Master without a previous Bachelor degree.

In 2015, the distribution of types of qualifications obtained through a VAE process was: Professional Bachelors (37.2 %), Masters (37.1%), Bachelors (7.2%); Engineering degrees (4.7%), Doctorates (0.5%) and miscellaneous other qualifications recognised by the NQF (10.8%).

f) *How can the identity of students (their legal status) be indicated and how has this changed (e.g. are they predominantly students and in some cases interns and trainees or are they predominantly employees enrolled in programmes)? To what extent and how has this changed?*

In higher IVET, the majority of learners are students (even during their internships), but there are also apprentices who are ruled by the Labour Code and who are paid. In higher CVET, the great majority of learners or trainees are either employees or unemployed people. The main evolution over the recent years has been the increasing number of learners obtaining their qualification at EQF levels 5 to 7 through the apprenticeship pathway and through the VAE. And this trend should continue in the near future as it is an objective of the present government of France.

3.2.3 Changes related to the main purposes and functions of 'VET at higher levels'

e) *What is the main destination of graduates, which qualifications and rights do they acquire? E.g. do they gain rights for progressing in education (such as access to higher education), do they occupational qualifications and rights or both, educational and occupational qualifications/rights? To what extent and how has this changed?*

At all higher VET levels (EQF levels 5 to 7) there are graduates who enter the labour market and other who choose to pursue further their studies in order to get a higher qualification. Over the last 30 years there has been an increasing proportion of students in higher education overall, and a significant increasing proportion of graduates at EQF level 5 who prepare a Bachelor, mainly a vocational Bachelor. More recently, there has also been an increasing proportion of Bachelor graduates who prepare a Master, either directly or after 1 or 2 years on the labour market by attending part-time programmes (*enseignement en alternance*). Such trends can be observed in all types of qualifications, even in some sectors in which the employers do not give automatically a preference to Master graduates rather than Bachelor graduates.

A specific issue has risen in medicine where an increasing proportion of students choose to study 3 or 4 more years after their medical diploma in order to become 'specialists', so that there is now a lack of generalists, mainly in rural areas.

f) *What is the occupational status of graduates? E.g. will they be technicians/professionals? To what extent and how has this changed?*

Short-cycle higher VET graduates at EQF 5 (BTS and DUT) are recruited as technicians. It is also the case for a majority of professional Bachelor graduates but these have better opportunities to climb later in the hierarchy and have more responsibilities during their professional career. All engineering degrees give the title *(titre)* and the job of 'engineer'. The level of responsibilities depends on the prestige of each engineering school. There have not been important changes in the occupations corresponding to theses higher VET qualifications, except for a slight tendency to some '*déqualification' i*n some economic sectors (being recruited at a level of a lower qualification) because of a surplus of the number of graduates with respect to the actual needs of the labour market. This phenomenon is

sometimes described as the consequence of ‘an inflation of diplomas’ (*inflation des diplômes*).

3.2.4 Changes related to the perception of ‘VET at higher levels’

d) How are these VET programmes/qualifications at higher education levels perceived? Are the considered as second choice, equal to more academic higher education programmes or are they even valued higher? To what extent and how has this changed?

Over the recent years, there has been a more positive perception of some higher VET programmes because they are a relevant response to the technological, digital and ecological transition. In particular, engineering programmes and technological Masters and Doctorates are very much appreciated by the employers and by the public opinion. But it has always been the case, mainly for the engineering schools or for the universities of technology.

4. Impact on content and delivery of qualifications and programmes - the epistemological or pedagogical perspective

This section focuses on the implications of ‘vocational or academic drift’ or of the ‘expansion of VET at higher levels (outside higher education)’ for the content and delivery of programmes and qualifications.

4.1 Changes in relation to content and profile

e) How can the content or profile of VET programmes/qualifications at higher levels be described? E.g. accentuation or reduction of theoretical, abstract and disciplinary based knowledge vs. practical or experience based knowledge or an enhanced emphasis on the integration of professional and academic knowledge? To what extent and how has this changed?

As already mentioned, there has been a general convergence of higher education programmes (formal and non-formal) because of the concomitant academic and vocational drifts. The content and profile of short-cycle VET programmes (EQF level 5) has introduced more general and interdisciplinary approaches and the more traditional long-cycle academic programmes (EQF 5 to 7) have introduced learning outcomes and competences approaches, more internships, and more teaching by industry/enterprise professionals. The development of research competences at all levels can be interpreted by both an academic drift and a vocational drift, as applied research is more and more developed in co-operation with enterprises (e.g. through research contracts between universities or schools and enterprises). For example, schools, universities or even IUT are increasingly applying for patents which bring more financial resources.

The most obvious change is the evolution within universities that have much more taken into account the need to develop knowledge and skills required by the labour market (including transversal soft skills), without giving up academic knowledge and general culture approaches, in particular through more interdisciplinarity (cross-fertilisation between traditional disciplines). A specific recent impact of the economy has been the increasing expectations of the enterprises of many sectors to include an ecological culture and technology in the curricula of higher VET institutions (universities and schools). It is particularly the case for engineers.

f) *To what extent do the learning outcomes refer to a specific occupation/profession, to a broader vocational field and to what extent can an equal balance between occupation-specific and transversal learning outcomes (such as leading teams, entrepreneurship) be identified? To what extent and how has this changed?*

At all EQF levels, there has been an increasing search of a balance between occupation-specific and transversal learning outcomes, in particular 'soft skills' like the capacity to adapt oneself to new situations or new issues to solve. In most cases, the higher the level of a qualification programme, the more specialised knowledge is required. For example, the Masters are more specialised than the Bachelors. In Medicine, all programmes during the first 7 years prepare to be a generalist physician. The students who attend 2, 3 or 4 more years in university programmes become more specialised in cardiology, neurology or other specific medical domains. There are differences among universities or schools. For example, the most prestigious engineering school – the 'Ecole Polytechnique' - proposes a broader conception of the vocational field of engineering. As a result, many graduates from this school do not become engineers but rather company managers.

Concerning the training programmes organised by the companies themselves they are most of the time more specialised (focused on particular jobs) and more and more often using digital resources (distance learning, expert-systems, simulation devices, etc.)

4.2 Changes in relation to the delivery

g) *How can the pedagogical/didactical approach in relation to VET programmes/qualifications at higher levels be characterised? E.g. by enhanced practice-orientation (learning by doing) and work based learning (e.g. as traineeship periods') or by enhanced theory-based reflection on practice and scientific research? In which formats are they offered (e.g. as part-time study programmes for workers, as 'dual study programmes')? To what extent and how has this changed?*

Over the last 30 years, a general trend for higher VET degrees has been to give more importance to internships and work-based learning, but also to transversal skills and interdisciplinary knowledge. This is particularly true for qualifications at EQF levels 5 and 6 (ex: DUT, BTS and vocational Bachelor) in all fields. The definition of curricula in terms of learning outcomes has been another major change over the last 15 years or so for all qualifications, mainly for the Bachelors and Masters delivered by universities.

At a Master level (in universities, engineering schools, and business schools) an effort has been made for developing scientific research in co-operation with companies. This evolution can be perceived both as an academic drift (research becoming a more important aspect of the fame of institutions) and a professional drift because research is more and more related to some needs of the companies which finance this research and more often remunerate doctoral students who are under a status of internship. The engineering and business schools are requiring more and more a doctorate level for their teaching staff and the universities are using more often company professionals to teach along with academic teaching staff.

As for the internal training programmes of companies, there are more and more provided through distant learning (like MOOCS) and other digital devices (ex: all the training sessions of Casino – important distribution company of more than 71,000 staff in France –are through distant learning).

h) *Which learning sites are used? E.g. mainly classroom with some practical experience, WBL-sites including real companies, multiple learning sites? To what extent and how has this changed?*

There are increasing learning web-sites, flipped classrooms, MOOCs, junior enterprises, etc. for all higher VET institutions. This trend has been accelerated over the last 10 years because of the technological change in computers, Internet, artificial intelligence and expert-systems. But, there are still traditional courses in IUT, STS, universities, engineering and business schools. At EQF levels 6 to 8, there has been a steady trend towards more WBL inside the companies in the curriculum.

i) *What is the educational and professional background of teachers? E.g. are they required to have comprehensive work experience, are they part-timers who are also 'practitioners' or teachers with professional experience in industry, are they trainers in companies, do they need to have an academic degree? To what extent and how has this changed?*

Concerning the educational and professional background of the teaching staff, the requirements differ according to the EQF level of the instructional programmes. At EQF levels 5 and 6, the tendency has been to give an increasing role to professional experience in industry and management. At EQF levels 7 and 8, the main criterion for recruiting lecturers and professors is the doctorate and research publications in classified reviews and journals. For example, it is to some extent a paradox that the most famous business schools compete to recruit some academic teaching staff having published in famous journals without taking much into account their business experience. It is also the case in some universities. This is, to a certain extent, the consequence of criteria brought about by international rankings like the Shanghai ranking. The less prestigious engineering or business schools are less influenced by this evolution and by the impact of the Shanghai ranking.

On the other hand, for a long time, medical studies have been a very good example of a teaching staff having a perfect balance between professional and academic background.

These changes have been implemented at a slow and regular pace over the last 15 to 20 years, with some acceleration in the last 4 or 5 years

5. The context of change: rationale and drivers for change or persistence

This section aims at understanding how policy influences and justifies the change processes and which external factors influence and shape policy responses/decisions and the change processes observed.

i) *How and to what extent are the change processes supported (or hampered) by specific educational policies?*

Over the last 30 years, there has been some continuity between successive governments in order to implement higher VET policies likely to develop on the one hand the links between education institutions and enterprises, and on the other hand the co-operation between different types of institutions like universities and other schools or research institutes (see successive laws on higher education, particularly the laws of 2007 and 2013).

j) *What is the rationale for offering VET programmes/qualifications at higher levels respectively for the changes observed? How are these changes justified in educational policy? (E.g. increasing labour market relevance of curricula/qualifications, securing supply of highly skilled labour, professionalism,*

innovation and economic growth in enterprises, individual and social progression?) To what extent and how has this changed?

The general trend towards an increasing number of students continuing to study in order to get higher levels of qualification does correspond to a real need expressed by the employers in many economic sectors (not in all), so it is justified by a labour market relevance and the necessity to innovate and compete within the global knowledge economy and society. But at the same time in some traditional craft or industrial activities, there is still a need of employees at an EQF level 3 and 4. It is also the case for the type of jobs required by the aging of the population: the increasing proportion of elderly people require more homemakers, home help support and welfare workers.

k) *Which drivers for change or persistence can be identified that shape policy responses? (E.g. European/international developments, such as Bologna process – harmonisation of degree structures in higher education, expansion of higher education, autonomy of universities, technological changes, EQF/NQF implementation)?*

The Bologna process and the implementation of the EQF have certainly played a major role; but it is more generally the case for all the international studies and surveys as well as the contacts between experts within the context of the Open Method of Coordination initiated by the European institutions. In particular the Bologna standard LMD (Licence, Master, Doctorat) has been the main cause of the increasing proportion of students looking for a Bachelor after their BTS or DUT. Also the universities and the engineering schools care more than before about the transcription of the degrees they deliver in the NQF/EQF classifications as it has an impact on their financial resources and the attractiveness of their diplomas. The regular increase of universities' autonomy since 1968 has also played an important role in pedagogic innovations and the development of new modes of co-operation with their local and regional environment.

l) *How are the change processes perceived in the country? (e.g..are they generally welcomed, are there critical remarks?)*

The changes are generally well perceived by the public opinion, but there is still a certain conservatism of universities that are sometimes reluctant to a fast increasing co-operation with enterprises or with other educational institutions.

6. Zooming in on nursing and engineering

Please reflect on the particular situation in the nursing and engineering areas: Which main change processes (in relation to 'academic drift', 'vocational drift', expansion of VET at higher levels outside higher education') can be observed in this area? What are the specificities and differences compared to other areas?

g) Nursing

There are about 300 nursing schools across France: they are called '*Instituts de Formation de Soins Infirmiers' (IFSI).* In 2017, the total number in France of students enrolled in the 1st year of these institutes must not exceed 31,000 (national quota). They prepare in 3 years for the state diploma of nurse (*Diplôme d'Etat d'Infirmier/Infirmière: DTI*). There is an ongoing project to further reform these schools in order to better integrate them within universities. A regulation of 2009 (*Arrêté du 31/07/2009*) has set up a complete reform of the DTI by modifying the previous system established by a regulation of 1992 of the Ministry of Health.

This reform was partly a consequence of the Bologna process and allowed to attribute the degree of Bachelor ('*Licence'*) to those having succeeded to the competitive exam required to obtain the DTI and thus to be able to pursue their education towards a Master or even a Doctorate. The reform established a national framework defining objectives and content of the education programme as well as the criteria and procedures to assess learning outcomes: the national '*Référentiel de formation'*. It is expressed in terms of competences and required knowledge in different fields like anatomy, biology, pharmacy, psychology, law, etc. It lists some specific competences directly related to the professional tasks of a nurse in different contexts as well as transversal soft skills. It also states that the 3-year programme must include 6 semesters of 20 weeks, i.e. a total of 4,200 hours, divided in 2 equal parts:

- 50% for theoretical learning, through lectures (750 hours), practical exercises in groups of students (1,050 hours) and a personal project with a mentor (300 hours), and
- 50% for practical clinical work through 6 different internships in public or private hospitals, public or private medical analysis laboratories, etc.

The '*référentiel*' defines 59 units of teaching covering many fields: e.g. biology, nursery techniques, human and social sciences, law, working methods, behaviours at work, team work, etc. (sources: ONISEP.fr and https: //www.infirmiers.com and Legifrance website for the Regulations). The competitive exam at the end of the training includes written and oral examinations.

A recent report (June 2017) of the Inspectorates depending of the Ministry of Higher Education and the Ministry of Social Affairs and Health (IGAS/IGAENR, 2017) has proposed a number of policy measures in order to strengthen the integration of nursery schools and other paramedical schools within universities. It proposes also some measures to be taken by the Regional Health Agencies (*Agences Régionales de Santé: ARS*) and the Regional Authorities in order to better rationalise the supply of health structures and the setting of quotas of medical and paramedical staff within the regions.

Overall, the evolution since 1992 shows a double general objective: 1) upgrade the scientific knowledge of nurses (through a better integration within universities and more interdisciplinarity); 2) Reinforce the approach in terms of learning outcomes and transversal skills, and better articulate theoretical learning and practical experience in real professional contexts.

The evolution of nursing schools is a perfect example of the concomitant trends of an academic drift and a vocational drift in higher VET.

h) Engineering

There are about 250 engineering schools or institutes (76 private, and 68 integrated in a university). They deliver a diploma, called '*titre d'ingénieur'* (Master level) after a studying programme of 5 years. The number of engineering students enrolled in these various institutions have been multiplied by 3 since 1991:

1991: 59,300; 2001: 95,000; 2011: 138,400; **2017**: **152,500** (RERS-DEPP, 2017)

All schools recruit students through a competitive process. Some schools recruit *baccalauréat* graduates who attend a 5-year programme, while other more prestigious schools recruit students from very selective special 'post-bac classes' of high schools called '*Classes Préparatoires aux Grandes Ecoles' (CPGE)* after 2 or 3 years of intensive preparation. Other schools (mainly those within universities) can recruit students after a scientific Bachelor. Since the nineties, it is also possible to obtain the *titre d'ingénieur* through apprenticeship. The quality of the *'titre d'ingénieur'* is controlled by a national Commission (*Commission des titres d'ingénieur*) established in 1934. This degree is officially equivalent to a Master degree. The main evolution over the 30 last years has been the creation of engineering schools inside universities.

Most of the engineering schools are under the responsibility of the Ministry of Higher Education and Research, but some prestigious engineering schools depend on other supervising Ministries: e.g. *Ecole Polytechnique* and *Institut Supérieur de l'Aéronautique et de l'Espace* (Ministry of Defence), or Agricultural and Agronomic engineering schools (Ministry of Agriculture).

The consistency and the quality assurance of all the '*titres d'ingénieur'* is provided by the *Commission des Titres d'ingénieur (CTI*), which evaluates the curricula of all the engineering schools in France that are officially allowed to deliver a '*titre d'ingénieur'*. This degree is not a national diploma, it is a different degree for each school and the title of engineer must mention the name of the school. The CTI is composed of 32 members belonging to three groups: 16 representatives of the teaching staff of schools, 8 representatives of employers and 8 representatives of engineers. The Commission has designed a general framework of references and objectives which is a useful guide for all the schools for their self-evaluation.

The main groups of schools are the network of Arts and Crafts (*Arts et Métiers*) created at the end of the 18th century, the *INSA* group (National Institutes of Applied Sciences), The Institute *Mines-Télécom*, the network of '*Ecoles Centrales'*, the network of National Polytechnic Institutes *(Instituts Nationaux Polytechnique: INP* of Bordeaux, Grenoble, Nancy and Toulouse), the network '*Polytechs*' grouping engineering schools inside universities. The most famous *Ecole Polytechnique* and its applied schools are under an ongoing process of reform.

Overall, one major evolution of these schools is the development of their capacity of research, through new relations with other research institutes in France and abroad, but also with research directorates of large companies or networks of start-ups. Another evolution has been the possibility, starting in the nineties, to become an engineer through an apprenticeship pathway. There were about 17,500 apprentices in engineering in 2015 and about 5,000 degrees are delivered each year through this pathway. Also 1,700 engineering degrees are delivered each year through continuing training. The co-operation with enterprises, already established for a long time, has been developed further, mainly in the field of research, through specific partnerships and technological incubators. The schools are more and more participating to regional development poles and to special programmes of research - '*Instituts Carnot'* – created in 2006 and inspired by the model of the German *Fraunhofe*r institutes, but not organised in the same way. In 2017, there are 38 *Instituts Carnot* in France which receive important funding from the National Agency for Research, in particular in the context of the national policy of 'investments for the future' (national governmental programme). The engineering schools have also taken advantage of the industrial contracts of training through research activity - *Contrats Industriels de Formation par la Recherche (CIFRE)* - which finance doctorates. Another evolution is the necessity of finding new financial resources through an increase of tuition and fees, fundraising through specialised chairs, the creation of foundations, etc.

The three **technological universities** *(universités de technologie*) – i.e. those of Compiègne (created in 1972), of Belfort (1985) and Troyes (1994) - are tightly related in a network since 2012 and they include about 10 000 students. Each year 1,800 engineers are graduated after an interdisciplinary curriculum of 5 years after the *baccalauréat*. Inspired from the American MIT model and the technological university of Lausanne (Switzerland) the curricula give some freedom of choice of courses to the students subject to the constraint to attend 1/3 of scientific courses (maths, physics, and chemistry), 1/3 of technological courses and 1/3 of humanities and social sciences. In 2016, three months after their graduation, about 97% of the new graduates has found a job (Le Monde, 7/11/2017: interviews of the 3 directors).

7. Current debates and future perspectives

Please describe main current debates and any trends that can be observed or expectations related to future developments of 'VET at higher levels' (and specifically in the nursing and engineering areas) and provide evidence underpinning trends or expectations.

d) What are the main current debates related to 'VET at higher levels' in your country, if any? Are there any main recent/planned developments or reforms related to 'VET at higher level

A major debate is about the implementation of new networks of different schools and universities in order to create new synergies and increase the capacity of research. But it is a difficult process to implement. The setting up in 2006 of research and higher education poles (*Pôles de Recherche et d'Enseignement Supérieur: PRES*) has led to some implementation issues. These PRES had the objective to create networks on a regional territory grouping universities, grandes écoles and research institutes. 27 PRES were created between 2006 and 2012, and then suppressed by the Act of 22 July 2013 (*Loi sur l'enseignement supérieur et la recherche*) because of very limited positive results.

This law gives a new objective to the universities: help the students to design a personal and professional project through a progressive specialisation. The PRES are replaced by communities of universities and schools which have not yet operated very effectively in many cases.

Another project is to develop powerful technological universities (*universités technologiques*) like the MIT or Cal Tech in the US or the Polytechnic Institutes of Lausanne and Zurich in Switzerland. A paradox is that the public image of technological universities in France remains ambiguous despite the good ranking of the first technological university established in 1972: the University of Technology of Compiègne (ranked second for the quality of its engineering programme, just after the *Ecole Polytechnique*).

e) Can any trends related to future developments be observed? (e.g. in terms of increasing or decreasing use of 'VET at higher levels'; changes in regulations, types of providers offering 'VET at higher levels', profile of learners/teachers, involvement of labour market stakeholders, partnerships/cooperation; development of new types of 'VET at higher levels'; coverage of 'emerging' fields)?

There are not enough foresight studies about the future of higher VET in France, but the trends (described above) about the development of a better co-operation with the industry and enterprises should continue, as well as an increasing effort of research, and research and development, at all higher VET levels.

f) Please add any further information and concluding remarks!

One main challenge is to create real **poles of excellence in technological research and teaching** that would have a critical mass in order to be competitive at an international level. There is still some tension between the academic logic of the Ministry of Higher Education and the logic of the Ministry of labour which is mainly a confrontation of historical cultures despite the convergence resulting from the concomitant academic and vocational drifts throughout the higher VET system.

There is a strong will of the new President of France to reform the vocational education and training in France and improve its effectiveness and efficiency. But the first priority is to improve VET at EQF levels 3 and 4 in order to reduce the important unemployment of unqualified people.

8. Overview

This table should provide an overview of what types of changes due to 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' can actually be observed in the country.

Please indicate the main processes and phenomena identified during the last 20 years in the table below – referring to the direction of change, the object of change, the context of change (or target area of change), the key processes observed and the results of these processes as well as their time frame and indicate the sections in which they are presented! Examples of key processes/results are presented in table 1 of the guidance note.

Table 1 **Overview**

Direction of change	Object of change	Context/target area	Key processes observed / results	Timeframe	Section
Academic drift	**Higher Education**	professionally-oriented HE	More applied technological research (from EQF level 5 to EQF level 8)	Mainly over the last 20 years	
		traditional (or academic) HE programmes	More interdisciplinarity in universities (Bachelors and Masters)	Mainly since 2013	
	VET (outside HE)	VET transformed to HE	More applied research within the companies or start-ups	Mainly over the last 10 years	
		VET offered at higher levels outside HE	Emergence and development of enterprise campuses	Mainly over the las 20 years	
Vocational drift	**Higher Education**	professionally oriented HE	Learning outcomes (and competences) approaches More internships Junior enterprises	Mainly over the last 10 years	
		traditional (or academic) HE programmes	Learning outcomes approaches (see professional Bachelors and Masters)	Mainly over the last 5 years	
Expansion of VET at higher levels (outside HE)	**VET at higher levels (or 'higher VET') offered outside HE**				
Development of short high tech training sessions offered outside HE (Short term seminars of specialisation and updating knowledge organised by companies or private training institutes)					
Development of MOOCs and expert systems on web sites which update the expertise of engineers and managerial staff of companies and public administrations.				Mainly over the last 10 years 25 years	

9. Sources of information

References

ADIUT/UNPIUT (2007). *Livre Blanc sur le système IUT : Après 40 ans d'existence : histoire, bilan, perspectives*

Agulhon, C. (2007). 'La professionnalisation à l'université, une réponse à la demande sociale ?', *Recherche et Formation*, 54, pp. 11-27

Brandt, N. (2015). *La formation professionnelle au service de l'amélioration des compétences en France*, Paris: OCDE

Brochier, D & Romani, C (2015). '40 ans d'apprentissage à l'Education Nationale', *CEREQ-Bref*, n° 333

Brucy, G (2005). 'L'enseignement technique et professionnel français- Histoire et politiques', *Cahiers de la recherche sur l'éducation et les savoirs*, n° 4

Caillaud, P, Quintero, N & Séchaud, F (2015). 'La reconnaissance des diplômes dans les classifications de branches – Des évolutions sans révolution, CEREQ-Bref, n° 339

Caillaud, P. & Gosseaume, V. (2012). *Place et rôle des professionnels dans la conception des diplômes professionnels*, Net.doc 89, CEREQ, Marseille.

Calmand, J. et al (2011). 'Employability of Vocational Bachelor Graduates in France: Dream or Dust in the Eyes?' *AlmaLaurea Working Papers* n° 6

Calmand, J and Mora, V (2011). 'Insertion des sortants du supérieur: les effets contrastés de la professionalisation', *CEREQ-Bref*, n° 294-2

Cavallieri, A.F. *et* al (2014). *Professional higher education in Europe*. Final report of the HAPHE project, Malta: Knowledge Innovation Centre

CDEFI (2015). *Les élèves-ingénieurs en apprentissag*e. Conférence des Directeurs des Ecoles Françaises d'Ingénieurs (CDEFI), http://www.cdefi.fr/fr/la-cdefi/chiffrescles

CEDEFOP (2017). France: European Inventory on NQF 2016

CEDEFOP (2016). *Application of learning outcomes approaches across Europe: a comparative study*, Luxembourg http://dx.doi.org/10.2801/735711

CEDEFOP (2015). France: European Inventory on NQF: Annual Report 2014

CEDEFOP (2011). *VET at higher qualification level*s, Luxembourg

Centre Inffo (2016). *VET in Europe: France*, Cedefop/ReferNet country report

CTI (2016). *Accreditation Criteria, Guidelines and Procedures*. French Commission des Titres d'Ingénieurs, http://www.cti-commission.fr/IMG/pdf/cti-ro2016-livre1.pdf

CTI (2011). *The training of engineers by apprenticeship in France*. French Commission des Titres d'Ingénieurs, http://www.cticommission.fr/IMG/pdf/CTI_NoteApprentissage_10112011.pdf

Darras, A. (2015). 'L'insertion professionnelle des diplômés de l'enseignement supérieur culture', DEPS, Ministère de la culture

Dayan, J-L & Delpech, Q (2013). 'Formation professionnelle initiale : l'Allemagne est-elle un modèle pour la France ?', *Note d'analyse n° 322*, Centre d'Analyses Stratégiques

Débart, J-Y. (2013). *Refonder l'université, dynamiser la recherche, mieux coopérer pour réussir*, La Documentation Française

Decomps, B (1989). *L'évolution des formations d'ingénieurs et de techniciens supérieurs*, Haut Comité Education-Economie, Ministère de l'Education nationale

Dufourt, D. (2012). *Savoirs et compétences. De l'Université au monde professionnel:*

Rapport au Président de l'Université Lumière-Lyon 2
http://hal.inria.fr/docs/00/87/07/46/PDF/DD_Savoirs_et_competences_final_260412.pdf

France Stratégie/DARES (2017). *L'insertion professionnelle des jeunes*, rapport de diagnostic

French National Statistics Commission (1969). *Nomenclature des niveaux de formation: approuvée par décision du groupe permanent de la formation professionnelle et de la promotion sociale, le 21 mars 1969*. http://www.rncp.cncp.gouv.fr/grand-public/explorerBaseDocumentaire?dossier=64

Giret, J-F., et al (2011). 'The vocationalisation of University programmes in France' in: H. Schomburg & U. Teichler (Eds) *Employability and Mobility of Bachelor Graduates in Europe*, Rotterdam: Sense Publishers

IGAS & IGAENR (2017). *Pour une meilleure intégration des formations paramédicales à l'Université*, Ministère de la santé/ Ministère de l'enseignement supérieur et de la recherche

IGEN/IGAENR (2016). *La contribution des formations scientifiques, techniques et industrielles au développement de l'industrie*, Ministries of Education, Higher Education and Economy.

Le Roux, Annie (2013). 'La VAE dans les établissements d'enseignement supérieur de 2002 à 2011'. *Note d'information n° 13-29*. DEPP. MENESR

Lembré, L (2016). *Histoire de l'enseignement technique*, Paris : La Découverte

Ménard, B (2014). 'Sortants du Supérieur: la hausse du niveau de formation n'empêche pas celle du chômage, *CEREQ-Bref*, n° 322

Michel, A & Looney, J (2015). *Certification of informally acquired competences in France*, Study for the Bertelsmann Foundation

Ministère de l'Education Nationale/ Ministère de l'Enseignement Supérieur, de la Recherche et de l'Innovation (2017). *Repères et références statistiques*, DEPPP

Ministère de l'enseignement supérieur, de la recherche et de l'innovation (MENSRI) (2017) *L'état de l'enseignement supérieur et de la recherche en France*, n° 10

MENSRI (2017). Information on the '*PEPITES*':
http://www.enseignementsup-recherche.gouv.fr/cid79223/presentation-des-pepite-poles-etudiants-pour-innovation-transfertentrepreneuriat.html
Ministère de l'Enseignement Supérieur et de la Recherche (25/5/2016). Arrêté relatif au diplôme national de doctorat

MENSR (22/1/2014). Arrêté relatif au cahier des charges des grades universitaires de licence et de master

MENSR (16/7/2012). *Référentiels de compétences en licence*, Paris

MENSR (1/8/2011). *Arrêté* defining the degree of 'licence' (Bachelor) (EQF level 6)

Pons-Desoutter, M. (2014). *Réalisation et usages de référentiels "compétences" dans les universités et les INP: Actes du colloque Questions de pédagogie dans l'enseignement supérieur, nouveaux contextes, nouvelles compétences*, Lille, viewed 19 February 2014, from http://www.univ-brest.fr/digitalAssetsUBO/4/4531_Dossier23.pdf

Powell, J.W. et al (2012). 'The Shifting Relationship between Vocational and Higher Education in France and Germany: towards convergence?' *European Journal of Education*, 47 (3), pp. 405- 423

Rouvrais S., Remaud, B. & Saveuse A. (2017). Work-based learning models in French engineering curricula, *Proceedings of the 13th International CDIO Conference,* University of Calgary, Canada, June 18-22, 2017

Santelmann, P. (2016). 'La formation continue en France – Pour une réforme à la hauteur des enjeux', *Futuribles* n° 410
Ulicna, D., Luomi-Messerer, K. & Auzinger, M. (2016). *Higher VET in the E.U.,* Report to the European Commission (DGESAI)

Van de Portal, M. (2009). 'L'accueil des apprentis en formation supérieure', *Revue Française de Gestion*, 35, pp. 31-42

Witte, J. et al (2008). 'Blurring boundaries: How the Bologna process changes the relationship between university and non-university higher education in Germany, the Netherlands and France', *Studies in Higher Education*, 33 (3), pp. 217-231.

List of interviewees

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	BONNAFOUS Simone	MENSRI Director General (DGSIP) Higher education until June 2017 Now General Inspector (IGAENR)	simone.bonnafous@education.gouv.fr	2/10/17	yes
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	MUDRY Michel	Délégué général de la Conférence des directeurs d'écoles françaises d'ingénieurs (CEDEFI), ancien président d'université	michel.mudry@ither-consult.com	21/9/17	yes
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	MAHIEU Laurent	Président of the Commission des Titres d'Ingénieur (CTI)	laurent.mahieu@cti-commission.fr	29/9/17	yes
	JOLLY Anne-Marie	Vice-présidente CTI, Professor at the université d'Orléans	anne-marie.jolly@cti-commission.fr	29/9/17	yes

* Interviewee agrees that his/her name can be included in the final publication

Case study

Country: the Netherlands

Author: Simon Broek

Title of the case study: Universities of Applied Sciences and the quest for an own profile and quality within higher education

1. Introduction

After the 1993 Comprehensive Higher Education and Research Act (Dutch abbreviation: WHW: Wet op het Hogeronderwijs en Wetenschap) and the introduction of the Bachelor-Master degree structure, Universities of Applied Sciences (UAS) developed as a self-standing education sector, i.e. one that is different from the VET sector and the University sector. This structural change required a substantial investment in improving the quality and developing the profile of the UAS as a place where practice-oriented research and education come together.

In order to ensure both the duality of UAS as a go-between between research and practice and a bridge between society and academia, students were required to develop a wide skillset, including strong research skills.

However, since 2010, after the recommendations by the Commissie Veerman, UAS differentiated through specialization (higher education institutions, being autonomous were stimulated to focus on what they are good at and not all doing everything). By reducing the amount of degrees offered and duplication thereof, there would be increased clarity for students. In addition, it would be easier for higher education institutions to collaborate with the labour market and bring forth well-equipped students that can fulfil the market demand with their skill-sets. Simultaneously, practice-based education and market tailored education can lead to increased placement chances for graduates. With this improved collaboration of labour market demand and education supply also lifelong learning programmes have become an agenda point for UAS.

Yet, in certain sectors, such as in engineering, the market has driven professionals to be more versatile. Hence, there has also been a recent trend in ensuring that students receive a sufficiently broad basis as generalist throughout their education, in addition to their specialization.

Overall, there is a strong focus on the education of transversal skill creation in addition to a specialization in order to meet the demands of the labour market. Similarly, the introduction of Associate (Ad) degrees (qualification at NLQF/EQF level 5), which offers a ‘bridge’ between the mbo (vocational schools) and hbo (UAS), can be seen on the one hand as academic drift to support upstream of mbo students. On the other hand, it also corresponds with a vocational drift, by which specialization requested by the labour market is ensured. Due to the autonomy of the UAS, the extent to which the ‘drifts’ take place are both school and programme dependent.

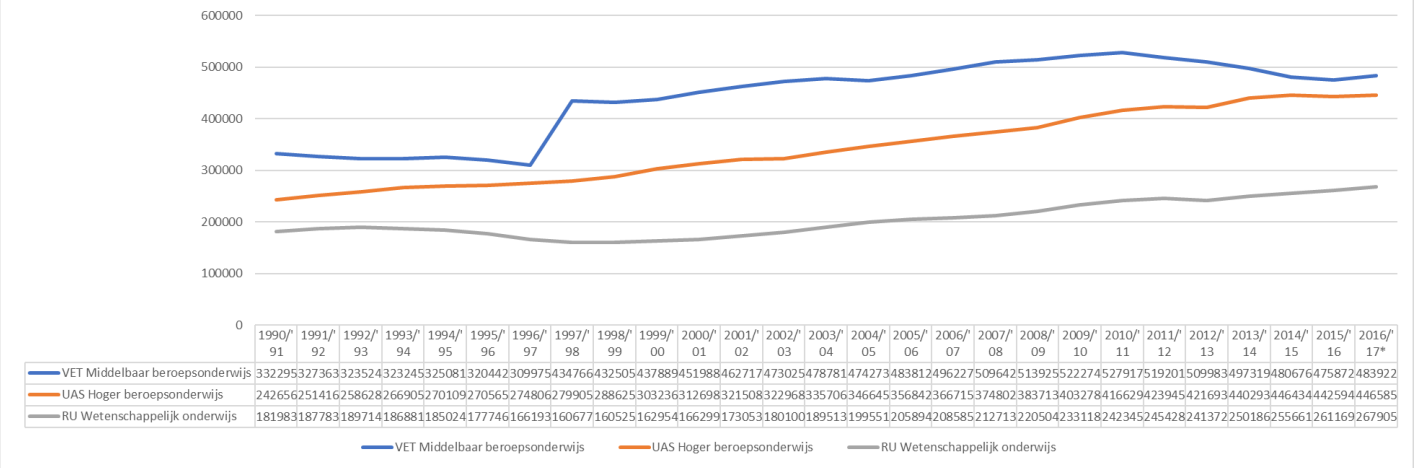
The introduction of the Ad degree touches as a bridge also upon a sensitive topic concerning the tension between accessibility, quality, and academic performance in the UAS. This discussion exists both between the bridge of mbo to hbo, as well as hbo to universities.

Hence, during the last 20 years both an academic and vocational drift can be observed related to VET at higher levels while these concepts are not exactly capturing the key developments related to UAS in the Netherlands. This relates more to improved profiling and improved quality of programmes and differentiating. This is a still ongoing process.

2. VET at higher levels

The Netherlands has two main types of higher education. The Research Universities (RU: Wetenschappelijk onderwijs, WO) focus on the independent practice of research-oriented work in an academic setting. Their aim is to train students in academic study and research although many programmes also have a practical component (see later when discussing vocational drift). The Universities of applied sciences (hogerberoepsonderwijsinstellingen, hbo; hogescholen) are more practically oriented, preparing students directly for specific professions. There are 14 Research Universities ([53]), 37 Universities of applied sciences and various privately funded universities. To have an idea about the size of the sectors in comparison with the upper secondary VET sector, the following figure present an overview of the development of student numbers in VET, UAS and RU.

Figure 1 **Overview student numbers in VET, UAS and RU**



Source: CBS Statline, Onderwijsinstellingen; grootte, soort, levensbeschouwelijke grondslag (13 October 2017)

In the Netherlands, the three-tiers of the Bologna process are applied. The higher education institutions began introducing the three-cycle structure (bachelor, master, doctorate) already in 2002 and currently all study programmes are organized in this manner. The figure below provides an overview of the education system reflecting also the Bologna structure.

[53] Excluding the Theological Universities

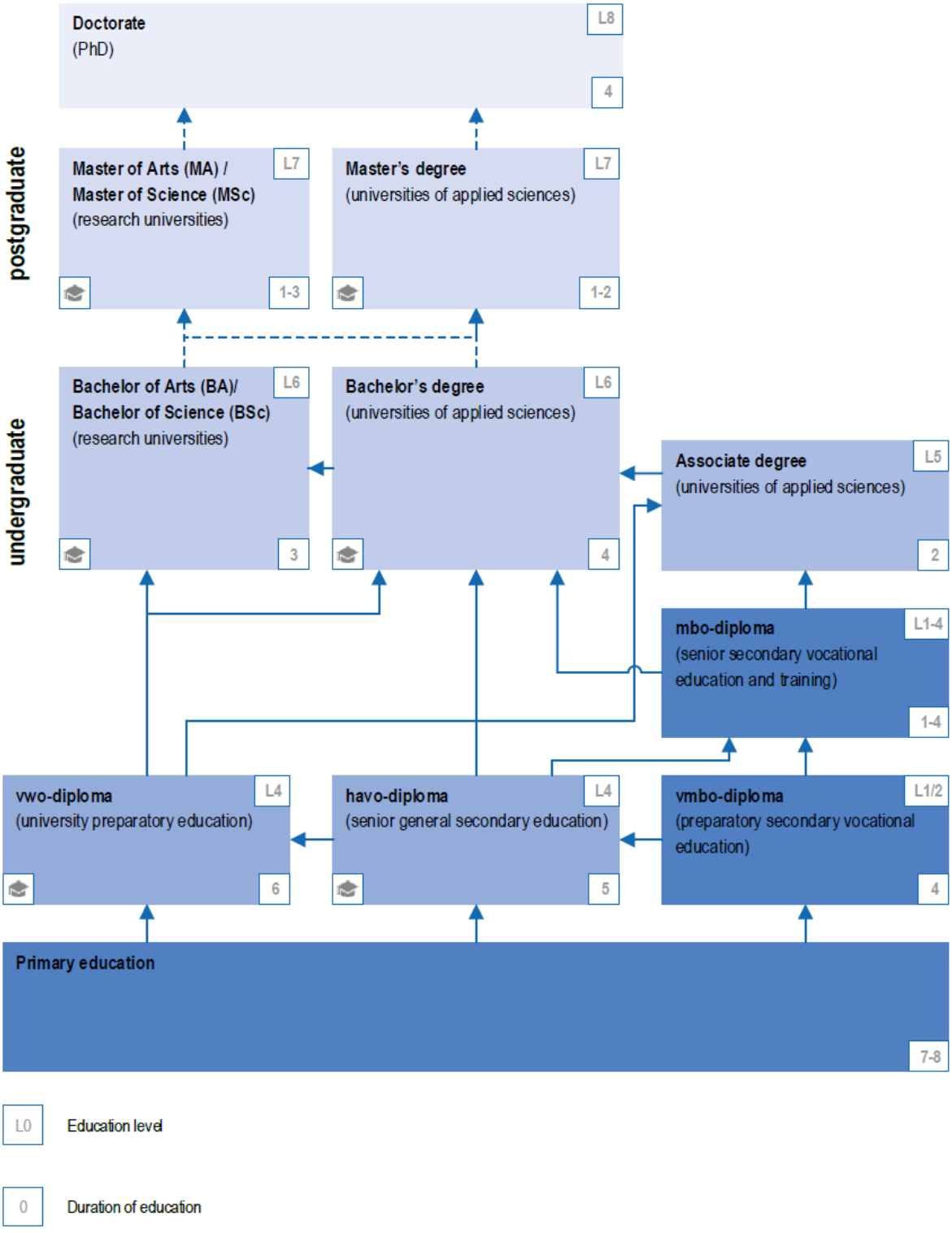


Figure 2 **schematic overview of the Dutch education system**

Source: EP/Nuffic (2015), Education system The Netherlands

In the Netherlands, at EQF level 5-8 there are a number of qualification types awarded that have a vocational orientation. Within the higher education system, the **Universities of Applied Sciences** (hbo/hogeschool) provide vocationally oriented qualifications types.

The programmes the Universities of applied sciences offer concern:

- **Associate Degrees**: The associate degree is a two-year (120 ECTS) programme at a University of applied science, which is part of a hbo bachelor programme (from 1 January 2018 onwards it will be considered a self-standing qualification) ([54]). The level is between senior secondary vocational education on qualification level 4 (NLQF/EQF level 4) and hbo bachelor. Associate degree programmes are primarily oriented to students with a diploma of senior secondary vocational education at qualification level 4 or to people who have some years of working experience. After finishing the programme, they are eligible to enter the bachelor programme the associate degree is a part of. To enter an associate degree programme, a havo (upper secondary education) diploma or a senior secondary vocational education diploma at qualification level 4 is required.
- **Bachelor degree**: The Bachelor degree is awarded both by Research Universities (wo) and Universities of Applied Sciences (hbo). An hbo bachelor's programme requires the completion of 240 credits (4 years), and graduates obtain a degree indicating the field of study (for example, Bachelor of Engineering, B. Eng., or Bachelor of Nursing, B. Nursing).[55] Usually in the third year, students perform a mandatory internship approximately 9 months to gain practical experience. On the basis of this internship, they complete a thesis or final project. A diploma of senior general secondary education (havo) or pre-university education (vwo) is required for admission to hbo, in some cases with additional requirements regarding specific subjects. A diploma of senior secondary vocational education (mbo) at qualification level 4 also gives access to the hbo Bachelor.
- **Master degree**: An hbo master's programme requires the completion of 60 to 120 credits and graduates obtain a degree indicating the field of study (for example, Master of Social Work, MSW).[56]
- **PhDs**: At the moment, only universities can offer PhD programmes and trajectories. There are UAS that have PhDs, but these work under supervision of the universities.

Although the orientation is clear, there is not a strict distinction between the Research Universities and the Universities of applied sciences in relation to the academic and professional orientation. There are many programmes at Research Universities that have a very specific professional orientation. This for instance in relation to Lawyers, medical doctors, veterinarians, dentists.

In total around two-third of the students in higher education study at a University of applied Sciences. The table below provides an overview of the student numbers per qualification type.

[54] Ministerie van OCW (2017), Wet invoering associate degree-opleiding (accepted 3-10-2017: https://wetgevingskalender.overheid.nl/Regeling/WGK007231

[55] A wo bachelor's programme requires the completion of 180 credits (3 years) and graduates obtain the degree Bachelor of Arts or Bachelor of Science (BA/BSc), depending on the discipline.

[56] Institutions (mostly Universities) offer wo master's programmes that in most cases require the completion of 60 or 120 credits (1 or 2 years). Some programmes require 90 (1,5 years) or more than 120 credits. Graduates obtain the degree of Master of Arts or Master of Science (MA/MSc). The old title (pre-2002) appropriate to the discipline in question (drs., mr., ir.) may still be used.

Table 1: Student numbers per qualification type at Universities of Applied Sciences

	2012	2013	2014	2015	2016
MASTER	11131	11628	11988	12129	11992
AD	4688	5661	6023	6215	7066
BACHELOR	411551	428542	433092	429029	432572
TOTAL	427370	445831	451103	447373	451630

Source: Onderwijs in Cijfers: https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/deelnemers-hbo

The following table provides an overview of the distribution of students enrolled in programmes related to the different economic sectors in the UAS. Economy is by far the largest sector (both Bachelor and Ad). The master programmes are mainly offered in education (teacher education).

Table 2: UAS student numbers per qualification type and sector

		2012	2013	2014	2015	2016
Master	agro and food	61	68	73	75	76
	Engineering/beta			20	32	71
	economy			20	63	69
	health	1,095	1,065	1,050	1,081	1,299
	art	2,166	2,316	2,569	2,667	2,877
	education	6,789	7,057	7,209	7,160	6,611
	social studies	1,020	1,122	1,047	1,051	989
Master total		**11,131**	**11,628**	**11,988**	**12,129**	**11,992**
Ad	agro and food	280	243	224	263	304
	Engineering/beta	507	600	727	749	905
	economy	3,013	3,873	4,127	4,242	4,593
	health	506	418	315	281	292
	art	50	72	96	131	147
	education	196	218	237	247	299
	social studies	136	237	297	302	526
Ad total		**4,688**	**5,661**	**6,023**	**6,215**	**7,066**
Bachelor	agro and food	9,277	9,775	10,243	10,690	11,270
	Engineering/beta	73,009	77,601	81,503	84,107	87,943
	economy	166,873	172,745	173,410	169,875	169,689
	health	39,784	43,226	43,293	44,429	45,692
	art	18,103	17,837	17,390	17,017	16,954
	education	51,470	52,518	52,551	49,987	50,067
	social studies	53,035	54,840	54,702	52,924	50,957
Bachelor total		**411,551**	**428,542**	**433,092**	**429,029**	**432,572**
Total		**427,370**	**445,831**	**451,103**	**447,373**	**451,630**

Source: Onderwijs in Cijfers: https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/deelnemers-hbo

Besides these regulated qualifications, there are five **non-regulated qualifications** levelled at NLQF level 5; 12 at level 6 and 1 at level 7. These qualifications are **professional/vocational oriented qualifications** offered by private providers or by

branch/sector organisations. Examples are ‘Anestetics nurse’ (Anesthesiemedewerker) offered by CZO at level 6, Consultant Payroll Services & Benefits (CPB) offered by Heering Consultancy Opleidingen BV at level 5 and Social Studies offered by The Institute for Social Sciences and the Humanities – Iran Academia at level 7. ([57]) These type of non-regulated qualifications (there are many more, however not levelled in the NLQF) have a long history and sometimes are well-known in specific sectors. As these qualifications are not regulated, there is no record of how many qualifications exist (outside those levelled) and how many holders of qualifications there are.

[57] http://www.nlqf.nl/register

3. Change processes durig the last 20 years - educational system perspective

3.1. Change processes and their impact on the system

General introduction: policy developments related to HE

Maarssen and Stensaker (2011) [58] argue that the Dutch higher education can historically be characterised as belonging to the continental (German) university tradition, implying rather tight state-control over the inputs of the system (institutions, curricula, resources, students, staff). This changed dramatically after 1985, based on the so-called 'Hoger Onderwijs: Autonomie en Kwaliteit' White Paper (Higher Education: Autonomy and Quality, HOAK) ([59]). In the 1970s student numbers increased rapidly. At the end of 1970s the student drop-out rates were high and the average study-duration was long compared to other countries. Furthermore, academic staff appointed during the sharp increase of student numbers in the 1970s lacked the quality to confront the challenges and institutional governance was weak.

By the mid-1980s there was general agreement in the field of higher education that the further implementation of these reforms needed a new underlying political vision on the relationship between higher education and the state, a vision that would function as a framework for the implementation of the reforms. The HOAK White Paper (1985) presented such a vision and it has had a major influence on the development of Dutch higher education over the last 25 years ([60]). The HOAK paper presented a steering approach that is characterised by 'government steering at a distance' ([61]). The HOAK steering approach aimed at stimulating the levels of quality and differentiation in the Dutch higher education system, as well as its responsiveness to societal needs. Its starting point was that as a consequence of the growing complexity of higher education, the sector could not be controlled and steered in detail anymore by the Ministry of Education and Science. Strengthening institutional autonomy was seen as a major element in improving the functioning of the system. In addition, **HOAK stimulated the universities and HBO institutions to develop a more direct relationship with their environments, partly to compensate for the cuts in governmental budget for higher education, partly to respond more directly to the needs of society**.

The HOAK White Paper provided for eight years a kind of developmental framework for Dutch higher education. Its main principles formed the basis for the **1993 Comprehensive Higher Education and Research Act** (Dutch abbreviation: WHW: Wet op het Hogeronderwijs en Wetenschap), which formalised the 'HOAK' and with it, the governance relationship between government and the higher education institutions. This Act had a major impact on the hbo sector; needed more than a decade to fully adjust to the new framework, developing its own profile, character and quality.

([58]) Peter Maassen , Eli Moen & Bjørn Stensaker (2011). Reforming higher education in the Netherlands and Norway: the role of the state and national modes of governance, Policy Studies, 32:5, 479-495, DOI: 10.1080/01442872.2011.566721

([59]) Peter Maassen , Eli Moen & Bjørn Stensaker (2011). Reforming higher education in the Netherlands and Norway: the role of the state and national modes of governance, Policy Studies, 32:5, 479-495, DOI: 10.1080/01442872.2011.566721

([60]) Jongbloed, B., Maassen, P., and Neave, G. (1999, eds.). From the eye of the storm. Higher education's changing institution. Dordrecht: Kluwer Academic Publishers.

([61]) Maassen, P. and van Vught, F.A. (1989, eds.). Dutch higher education in transition. Policy issues in higher education in the Netherlands. Culemborg: LEMMA; Teichler, U., 1989. Government and curriculum innovation in the Netherlands. In: F.A. van Vught, ed. Governmental strategies and innovation in higher education. London: Jessica Kingsley, 168-211; de Boer, H., 2002. Trust, the essence of governance? In: A. Amaral, G. Jones and B. Karseth, eds. Governing higher education: national perspectives on institutional governance. Dordrecht: Kluwer Academic Publishers, 43-61.

The Bologna process meant the next major reform in the Dutch higher education landscape. From 2002 onwards, all higher education programmes were aligned with the three-cycle approach. This however maintained the distinction between the research and professional orientation in the higher education system, both offering bachelor and master programmes and degrees.

Universities of applied science and the re-introduction of lectorates

The historical roots of 'hogescholen' extend back many decades and even centuries ([62]), but as a part of tertiary education their history dates to the 1960s, when colleges for higher professional education were brought under the same legal framework as universities ([63]). In 1986, they were legally acknowledged as a higher education subsector besides the university sector. This was further formalised in the 1993 Comprehensive Higher Education and Research Act (Dutch abbreviation: WHW: Wet op het Hogeronderwijs en Wetenschap). Their main task, in contrast with the universities is to offer theoretical and practical training with an explicit professional orientation. Since 2001, transferring and developing knowledge has been a second important task. Their primary focus has traditionally been on regional and local needs, although several 'hogescholen' or Universities of Applied Sciences (UAS) ([64]) also operate nationally and internationally.

The history of the 'hogescholen' in the last decades is characterised by:

- Considerable growth in student numbers: student numbers grew from 181,100 in 1975 to more than 450,000 in 2016.
- A reduction in the number of institutions: from 375 in 1983 to 37 in 2016.
- Increased maturity as a well-recognised, valuable and full part of the higher education sector, as indicated by enhanced institutional autonomy.

Within the Universities of applied science, since 2000 there is a clear indication of **academic drift**. As explained by Harry de Boer (2016) ([65]), around the turn of the millennium, the question of whether or not the Dutch knowledge infrastructure was adequately equipped to meet the growing demand for knowledge and innovation was increasingly answered negatively. In addressing this issue, strengthening the research focus of the UAS sector, largely absent at the time, was seen as important. Moreover, at the same time, questions started to arise about the type of graduates produced and the qualifications of teaching staff. It was felt that new modes of teaching by staff with a stronger research orientation should be considered if UAS were to produce modern professionals. To address these issues, several instruments have been introduced since 2000, including the introduction of new staff positions at UAS and the introduction of greater public funding for practice-oriented research. In 2001, this led to the introduction of new staff positions, the 'lectorates'. Such a lectorate is coordinated by a 'lector', a new position sometimes referred to as a 'UAS professor' (but without the right to supervise doctoral degrees). In fact, the position of lector existed at universities until the early 1980s. A university lector was almost equal in rank to a university professor (including the right to supervise doctoral degrees). After 1980 the post of lector

([62]) Ad van Bemmel mentions 1682 as the start of the first art academcy (which would be UAS now). An important year is 1963 and the introduction of the Law on secondary education. The education what would be referred to now as UAS is brought under government financing. See Van Bemmel, Ad (2006). Hogescholen en hbo in historisch perspectief.

([63]) de Weert, Egbert; Leijnse, Frans; Kyvik, Svein; Lepori, Benedetto (2010). Practice-Oriented Research: The Extended Function of Dutch Universities of Applied Sciences; in: The Research Mission of Higher Education Institutions outside the University Sector: striving for differentiation, 199 - 217

([64]) The usage of 'University of Applied Science' (UAS) dates back to around 2006/07.

([65]) European Commission (2016). The Netherlands – Strengthening research in Universities of Applied Sciences; One of twelve case studies produced as part of the project on Structural Reform in Higher Education (EAC-2014-0474)

was abolished at the universities. The 'hogescholen' did not have the position of lector until 2001, but the position fitted in well with the purpose of establishing a highly ranked UAS position without using the tile of professor.

As concluded by Harry de Boer (2016), in the fifteen years since the first steps were taken the research function of UAS has obtained a structural and indispensable position in Dutch higher education. In this respect, the structural reform has been successful, as it has changed the Dutch higher education landscape. Given the results and progress made through the implemented initiatives, it is plausible that they have positively contributed to the innovative capacity of the Netherlands, although conclusive evidence to underpin this assumption is not yet available. ([66]) The funding that was paired with the reform period of 2001-2015 has been channelled towards 'Practice Oriented Research' and to the creation of 'Centers of Expertise' (in 2010). Again, here is a focus on a practical aspect of the UAS. ([67])

Although it is tempting to see the introduction of lectorates as evidence for academic drift; it should not be interpreted as such: the purpose of the lectorates is explicitly to renew educational programmes in the light of the needs of the labour market and society and to stimulate knowledge circulation from and to the economy and society. The interest in research is explicitly not an academic one, but a practical one: the research is practice oriented. It needs to be seen as a key element in the profiling of the UAS and improvement of quality in providing practically-oriented higher education programmes.

Universities of applied science and the introduction of the Associate degree

In 2006, the Dutch Higher Education sector introduced the Associate degree (Ad). The programme was first offered through 15 pilots in order to test the new degree form. Nevertheless, the value of the degree was immediately recognized by the Nederlands-Vlaamse Accreditatieorganisatie (NVAO: The Accreditation Organisation of the Netherlands and Flanders) ([68]).

This degree programme has a double agenda: First, to improve the transition between the VET programmes at NQF/EQF level 4 and the HBO / UAS degrees; second, to encourage and enable Life Long Learning, reaching out to working adults. The Ad also aims to respond to a market request, in which employers have indicated a need for more specialized employees with an inter-levelled qualification. Consequently, more UAS and (privately-funded) higher education institutions started to offer Ad programmes. ([69])

The introduction of the Associate degree is interpreted as a sign of **vocational drift**, making higher education better attuned to the needs of students and the labour market and to allow direct application of the learning outcomes in the labour market (even combining learning and working). It is however also interpreted as a sign of **academic drift** as it increases the possibilities of VET students (at level 4) to continue their learning pathway towards higher education degrees and even academic degrees.

Research Universities and vocational drift?

Diversification and specialization has been a key-theme in the higher education landscape in the past 15-years, this has also been applied to Research Universities. Although the UAS

([66]) European Commission (2016). The Netherlands – Strengthening research in Universities of Applied Sciences; One of twelve case studies produced as part of the project on Structural Reform in Higher Education (EAC-2014-0474), p. 13.

([67]) European Commission (2016). The Netherlands – Strengthening research in Universities of Applied Sciences; One of twelve case studies produced as part of the project on Structural Reform in Higher Education (EAC-2014-0474).

([68]) See: https://www.nvao.com/about-nvao

([69]) Imandt, M. et all. (2015). klaar voor de groei, In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.15.

have been at the heart of the Dutch connection between practice and research, there has also been a call for preparing research students better for the job-market. This has been expressed in the Socio-Economic Council (SER: Social Economische Raad) advice for more trainee- and internships. Similarly, the stricter selection of its students can be interpreted as both an academic drift of differentiation, as well as ensuring better vocational interfacing.

Role of non-regulated qualifications and private providers

The non-regulated qualifications and the private providers are not covered by legal frameworks to the same extent as the publicly funded education providers and regulated qualifications. There can be sector-specific regulations and requirements in place (for instance in healthcare sector). Non-regulated qualifications and private providers tend to respond directly to the labour market and plays a prominent role for lifelong learning. In 2016, around 1,6 million students between the ages of 25 and 65 registered in a course. Of these registrations circa 84% registered with a non-regulated/private provider. ([70]) This role of the private providers in offering courses to adults is also seen in the growth of in-company and on-the-job training (Bedrijfsopleiding en-training) that grew from around 90% of the private market in 2010 to 93% in 2014. ([71]) Non-regulated and private providers offer short, goal-oriented and targeted degrees. ([72]) Degrees offered by non-regulated and private providers may or may not include an academic component. These degrees are typically flexible in methodology and challenged to combine innovative and effective structures in their course work. ([73]) In recent years the 'combined' educational methodology has steadily increased. ([74]) Typical for this form of education is that it is based on modules and courses can be started at any point of the year. ([75])

Impact

The binary model of higher education requires the different institutions and their qualifications to formulate a clear identity character. In addition, the higher education is asked to differentiate. This relates to the structure of the higher education system; the character/profile of the institutions; and, finally, the programmes offered. ([76])

The introduction of the Comprehensive Higher Education and Research Act (WHW) in 1993 prepared the way for a better quality practice-oriented higher education. This was however developed gradually, through providing more autonomy to the hbo-institutions and establishing lectorates to stimulate the practical-oriented research function and its connection to the education programmes. With the position of the UAS getting stronger over time, developing a stronger profile of the hbo-Bachelor, at the side of the Universities the wo-Bachelor profile is further challenged: if it is not a practically-oriented Bachelor (like the hbo-Bachelor) and not an academic 'full' programme (like the Master), what is the self-standing value of the wo-Bachelor programme?

([70]) CBS 2016. Statline

([71]) SEO (2015). Marktmonitor private opleiders van beroepsopleidingen en trainingen: Eindrapport. SEO in opdracht van NRTO. SEO-rapport nr. 2015-14 ISBN 978-90-6733-773-1, Amsterdam. p. 3. The market share of Research University courses among private providers decreased from 1% to just of half a per cent between 2010 and 2014.

([72]) NRTO: http://www.nrto.nl/themas-en-dossiers/versterken-inzetbaarheid-mobiliteit/

([73]) NRTO: http://www.nrto.nl/themas-en-dossiers/versterken-inzetbaarheid-mobiliteit/

[74]) SEO (2015). Marktmonitor private opleiders van beroepsopleidingen en trainingen: Eindrapport. SEO in opdracht van NRTO. SEO-rapport nr. 2015-14 ISBN 978-90-6733-773-1, Amsterdam. p. 1.

([75]) NRTO: http://www.nrto.nl/themas-en-dossiers/versterken-inzetbaarheid-mobiliteit/

([76]) Advies van de Commissie Veerman: Toekomstbestendig Hoger Onderwijs Stelsel (2010). Differentiëren in drievoud: http://www.nvao.net/page/downloads/Rapport_Differenti__ren_in_drievoud_commissie-Veerman.pdf

The change process in the last 20 years is not simply be characterised by either an academic drift or a vocational drift. The best way to characterise the development of **practically/professionally oriented higher education is that through the development of its own profile it increased the quality and visibility of institutions and programmes**.

3.2 Changes related to characteristics of 'VET at higher levels'

3.2.1 Changes related to governance and institutional structures of 'VET at higher levels'

Governance structures and QA

The programmes of the **UAS** are governed in the same way as all higher education programmes. They fall under the **1993 Comprehensive Higher Education and Research Act** (Dutch abbreviation: WHW). This act increased the autonomy of all higher education institutes. In addition, the quality assurance is also the same for the entire higher education system. The Accreditation Organisation of the Netherlands and Flanders (NVAO) is legally responsible to accredit programmes. NVAO assesses the internal quality assurance pursued by universities (Research Universities and universities of applied sciences), and the quality of the programmes they provide. ([77])

Within the NVAO procedures in the last decade more emphasis is placed on providing evidence on the labour market need when starting a new education programme by a higher education institute (toets nieuwe opleidingen and macrodoelmatigheidsbesluit ([78])). The labour market relevance of higher education programmes is controlled by the Commissie Doelmatigheid Hoger Onderwijs (CDHO) ([79]). This putting more emphasis on the labour market relevance can be seen as an indication of vocational drift within the entire higher education system as more value is attached to obtaining knowledge, skills and competences that are relevant directly in professional fields.

Non-regulated programmes that are characterised as VET at higher (EQF) levels, offered outside the formal higher education (so no associate degrees, bachelors and masters) have their own governance and quality assurance arrangements. There is not a uniform system for quality assurance for non-regulated qualifications. The NRTO (Dutch council for training and education: Nederlandse Raad voor Training en Opleiding) has an own quality label that is used by private providers being member of the NRTO. ([80]) The quality label covers aspects related to transparency in programmes and learning outcomes, clear communication, consumer protection, qualified staff, quality procedures and continuous quality improvement. ([81])

Role of labour market stakeholders/companies

Within the **UAS**, companies and labour market stakeholders do not have a formal role in the design and delivery of curricula. The UAS are autonomous is developing and designing their programmes. For getting accreditation for a new programme however, the UAS, similar to the universities, needs to evidence that there is a labour market need and that employers desire graduates in this area. Another aspect is that UAS programmes include internships and

([77]) https://www.nvao.com/quality-assurance-systems/netherlands

([78]) https://www.nvao.net/beoordelingsproceduresnederland/toets-nieuwe-opleiding-nederland

([79]) https://www.cdho.nl/

([80]) http://www.nrto.nl/partnerorganisaties/kwaliteitslabels_en_keurmerken/keurmerk/

([81]) https://www.nrto.nl/partnerorganisaties/kwaliteitslabels_en_keurmerken/keurmerk/kwaliteitseisen-nrto-keurmerk/

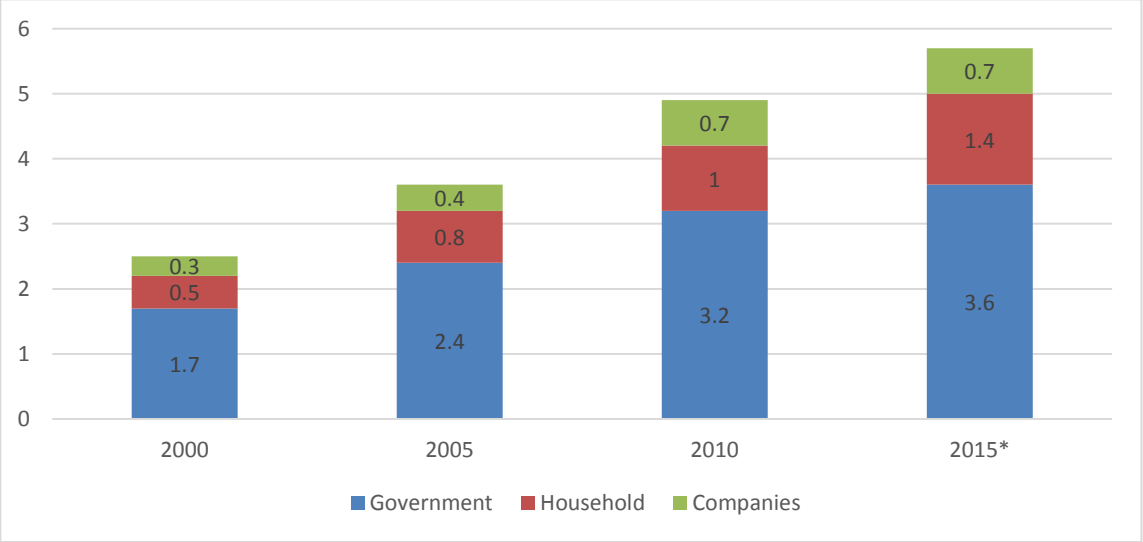
through this, the UAS and employers are regularly in contact. In the university-sector, there is less emphasis on the work-practice, however it is growing. Finally, as already indicated, the introduction of the lectorates and knowledge circles brought employers close to the UAS in knowledge development and exchange. In general, there is a trend towards more involvement of labour market stakeholders in higher education, especially in the UAS.

The **non-regulated programmes** are often provided by branch or sector organisations and hence are characterised by a close involvement of employers.

Funding sources

The **UAS** receives State funding, household (students) contribute, and finally companies contribute. The distribution is indicated in the figure below.

Figure 3 **Overview of funding of UAS (in MEuro)**



Source: CBS statline: https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/financien-hbo/totale-uitgaven

The total expenditure on UAS is nearly 6 billion Euro. Households are responsible for 25%. This money is mainly spent on college fees and books. Companies provide funding for mentoring of interns and they pay for contract research conducted by the UAS. The government is by far the main contributor, responsible for 63% of the funding. This concerns direct funding to the UAS and study financing for students. ([82]) The percentage of government funding decreased over the years (68 -63%) while household and company funding increased slightly between 2000 and 2015, especially between 2010 and 2015 when household funding increased from 20 to 25%. In the same period, the company funding decreased from 14 to 12% (2010-2015), probably as a result of the economic crisis.

Non-regulated programmes are not funded by the government but solely by the participants and employers. The total turn-over of private providers is estimated at 3.4 Billion Euro in 2015, this however is not exclusively calculated for the higher levels (5-8). The turnover increased from 3.2 MEuro in 2010 to 3.4 MEuro in 2014. ([83])

([82]) https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/financien-hbo/totale-uitgaven

([83]) SEO (2015), Marktmonitor private opleiders van beroepsopleidingen en trainingen

Key providers

There are 37 **Universities of applied sciences** (20 are multi-sectoral; 17 mono-sectoral), covering in total 7 economic sectors. They employ 29,350 teachers/professors (docenten). Besides that, more than 600 lectors (practical research-oriented professors) and 4,500 researchers and PhDs are related to study-groups (lectoraten). ([84]) VET providers (mbo) can only provide programmes up to level 4 but can cooperate with UAS to offer Associate Degrees.

The **non-regulated qualifications** are professional/vocational oriented qualifications offered by private providers or by branch/sector organisations.
In 2013, **Ad programmes** became officially part of the educational system. Since 2006, when the programme was still in its pilot phase, till date 199 programmes have been registered. ([85]) Although the Ad is offered by at least 20 different institutions, both private and publicly sponsored, the biggest 5 providers host over 50% of the students that attend an Ad. ([86])

Concluding remarks

All in all, there are no significant changes noticeable related to characteristics of 'VET at higher levels' concerning its governance, funding and main providers. The structure related to professional education and training at higher levels is well developed with a strong position of the UAS in the overall higher education sector and a private sector that is only limited governed at all.

3.2.2 Changes related to the target groups of 'VET at higher levels'

Main target group and access requirements

UAS Bachelors

The UAS in the Netherlands have witnessed an overall steady growth in the past 20 years. In the academic year 1990-91, 242,656 students were registered at UAS. This number reached 446,638 in 2016-17 (Bron: Centraal Bureau voor de Statistiek). In the period of 2012 to 2016, roughly 45% of the annual approximate 10,000 new applications hold a havo degree ([87]). Remarkably, despite the overall growth, part-time participation has decreased in past years. ([88])

Table 3: Overview student numbers in UAS broken down in full-time and part-time studies.

Period	Total	Full-Time	Part-Time
2000/'01	312,7	252,8	59,9
2001/'02	321,5	256,3	65,2
2002/'03	323,0	258,2	64,8
2003/'04	335,7	268,8	66,9

([84]) Vereniging Hogescholen (2017), Hbo in vogelvlucht

([85]) https://www.studiekeuze123.nl/opleidingen

([86]) SEO (2015), Klaar voor de groei, In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.4.

([87]) Vereniging Hogescholen (2017), Hbo in vogelvlucht

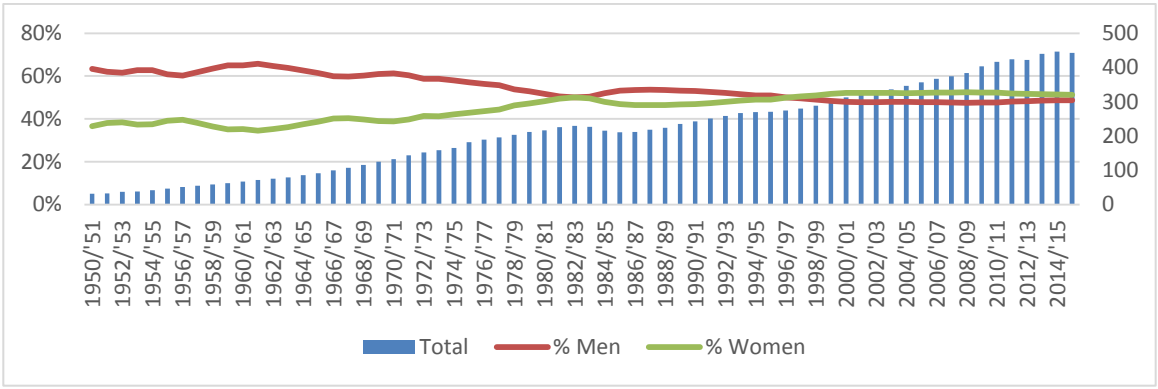
([88]) CBS, 2017: http://statline.cbs.nl/Statweb/publication/?DM=SLNL&PA=37220&D1=92&D2=0&D3=100-115&VW=T, http://statline.cbs.nl/Statweb/publication/?DM=SLNL&PA=37220&D1=93,109&D2=0&D3=100-115&VW=T

2004/'05	346,6	280,8	65,9
2005/'06	356,8	292,8	64,0
2006/'07	366,7	304,7	62,0
2007/'08	374,8	313,5	61,3
2008/'09	383,7	322,0	61,7
2009/'10	403,3	339,3	64,0
2010/'11	416,6	352,4	64,3
2011/'12	423,9	363,4	60,6
2012/'13	421,7	368,5	53,2
2013/'14	440,3	389,4	50,9
2014/'15	446,4	398,9	47,5
2015/'16*	442,6	396,6	46,0

Source: CBS Statline. All numbers are x 1000.

Historically, till 1980s women formed less than 50% of the UAS (with 37% of the students being women in 1950-1951). From 1980 onwards, the UAS tend to host around 51-52% women (CBS statline), though more women tend to obtain the degree: Within the group of mbo-students who attend the UAS, men and students with a non-western background tend to drop out more often ([89]). Nevertheless, it can be observed for the last 5 years, that around a third of the bachelor graduates has a non-Western background. ([90]) The figure below provides an overview of the total number of students in UAS and the distribution of men and women from 1950 to 2015.

Figure 4 **Total number of students in UAS and the distribution of men and women from 1950 to 2015**



Source: CBS: Onderwijsstatistiek

Students in the new Associate Degree programmes

The number of students who attend these Associate degree programmes has been growing, with the exception of a dip in 2014-2015. It is expected that the numbers will grow in the coming years.

The purpose of the Ad is to better serve the demand on the labour market and offer specialized courses to fill the specialized knowledge gap between mbo and hbo. In line with this aim, most of the incoming students hold a mbo degree (70%) ([91]) and they have either

([89]) Vereniging Hogescholen (2017), Hbo in vogelvlucht

([90]) https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/deelnemers-hbo

([91]) SEO (2015), Klaar voor de groei, In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.vii.

recently finished a mbo-degree (ca. 31%) or are already part of the workforce (25%). ([92]) However, the group enrolling from the workforce has decreased in the past few years, while those entering directly after finishing a degree in higher education has increased. Around 31% enter the Ad from a different higher education background. ([93])

Applicants are required to have a mbo-4, havo or vwo degree. Nevertheless, applicants who are 21-years-old or older and who do not meet this minimum requirement, can be admitted via an alternative admission path ('toelatingsonderzoek'), based on the degree provider. ([94])

While the Ad programmes are suitable for adult and working learners, the main core of its participants tends to be younger students in the age class of 18-24. The average student age of 26,7 when starting the programme ([95]). Similar to the overall development seen in the UAS, also the Ad programmes have awarded increasingly more degrees to women then to men; this is especially the case in the last two years. Regardless, slightly more men (51%) are enrolled than women. ([96]) Around 80% of the students who enter an Ad programme are of 'indigenous' origin ('autochtone afkomst'). This is slightly lower than in most related bachelor programmes, where this number is approximately 72%. ([97])

While at the start of its lifecycle the Ad programmes tended to be more often accomplished as part-time degrees (in 2010-11 of the total 1,053 degrees, 495 were awarded as part-time degrees), quickly this trend was overthrown. In 2015-16 around two-thirds of degrees are completed as fulltime programmes ([98]). Although part-time studies are possible, not all Ad degrees are offered as a part-time programme. ([99]) The number of part-time achieved degrees remains to be higher among Ad programmes than Bachelor degrees, which are mostly completed as full-time degrees. ([100])

Among the most common motivations for students to enrol in the Ad programme have been the short duration of the programme (2-years) and the fact that they can afterwards continue with a hbo Bachelor degree. ([101]) Many students who are enrolled in an Ad programme have also indicated that they have considered enrolment in a hbo-bachelor programme. ([102])

([92]) https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/deelnemers-hbo/deelnemers-associate-degree; 2015. klaar voor de groei, In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.viii.

([93]) SEO (2015), Klaar voor de groei, In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.viii.

([94]) http://www.deassociatedegree.nl/veelgestelde-vragen/over-associate-degree/

([95]) SEO (2015), Klaar voor de groei, In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.vii.

([96]) SEO (2015), Klaar voor de groei, In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.7.

([97]) SEO (2015), Klaar voor de groei, In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.26.

([98]) CBS, 5-9-2017: Statline

([99]) http://www.deassociatedegree.nl/veelgestelde-vragen/over-associate-degree/.

([100]) SEO (2015), Klaar voor de groei. In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.28.

([101]) SEO (2015), Klaar voor de groei. In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.8-9.

([102]) SEO (2015), Klaar voor de groei. In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.9.

Compared to the data on transition between mbo and hbo bachelors ([103]), the Associate degree in general attracts more mbo-students compared to the Bachelor. The Associate degree, it can be argued, in that sense lowers the threshold for mbo-students to continue further learning at higher education.

Identity of students

In the UAS, students are considered students and not employees. Of course, students may work besides or during their course. Yet, in relation to the degree provider, their status as student does not change.

3.2.3 Changes related to the main purposes and functions of 'VET at higher levels'

Main destination of graduates

Most of the **UAS graduates** find a job within one year of graduation. In 2015, 77% of the full-time students found a job that was suited to their educational level. This number indicates a slow growth in job placement numbers for UAS graduates after a dip, due to the crisis, between 2007 to 2013, in which the job placements decreased from 83% to 76%. ([104]) In 2014, the number of UAS graduates who found a job in the first year was 74%. ([105]) This is higher compared to the job placement numbers for universities, being 69% in 2014. ([106]) A small percentage of graduates are enrolled on a welfare programme for social security. In 2014, 5% of the graduates were registered for governmental income supplement ('uitkering'). ([107]) The destination of graduates varies also related to the type of degree and specialization. Especially graduates of Associate degree programmes show higher employment rates compared to bachelor and master programme graduates. ([108]) Recent graduates do not always find a fitting job to their educational level. Yet, the number of students who do find a befitting job has increased over time; in 2016 around 80% of graduates were employed on the level of their degree qualifications. ([109])

The degrees offered by the UAS (Ad, Bachelor and Master) also provide possibilities for further studies. On the basis of the Ad, the graduates can enrol in a hbo-Bachelor programme; the hbo Bachelor degree allows enrolling in a hbo-master programme, wo-Bachelor and wo-Master programme. The wo-Bachelor and wo-Master programmes can however set additional requirements (such as an additional preparatory year) to increase the academically-oriented knowledge, skills and competences. Institutional data from Rotterdam

([103]) See Bron-bestanden, DUO onderwijsdata, calculations ecbo, see: Mulder, J., Cuppen, J., Aalders, P. (2016), *Mbo-studenten die uitvallen op het hbo: wie zijn ze en waar vallen zij uit? Analyse van studentenstromen over periode 2005-2015.*

([104]) https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/aansluiting-onderwijs-arbeidsmarkt

([105]) Vereniging Hogescholen (2017), Hbo vogelvlucht

([106]) https://www.onderwijsincijfers.nl/kengetallen/wetenschappelijk-onderwijs/aansluiting-wo-arbeidsmarkt

([107]) https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/aansluiting-onderwijs-arbeidsmarkt

([108]) https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/aansluiting-onderwijs-arbeidsmarkt. It should be considered that the Associate degree is also designed to be combined in addition to employment and to further the careers of employed staff.

([109]) https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/aansluiting-onderwijs-arbeidsmarkt; Researchcentrum voor Onderwijs en Arbeidsmarkt (ROA). 2016. De arbeidsmarkt naar opleiding en beroep tot 2020. ROA-R-2015/6. ISBN: 978-90-5321-543-2. Available on: https://www.cdho.nl/assets/uploads/2016/08/ROA-tot-2020.pdf

Academy (Hogeschool van Rotterdam, the largest provider of Ads), concerning the transition towards the Bachelor shows that on average (2014-2016) 28 percent of the Ad graduates continue further learning in the Bachelor. ([110])

Occupational status of graduates

The titles for graduated students from **UAS** differ from universities and they have changed over the past few years. In line with the Bologna process UAS graduates' titles changed in 2002 from bc. for a four-year baccalaureus or ingenieur (ing.) to Bachelor (B). Since 2014, schools may also add 'of Arts' or 'of Science' after approval from the NVAO. The title may also have the full discipline added to the title.

Both the title for Associate Degree (Ad) and the hbo-master (M) did not exists before 2002. Similarly to the bachelor, also the hbo-master can be followed by 'of Arts' or 'of Science' depending on the judgement given for a course by the NVAO. ([111])

Before the addition of the title 'of Arts' and 'of Science' the UAS were respected in the Dutch market itself, but undervalued in the international market. ([112]) This potential addition is supposed to ensure proper evaluation of the hbo degree, while also keeping a clear distinction in the binary system. The variation brought to the titles than also ensures distinction from but close similarity to the Research University titles, as well as a valued position of market titles (such as the Ad title).

Within the labour market the hbo Bachelor is considered as a fully accomplished degree; unlike the Bachelor of Arts and Bachelor of Science at Research University level, which are considered fully finished when also obtaining a Masters degree. ([113])

The shift in titling can both be considered as academic and professional drift. The equation to the Research Universities has also led to a higher profile of the UAS. However, it is mostly to ensure that the Dutch UAS can cooperate and compete within the internationalized educational framework. Again, the developments can better be interpreted as that the UAS sector is becoming more mature, developing a stronger own profile and developing an own approach to quality in offering practice-oriented higher education programmes at levels 5 to 7 (and in the future probably 8).

3.2.4 Changes related to the perception of 'VET at higher levels'

A key distinction that impacts the parity of esteem in the education system in the Netherlands is the distinction between havo and vwo. The Havo prepares for a practical-oriented higher education programme (hbo-Bachelor); while the vwo prepares for an academically-oriented programme (wo-Bachelor). The vwo is perceived as having a higher status and hence enrolling in a Research University is also seen as having a higher status compared to the UAS.

This being said, the introduction of the BA-MA structure and the emancipation of the UAS has strengthened the profile of the hbo-Bachelor. At the same time, the split between wo-Bachelor and wo-Master has resulted in a weak position of the wo-Bachelor. This degree is

([110]) Institutional data from Rotterdam Academy

([111]) https://www.rijksoverheid.nl/onderwerpen/hoger-onderwijs/vraag-en-antwoord/welke-titel-mag-ik-voeren-als-ik-ben-afgestudeerd-of-gepromoveerd.

([112]) Commissie Veerman: Toekomstbestendig Hoger Onderwijs Stelsel (2010). Differentiëren in drievoud, p. 46: http://www.nvao.net/page/downloads/Rapport_Differenti__ren_in_drievoud_commissie-Veerman.pdf

([113]) Enders, J. De Boer, H.F. and Westerheijden D.F. (2011). Reform of Higher Education in Europe. Sense Publishers, Rotterdam.

not regarded as having a self-standing value: it does not provide a good entry-point in the labour market and only is of value when the graduate also completes its master programme.

There are thoughts going in the direction that the value of wo-Bachelor will in the future even further diminish and related to that, that Research universities will become smaller and more selective. ([114])

([114]) Bert de Zwaan (2017). Haalt de Universiteit 2040? Een Europees perspectief op wereldwijde kansen en bedreigingen, p. 210-211.

4. Impact on content and delivery of qualifications and programmes - the epistemological or pedagogical perspective

4.1 Changes in relation to content and profile

Content or profile

On the one hand, **UAS** differentiate themselves from Research Universities by their practical oriented profile. On the other, UAS have been working towards including a research component, be-it that this research does not have an academic orientation, but an applied research orientation whereby the research has direct implications and applicability for the occupational field. What this means in practical terms is defined by the Commission 'Practice-oriented research in the UAS' ([115]). This code of conduct highlights the professional and societal interest in the conducted research. The Research Universities, in the design of the programme despite introducing professional-oriented elements, still mainly depart from the academic subject content perspective.

By adopting the Bachelor/Master divide, in structure, UAS and Research Universities have grown closely together, including an overlap of research topics. Nevertheless, there remain gaps in skills levels between Bachelors offered by UAS and Research Universities: Research Universities introduce bridging programmes for Bachelors from UAS who would like to enrol in Research University master programmes.

In search of creating a transferable skillset for students, both Research Universities and UAS have come to adopt similar strategies of group work, writing exercises, presentation skills, and connections to the labour market – be it through research or through internships. The transversal skill set has been an important factor in trying to ensure job placements for graduating students.

Some have warned against the excess of academic structures in the UAS, especially by implementing the thesis as requirement for every UAS student. ([116]) However, the thesis also forms a work-practice to show the ability to execute practice-oriented analyses self-management, writing skills, and presentation skills. While the format is academic, and perhaps not directly useful for every student, the skills developed, when done properly, can be of an advantage for students when entering the job market and researching practical issues in their job.

At first sight, it seems that the UAS are moving towards a more academic approach, while the Research Universities are moving to include also a more 'practical' approach, answering to demand of an increasingly changeable labour market. Rather than academic or vocational, both entities seek to implement transferable skills that can be applied either in an academic or in a professional setting. Due to this format and the restructuring of Bachelor – Master systems, there is a general feeling that UAS are not so much becoming more academic, but that they improved their profile in conducting practical-oriented research.

Learning outcomes and orientation

Over the years, as already indicated, the practical-research component is strengthened within the UAS programmes. The UAS remain to be professionally oriented, but they are strengthened by the addition of a practical research component. UAS seek to educate how to apply transversal and research skills in a practical environment – as is seen for example in the hbo-nursing degree. Professional knowledge is still a key factor of the training. Depending on the discipline and school, the focus may somewhat shift. In all this, the

([115]) Commissie Gedragscode Praktijkgericht Onderzoek in het hbo (2010). Gedragscode praktijkgericht onderzoek voor het hbo. Gedragscode voor het voorbereiden en uitvoeren van praktijkgericht onderzoek binnen het Hoger Beroepsonderwijs in Nederland.

([116]) http://www.hogeronderwijs.nu/2015/11/hva-docent-hbo-scriptie-is-te-academisch-geworden/

programmes of the UAS are first and foremost higher education programmes (at level 5-7) and hence include broader skills sets than VET programmes (at level 2-4) including communication, team work, entrepreneurship, responsibility etc.

4.2 Changes in relation to the delivery

The pedagogical/didactical approach

In the 1990s, **hbo-institutes** were still working with nationally determined curricula and the institutes had neither the autonomy, nor the capacity to critically reflect on these curricula and to improve them. The **1993 Comprehensive Higher Education and Research Act** (Dutch abbreviation: WHW: Wet op het Hogeronderwijs en Wetenschap) provided the framework for more autonomy at institutional level to develop curricula, but it still took more than a decade to come to educational programmes of sufficient quality.

The programmes at UAS are competence-based. This means that the programmes are directed at bringing the students to be competent in their practical work when they graduate. The programmes therefore contain theoretical components and practical components. In most programmes there is a lot of attention towards group work and work-practice (simulated work environments and internships).

The Bachelor programmes at Research Universities are more focused on the theoretical component but also here, there is a shift towards a stronger focus on work practice. The Socio-Economic Council (SER: Social Economische Raad) has recently called for more internships as part of the programmes at Research Universities. ([117])

The **private providers' programmes (being regulated higher education programmes)** are mostly theory-based, but might include assignments in simulated work environments or discussing case studies that adult learners bring from their own work experience.

Learning environments

The learning environment in professional or practical-oriented education programmes at higher levels has seen a considerable shift in the last 20 years. This however not so much towards integrating the work place as a learning environment, but in embracing the digital learning environment as supporting classroom education and group work. There is however a tendency in the hbo-Bachelor and wo-Bachelor to increase learning at the work place.

Teacher-student relationship and background of teachers

Over the last 20 years a major shift is noticeable concerning the quality and background of teachers. As already indicated, in the 1990s the programmes at the **hbo institutes** were centrally developed and institutes lacked the capacity to critically develop own programmes despite that the legal framework provided the possibility. From that period, a key priority was to improve the quality culture at the institutes and improve the quality of teachers. In the first decade of the millennium the quality of teachers was assessed as problematic and leading to a 'professional vacuum', whereby teachers – as professionals – were considered as not

([117]) SER (2015). "Leren in het hoger onderwijs van de toekomst: Advies over de Strategische Agenda Hoger Onderwijs 2015 – 2025. " Uitgebracht aan de Minister van Onderwijs, Cultuur En Wetenschap, Nr.6 - Oktober 2015. p. 40.

having the professional space to act as professionals, meaning that they were top-down controlled by management. ([118])

Several strategic documents emphasise the importance to improve the quality of teachers in UAS, such as 'Action plan: Learning-Power of the Netherlands (Actieplan: LeerKracht van Nederland[119]); The Highest Good (Het Hoogste Goed) ([120]); and the Strategic Agenda Higher Education and Science 2011 (Strategische Agenda Hoger Onderwijs, Onderzoek en Wetenschap) ([121]) and the Strategic Agenda Higher Education and Science 2015 ([122]). The objective was to have 70% of the teachers at UAS holding a master degree in 2014; and 10% holding a PhD degree. In 2011, 66.2% of teachers at UAS had a master degree ([123]) and in 2009 7.7% a PhD degree (no up to date data is available whether this benchmark is reached).

The NRTO code of conduct, a quality label for their members (private education and training providers) includes a requirement of employing knowledgeable teachers, trainers and staff. There is no indication of the required qualification level. ([124])

([118]) See: Brouwer, O. (2008). Gevraagd: zelfsturende docenten. In: Gansewinkel, H., L. Römkens & W. Spee (2008). Complexiteit. Hoera! Kansen en krachten in het hedendaagse onderwijs. Arnhem, Interstudie NDO, pp 119-120. Cited from: WRR (2011), Sectorstudie toezicht hoger onderwijs

([119]) Ministerie van OCW (2007). Actieplan: LeerKracht van Nederland

([120]) Ministerie van OCW (2008), Het Hoogste Goed: Strategische agenda voor het hoger onderwijs-,onderzoek- en wetenschapsbeleid en Kennis in Kaart

([121]) Ministerie van OCW (2011). Strategische Agenda Hoger Onderwijs, Onderzoek en Wetenschap. Kwaliteit in verscheidenheid.

([122]) *Ministerie van OCW (2015), De waarde(n) van weten: Strategische Agenda Hoger Onderwijs en Onderzoek 2015-2025*

([123]) See Ministerie van OCW (2013), Trends in Beeld 2013: Zicht op Onderwijs, Cultuur en Wetenschap

([124]) https://www.nrto.nl/partnerorganisaties/kwaliteitslabels_en_keurmerken/keurmerk/kwaliteitseisen-nrto-keurmerk/

5. The context of change: rationale and drivers for change or persistence

The main driver for change in **higher education** is the 1993 **Comprehensive Higher Education and Research Act** (Dutch abbreviation: WHW: Wet op het Hogeronderwijs en Wetenschap) and the introduction of the Bachelor-Master degree structure. These processes set the scene for developing the UAS as a self-standing education sector, which is different from the VET sector and the University sector. In order to get there, in the last 20 years a major investment had to be made in improving the quality and developing the profile of the UAS as a place where practice-oriented research and education come together.

The related drivers are the increased autonomy of higher education institutes, the Bologna process and the alignment of UAS programmes with the labour market needs. Concerning the later, this includes that people need to be educated to be competent professionals; be able to work together and take responsibility. In addition, it means that graduates are able to conduct practice-oriented research to solve problems encountered during work.

The change process related to the UAS in the last 20 years is perceived as needed. The quality of the programmes was not considered good and there were a number of scandals in 2011 ([125]) related to quality and diploma-fraud that can be regarded as symptoms of the system focussing on accommodating the high inflow of students and less on ensuring the quality. Critical remarks are however also placed related to the growth of the UAS sector and 'copying' the Research Universities in willing to offer masters and PhD programmes as well. A specific element in this is the name-change – in English – towards Universities of Applied Science; and the name change from 'HBO-raad' (HBO-council) to 'Vereniging Hogescholen' (Association of 'hogescholen') in 2013. In the VET sector, the association is called 'MBO-raad' (VET-council), in the University sector, the association is called 'Vereniging van Samenwerkende Nederlandse Universiteiten' (Association of cooperating Dutch Universities).

([125]) See for instance: https://www.volkskrant.nl/binnenland/hbo-affaire~a1882371/ ; https://www.beteronderwijsnederland.nl/blogs/2011/04/onderwijsinspectie-39-procent-van-studenten-inholland-kreeg-onterecht-diploma/

6. Zooming in on nursing and engineering

Please reflect on the particular situation in the nursing and engineering areas: Which main change processes (in relation to 'academic drift', 'vocational drift', expansion of VET at higher levels outside higher education') can be observed in this area? What are the specificities and differences compared to other areas?

Nursing

The hbo Nursing ('verpleegkundige') degree underwent a large change. The change followed a general discussion concerning titles and job functions and responsibilities, including questions on how professionals can utilize their skills and be better equipped in influencing preventative care. ([126])

While the mbo and hbo schools both offer nursing degrees, till recent, there was no clear distinction in their job description. ([127]) This also led to a lack of utilizing the different skills and competences nurses bring to their work environment. ([128]) This change has been all encompassing and has effected degree qualifications, job positions and work titles.

On 28 January 2015 a new degree qualification for 'Bachelor of Nursing' (hbo) was presented. The new curriculum, which was implemented in September 2016, included the following changes ([129]):

- The new profile has a focus on generalization;
- There is a focus on the critical analysis and research skills of nurses; using an evidence-based practice approach and reflective outlook to innovation and improvement;
- Institutions cooperate with regional care facilities. The educational offer will be placed within a regional context;
- Elective coursework is restricted to 30 ECTS.
- It is a dynamic profile that can be adapted for market demands. ([130])

The Ad programme 'Management in Caretaking' will bridge the gap between the mbo nursing (level 4) and hbo nursing (level 6) degrees, despite not being a nursing degree itself. ([131])

([126]) Nivel (2015). Competenties in een veranderende gezondheidszorg Ervaringen van verpleegkundigen, verzorgenden, begeleiders en Praktijkondersteuners

([127]) https://www.nursing.nl/nvz-presenteert-functieprofielen-mbo-en-hboverpleegkundige/.

([128]) Nivel (2015). Competenties in een veranderende gezondheidszorg Ervaringen van verpleegkundigen, verzorgenden, begeleiders en Praktijkondersteuners

([129]) https://www.nursing.nl/opleidingsprofiel-hbo-v-er-komt-geen-nieuw-niveau-bij-1708011w/; https://www.nursing.nl/niveau-6-feiten-en-fabels/. The new degree is NLQF/VET 6, which is the equivalent of a former system in which the level was marked 5, based on the 1996 accreditation and classification system

([130]) https://www.nursing.nl/hbo-verpleegkundige-wordt-niveau-6-1692955w/

([131]) https://www.nursing.nl/opleidingsprofiel-hbo-v-er-komt-geen-nieuw-niveau-bij-1708011w/.

To ensure that these new curricula are also applied in practice, new titles for nurses were introduced in 2016, alongside with new job profiles. While the mbo-nurse's (now 'basisverpleegkundige') role did not change, the hbo-verpleegkundige (now 'Regieverpleegkundige') will have a more managing role within the team, using evidenced-based practice and strong analytical thinking. The hbo-nurse will take the lead in cases of unforeseen scenarios and problems, using their skillset. In addition, the 'verzorgende IG (individuale gezondheidszorg)' (Caretaker individual health care) is a broader professional profile, which can be both on hbo or mbo level. ([132])

The changes in the nursing degree are a clear demonstration of how market demand as well as educational policy shifts have re-shaped the educational sphere for nursing degrees. The degrees at hbo level include an emphasis on practical use, but also move towards an academic drift by encouraging research skills and publications. Simultaneously, the Ad expanded the VET by filling the level 5 gap with a management degree.

Engineering

Engineering ('ingenieurschap') has been part of the technical studies at Universities of Applied Sciences as well as at upper secondary vocational schools.

In the past years there have been several thorough changes to create a better connection between the educational institutions and the labour market. This connection is both sought in terms of student influx and placements (quantity) as well as in terms of meeting market demands in labour skills (quality).

As the continuous shortage of technicians and engineers at the job market could not be sustained by attracting foreign technicians and engineers, both in the mbo as well as the hbo changes were made to attract more students and ensure support of working technicians and engineers. At the Universities of Applied Sciences, the 'Sprint Programme' (Sprint Programma) sought to increase the influx of students in technical degrees at Universities of Applied Sciences by 15%. The programme, which ran from 2004 to 2010, focussed on modernizing the educational programme and increasing relations between the UAS and upper secondary general education schools, upper secondary vocational schools, and the business industry.

Although the programme achieved this 15% increase, it became evident in 2006 that this growth was not sufficient to cover the gap between market demand and newly graduated engineers. Hence, in 2009 a committee was appointed to prepare a new investment plan for the technical sector within the UAS. This commission's advice to ensure specialization of UAS by differentiation in their course offering was underlined in 2010 in the Commission Veerman report ([133]) in which it was concluded that both for student-market (informing students about their choices for an educational programme) and the job market (what is needed on the labour market) require a better formulated profile.[134] The underlying idea is that educational specialization will lead to better quality of education and a wider variety of clear choices in the educational programme offering.

In 2011, the association of higher educational institutions (Vereniging Hogescholen) assigned a commission, headed by Martin van Pernis, to survey the future demands made to the technical and engineering departments. The survey reached the following 4 conclusions:

([132]) https://www.venvn.nl/Berichten/ID/1020793/Eindelijk-onderscheid-tussen-verpleegkundige-mbo-en-hbo; https://www.nursing.nl/nvz-presenteert-functieprofielen-mbo-en-hboverpleegkundige/;

([133]) as described in 'Toekomstbestendig Hoger Onderwijs Stelsel'

([134]) Hoger Onderwijs Groep (No date), Samen bouwen en ruimte geven aan de toekomst, p.19

1. The professional profile of an engineer needs to be enriched. There are amounting expectations of engineers for which they are currently not prepared in their education.
2. The shortage of Dutch engineers increases.
3. Knowledge changes quickly and has a quick turnover; educational institutions and private businesses need to cooperate more closely. In order to do so, there needs to be more clarity among educational institutions (i.e. fewer institutional course offering with clear specializations). Moreover, educational institutions must offer a broader educational basis. The labour market must be consulted and included to draw up the required learning competences.
4. At an international level, the education of technical teachers and trainers is relatively low. ([135])

The van Pernis commission's conclusions and recommendations were presented by the Topsector (priority-sector) in the 'Masterplan Bèta and Technology' (titled: From 4 to 10) and presented to the Ministry of Education, Culture and Science. ([136]) The plan was well received by the Ministry in 2012. ([137]) The idea of establishing 'Centers of Expertise' was included in the 'Sector Investment Plan' for the Universities of Applied Sciences for 2011-2016 by the Ministry of Education, Culture and Science ([138]) as well as a focus on placements and traineeships, improved transition and cooperation between different educational institutions, and closer collaboration between the education and labour sectors. ([139])

To battle the shortage of qualitative strong technical professionals on the market and to encourage a fast-growing influx of students in technical programmes educational institutions, employers, sectors and regions, as well as the State bundled their efforts together in the 'Techniekpact.' This pact seeks to create quicker and effective change to:

1. Attract students to technical education;
2. Ensure placements in the technical sector after graduation;
3. Ensure longevity of technical professionals in the market.

While this lead to 22 action points that concerned the larger market (including both (v)mbo and hbo schools), five UAS-specific agreements were reached:

1. The State will invest € 100 mln. for co-funding collaborative investments between the UAS and the labour market;
2. Hindrances between private and public collaborations will be removed;
3. The number of Bachelor degree programmes for Technical studies (i.e. Engineering) will be reduced from 65 to approximately 25 degree programmes. These degrees will be clustered into six domains. The UAS will coordinate the educational offering among themselves.
4. Companies in the sector will make 1,000 grants and funds available for students of excellence at the UAS.

([135]) Hoger Onderwijs Groep (No date), Samen bouwen en ruimte geven aan de toekomst, p.19-20.

([136]) Hoger Onderwijs Groep (No date), Samen bouwen en ruimte geven aan de toekomst, p.21.

([137]) Ministerie van EZ (2012), Kabinetsreactie op het Masterplan Bèta en Technologie: 'Naar 4 op de 10; meer technologietalent voor Nederland'

([138]) Hoger Onderwijs Groep (No date), Samen bouwen en ruimte geven aan de toekomst, p.19

([139]) Kabinetsreactie op het Masterplan Bèta en Technologie: 'Naar 4 op de 10; meer technologietalent voor Nederland'

5. UAS and the social partners in the technical sectors will cooperate to improve 'lifelong learning' and to coordinate the educational demands and supply. ([140])

The effects of these action points have been seen in the decrease of course offerings, by which the 65 different Bachelor degree programmes have been reduced to 36 in 2016. ([141])

These renewed Bachelor degrees also acquired a new form in which a broader basic education was offered, before students can chose for a further specialisation in the professional sector. In addition to the European Network for Accreditation of Engineering Education and the NVAO accreditation, in which the Dublin criteria are included, the HBO Committee also added four additional end qualifications requirements to be reflected in the UAS programmes:

a. Solid theoretical basis
b. Research skills that add to the professional development
c. Professional craftsmanship
d. Ethical and societal orientation in line with the professional responsibilities. ([142])

In addition to these requirements, each educational institution can create its own portfolio with different focal points, in cooperation with the labour market, to give direction to research and education. ([143])

In 2014, the Ministry approved the committee for higher technical education's (HTNO) request to forms such new Bachelor degrees. Per September 2015 the new, broader Bachelor degree programmes have been in place, to which each institution adds a specialization. In addition to the core competencies of UAS sector-wide, i.e. research, collaboration and communication, and management, UAS institutions are then free to and responsible for adding and defining their own competencies, but within a singular framework. ([144])

In comparison to 2006, there are less programmes; courses offer a broader preparation for the labour market; and competences in each course are clearly defined and harmonized, using one system for organization and comparison.

The changes seem to indeed have created a better transition to the labour market for newly graduated students. Since 2013, unemployment among newly graduated students from bachelor programmes offered at UAS has decreased form 7,3% in 2013, 6,5% in 2014, and 5,5% in 2015 to 4,6% in 2016. This decline is seen among full-time, part-time and dual students. According to the HBO Monitor graduates also found employment fitting to the qualification obtained (in 2014, 74% of graduates found a position on hbo level within 18 months after graduation, in 2016 this was 80%). This indicates that the new Bachelor programmes correspond well with the labour market demands. ([145])

While the above may indicate a vocational shift, in terms of better transition to the labour market, the duality of the HBO maintains to be a strong hold. The 'Centres of Expertise' include a budget specialized for research in collaboration with private and public

([140]) Hoger Onderwijs Groep (nd.). Samen bouwen en ruimte geven aan de toekomst, p. 21-23.

([141]) HTNO Roadmap 2016, p.3.

([142]) HBO-raad (2009). Kwaliteit als opdracht. Den Haag: HBO-raad, as described in Samen bouwen en ruimte geven aan de toekomst, p. 32.

([143]= Hoger Onderwijs Groep (nd.). Samen bouwen en ruimte geven aan de toekomst, p. 24.

([144]) Hoger Onderwijs Groep (nd.). Samen bouwen en ruimte geven aan de toekomst, p. 32-49.

([145]) http://www.hbo-engineering.nl/nieuws/arbeidsmarktpositie-hboer-steeds-beter

stakeholders. ([146]) Moreover, research has been mentioned as central point of the key end qualifications defined for the UAS sector-wide. The dual position of the UAS is also maintained in the HTNO Roadmap 2025. However, there is an added focus on lifelong learning, which can be both interpreted as vocational and academic drift. Additionally, there is a focus on the position of starting professionals and the social position of engineers; students are sought to be versatile and interdisciplinary equipped, encouraging transversal skills and job-specific skills. Holders of a Bachelor degree are then open to different add-ons that befit the education of engineers. The level of academic drift and vocational drift is then also dependent on the Bachelor degree and on the individual UAS.

7. Current debates and future perspectives

Please describe main current debates and any trends that can be observed or expectations related to future developments of 'VET at higher levels' (and specifically in the nursing and engineering areas) and provide evidence underpinning trends or expectations.

Current debates

The key reference document for the future development of higher education in general remains the Commissie Veerman report ([147]) which indicates that higher education institutions should specify and differentiate, while focusing on quality. This 'advice' still informs the developments at national level and at institutional level. Gradually the higher education sector becomes more differentiated, meaning that institutes (both UAS and Research Universities) seek their own unique profile in terms of organisation, orientation, programmes offered, research conducted and network enrolled in. This is also seen in the Nursing and Engineering areas.

In addition to the need for specialization and differentiation, the Nursing and Engineering sectors also indicate a development in the broadening of the degrees by a focus on transversal skills: a trend driven by the labour market. As mentioned in the Commission van Pernis' report, modern day professionals are required to also show an entrepreneurial strength, international orientation, holistic and integral approach, and social capabilities, in addition to theoretic knowledge. ([148])

The current debates concerning higher education relate to making higher education in general more flexible and accessible for non-traditional students and to increase the role of higher education institutes (mainly UAS) in lifelong learning. This includes experimentation with the part-time higher education pathway, flexibilization in paying college fees, experimentation in demand-side funding and applying a more modular approach to higher education programmes. Currently on all those topics experiments are being conducted which should inform future policy development.

Another current topic of discussions is the further development of the Ad and the increased cooperation between UAS and VET colleges in jointly offering those programmes and supporting smooth transition from VET to higher education.

An existing issue related to the hbo-Bachelor is the experienced tension between accessibility, quality, and academic performance (coined as the 'trilemma' of professional

([146]) Kabinetsreactie op het Masterplan Bèta en Technologie: 'Naar 4 op de 10; meer technologietalent voor Nederland'

([147]) Commissie Veerman: Toekomstbestendig Hoger Onderwijs Stelsel (2010). Differentiëren in drievoud: http://www.nvao.net/page/downloads/Rapport_Differenti__ren_in_drievoud_commissie-Veerman.pdf

([148]) S Samen bouwen en ruimte geven aan de toekomst, p. 19.

higher education) ([149]). The trade-offs between these three goals are most manifest among the universities of applied sciences that have a highly diverse student population.

On-going developments in the technical industry also demand further consolidation and cooperation between UAS and the labour market stakeholders. Moreover, there is a focus on further encouraging flexibility through interdisciplinary add-ons in the educational profiles on top of a solid basic knowledge (covering broader professional profiles). This is sought in the direction of professional collaborations, as well as cross learning between institutions and modular learning. ([150])

Trends related to future developments

A future development could be the introduction of PhDs in UAS. The scope of programmes offered by UAS were already broadened as currently UAS can offer Master programmes as well. This will probably expand towards the PhD programmes as well in particular practice-oriented subjects (such as the arts and teacher education).

The future development of non-regulated qualifications offered by private providers is unclear. It can be that their role becomes larger as their visibility will increase with the further implementation of the NLQF; but it can also be the case that due to the experiments with regard flexibilization of regulated qualifications and publicly-funded higher education institutions, the private ones will have stronger competition.

Another long-term development could be that the binary structure, in which the degree-types (bachelor and master) are offered with a professional and an academic orientation, which forms the cornerstone of the Dutch higher education system will gradually erode. With the UAS becoming more mature (offering professional masters and PhDs), and the precarious position of the wo-Bachelor, it could be that the double orientation within the Bachelor (hbo and wo) will gradually disappear and that Research Universities will become more selective and specialised ([151]). The recent SER report indicates that the binary structure is under threat, but that it still contributes to the visibility and transparency of the Dutch higher education system and its programmes. ([152])

([149]) Higher Education and Research Review Committee (RCHOO) (2016). System report 2016, p. 21.

([150]) HTNO Roadmap 2025, 2016.

([151]) See for instance: Bert de Zwaan (2017). Haalt de Universiteit 2040? Een Europees perspectief op wereldwijde kansen en bedreigingen, p. 210-211.

([152]) SER (2015). Leren in het hoger onderwijs van de toekomst Advies over de Strategische Agenda Hoger Onderwijs 2015 - 2025

8. Overview

This table should provide an overview of what types of changes due to 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' can actually be observed in the country.

Please indicate the main processes and phenomena identified during the last 20 years in the table below – referring to the direction of change, the object of change, the context of change (or target area of change), the key processes observed and the results of these processes as well as their time frame and indicate the sections in which they are presented! Examples of key processes/results are presented in table 1 of the guidance note.

Table 1 **Overview**

Direction of change	Object of change	Context/target area	Key processes observed / results	Timeframe	Section
Academic drift	**Higher Education**	professionally-oriented HE			
		traditional (or academic) HE programmes			
	VET (outside HE)	VET transformed to HE			
		VET offered at higher levels outside HE			
Vocational drift	**Higher Education**	professionally oriented HE			
		traditional (or academic) HE programmes			
Expansion of VET at higher levels (outside HE)	**VET at higher levels (or 'higher VET') offered outside HE**				

Please note: Table not completed because terms/concepts do not really apply!

9. Sources of information

References

Brouwer, O. (2008). Gevraagd: zelfsturende docenten. In: Gansewinkel, H., L. Römkens & W. Spee (2008). Complexiteit. Hoera! Kansen en krachten in het hedendaagse onderwijs. Arnhem, Interstudie NDO, pp 119-120. Cited from: WRR (2011), Sectorstudie toezicht hoger onderwijs

CBS

- Statline, 5-9-2017

  http://statline.cbs.nl/Statweb/publication/?DM=SLNL&PA=37220&D1=92&D2=0&D3=100-115&VW=T

- Stateline, 5-9-2017

  http://statline.cbs.nl/Statweb/publication/?DM=SLNL&PA=37220&D1=93,109&D2=0&D3=100-115&VW=T

- Statline, Onderwijsinstellingen; grootte, soort, levensbeschouwelijke grondslag (13 October 2017)

Commissie Gedragscode Praktijkgericht Onderzoek in het hbo (2010). Gedragscode praktijkgericht onderzoek voor het hbo. Gedragscode voor het voorbereiden en uitvoeren van praktijkgericht onderzoek binnen het Hoger Beroepsonderwijs in Nederland.

Commissie Veerman: Toekomstbestendig Hoger Onderwijs Stelsel (2010), Differentiëren in drievoud. Available at: http://www.nvao.net/page/downloads/Rapport_Differenti__ren_in_drievoud_commissie-Veerman.pdf

de Weert, E., Leijnse, F., Kyvik, S., Lepori, B. (2010). Practice-Oriented Research: The Extended Function of Dutch Universities of Applied Sciences; in: The Research Mission of Higher Education Institutions outside the University Sector: striving for differentiation, 199 – 217.

de Zwaan, B. (2017). Haalt de Universiteit 2040? Een Europees perspectief op wereldwijde kansen en bedreigingen. Amsterdam University Press.

Enders, J. De Boer, H.F. and Westerheijden D.F. (2011). Reform of Higher Education in Europe. Sense Publishers, Rotterdam.

European Commission (2016), The Netherlands – Strengthening research in Universities of Applied Sciences; One of twelve case studies produced as part of the project on Structural Reform in Higher Education (EAC-2014-0474)

HBO-raad (2009). Kwaliteit als opdracht. Den Haag: HBO-raad, as described in Samen bouwen en ruimte geven aan de toekomst, p. 32.

Higher Education and Research Review Committee (RCHOO) (2016), System report 2016, p. 21.

Hoger Onderwijs Groep (No date), Samen bouwen en ruimte geven aan de toekomst

Hoger technisch en natuurwetenschappelijk onderwijs (HTNO) (2016). Roadmap 2025.

Imandt, M. et all., (2015). klaar voor de groei, In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, p.15.

Jongbloed, B., Maassen, P., and Neave, G., eds., (1999). From the eye of the storm. Higher education's changing institution. Dordrecht: Kluwer Academic Publishers.

Maassen P.,Moen, E., and Stensaker, B. (2011). Reforming higher education in the Netherlands and Norway: the role of the state and national modes of governance, Policy Studies, 32:5, 479-495, DOI: 10.1080/01442872.2011.566721

Maassen, P. and van Vught, F.A., eds., (1989). Dutch higher education in transition. Policy issues in higher education in the Netherlands. Culemborg: LEMMA; Teichler, U., 1989. Government and curriculum innovation in the Netherlands. In: F.A. van Vught, ed. Governmental strategies and innovation in higher education. London: Jessica Kingsley, 168-211; de Boer, H., 2002. Trust, the essence of governance? In: A. Amaral, G. Jones and B. Karseth, eds. Governing higher education: national perspectives on institutional governance. Dordrecht: Kluwer Academic Publishers, 43-61.

Ministerie van EZ (2012), Kabinetsreactie op het Masterplan Bèta en Technologie: 'Naar 4 op de 10; meer technologietalent voor Nederland'Kabinetsreactie op het Masterplan Bèta en Technologie: 'Naar 4 op de 10; meer technologietalent voor Nederland'

Ministerie van OCW (2007). Actieplan: LeerKracht van Nederland

Ministerie van OCW (2008). Het Hoogste Goed: Strategische agenda voor het hoger onderwijs-,onderzoek- en wetenschapsbeleid en Kennis in Kaart

Ministerie van OCW (2011). Strategische Agenda Hoger Onderwijs, Onderzoek en Wetenschap. Kwaliteit in verscheidenheid.

Ministerie van OCW (2013), Trends in Beeld 2013: Zicht op Onderwijs, Cultuur en Wetenschap

Ministerie van OCW (2015). De waarde(n) van weten: Strategische Agenda Hoger Onderwijs en Onderzoek 2015-2025

Ministerie van OCW (2017). Wet invoering associate degree-opleiding (accepted 3-10-2017: https://wetgevingskalender.overheid.nl/Regeling/WGK007231

Mulder, J., Cuppen, J., Aalders, P. (2016), Mbo-studenten die uitvallen op het hbo: wie zijn ze en waar vallen zij uit? Analyse van studentenstromen over periode 2005-2015.

Nivel. (2015). Competenties in een veranderende gezondheidszorg Ervaringen van verpleegkundigen, verzorgenden, begeleiders en Praktijkondersteuners

Researchcentrum voor Onderwijs en Arbeidsmarkt (ROA) (2016). De arbeidsmarkt naar opleiding en beroep tot 2020. ROA-R-2015/6. ISBN: 978-90-5321-543-2. Available at: https://www.cdho.nl/assets/uploads/2016/08/ROA-tot-2020.pdf

Samen bouwen en ruimte geven aan de toekomst, p. 21-23.

SEO (2015). Klaar voor de groei, In opdracht van ministerie van Onderwijs, Cultuur en Wetenschap , SEO-rapport nr. 2015-67, Amsterdam.

SEO (2015). Marktmonitor private opleiders van beroepsopleidingen en trainingen: Eindrapport. SEO in opdracht van NRTO. SEO-rapport nr. 2015-14 ISBN 978-90-6733-773-1, Amsterdam.

SER (2015). “Leren in het hoger onderwijs van de toekomst: Advies over de Strategische Agenda Hoger Onderwijs 2015 – 2025.” Uitgebracht aan de Minister van Onderwijs, Cultuur En Wetenschap, Nr.6 - Oktober 2015.

Van Bemmel, Ad (2006), Hogescholen en hbo in historisch perspectief

Vereniging Hogescholen (2017), Hbo in vogelvlucht

Website:

http://www.deassociatedegree.nl/veelgestelde-vragen/over-associate-degree/ [assessed 10-10-2017]

http://www.hbo-engineering.nl/nieuws/arbeidsmarktpositie-hboer-steeds-beter [assessed 10-10-2017]

http://www.hogeronderwijs.nu/2015/11/hva-docent-hbo-scriptie-is-te-academisch-geworden/ [assessed 10-10-2017]

http://www.nlqf.nl/register [assessed 10-10-2017]

http://www.nrto.nl/partnerorganisaties/kwaliteitslabels_en_keurmerken/keurmerk/ [assessed 10-10-2017]

http://www.nrto.nl/themas-en-dossiers/versterken-inzetbaarheid-mobiliteit/ [assessed 10-10-2017]

https://www.beteronderwijsnederland.nl/blogs/2011/04/onderwijsinspectie-39-procent-van-studenten-inholland-kreeg-onterecht-diploma/ [assessed 10-10-2017]

https://www.cdho.nl/ [assessed 10-10-2017]

https://www.groene.nl/artikel/op-weg-naar-een-hbo-universiteit. [assessed 10-10-2017]

https://www.nursing.nl/hbo-verpleegkundige-wordt-niveau-6-1692955w/ [assessed 10-10-2017]

https://www.nursing.nl/niveau-6-feiten-en-fabels/ [assessed 10-10-2017]

https://www.nursing.nl/nvz-presenteert-functieprofielen-mbo-en-hboverpleegkundige/. [assessed 10-10-2017]

https://www.nursing.nl/nvz-presenteert-functieprofielen-mbo-en-hboverpleegkundige/ [assessed 10-10-2017]

https://www.nursing.nl/opleidingsprofiel-hbo-v-er-komt-geen-nieuw-niveau-bij-1708011w/; [assessed 10-10-2017]

https://www.nursing.nl/opleidingsprofiel-hbo-v-er-komt-geen-nieuw-niveau-bij-1708011w/. [assessed 10-10-2017]

https://www.nvao.com/quality-assurance-systems/netherlands [assessed 10-10-2017]

https://www.nvao.net/beoordelingsproceduresnederland/toets-nieuwe-opleiding-nederland [assessed 10-10-2017]

https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/financien-hbo/totale-uitgaven [assessed 10-10-2017]

https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/deelnemers-hbo [assessed 10-10-2017]

https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/deelnemers-hbo/deelnemers-associate-degree; [assessed 10-10-2017]

https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/aansluiting-onderwijs-arbeidsmarkt [assessed 10-10-2017]

https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/aansluiting-onderwijs-arbeidsmarkt. [assessed 10-10-2017]

https://www.onderwijsincijfers.nl/kengetallen/hoger-beroepsonderwijs/aansluiting-onderwijs-arbeidsmarkt [assessed 10-10-2017]

https://www.rijksoverheid.nl/onderwerpen/hoger-onderwijs/vraag-en-antwoord/welke-titel-mag-ik-voeren-als-ik-ben-afgestudeerd-of-gepromoveerd [assessed 10-10-2017]

https://www.studiekeuze123.nl/opleidingen [assessed 10-10-2017]

https://www.venvn.nl/Berichten/ID/1020793/Eindelijk-onderscheid-tussen-verpleegkundige-mbo-en-hbo [assessed 10-10-2017]

https://www.volkskrant.nl/binnenland/hbo-affaire~a1882371/ [assessed 10-10-2017]

List of interviewees:

Country	Name	Organisation and function	Contact information (Email, phone) List of interviewees	Date of interview	Agreement*– yes/no
NL	Hans Daale	Leido, director	info@leido.nl	17-08-2017	Yes
NL	Stephanie Roos	Min OCW – Policy officer	s.f.roos@minocw.nl	25-09-2017	Yes
NL	Yvonne Bernardt	Min OCW – Policy officer	y.bernardt@minocw.nl	25-09-2017	Yes
NL	Aldert Jonkman	Vereniging Hogescholen - coordinator	jonkman@verenigingh ogescholen.nl	04-10-2017	Yes
NL	Gertrud van Erp	VNO-NCW – Policy officer	erp@vnoncw-mkb.nl	09-1-2017	Yes
NL	Ria van 't Klooster	NRTO - dirctor	riavantklooster@nrto.nl	05-10-2017	Yes

* Interviewee agrees that his/her name can be included in the final publication

Case study

Country: ITALY

Author: Marco Innocenti & Veronica Messori

Title of the case study: Higher VET in Italy

1. Introduction

Please provide a concise introduction that gives an overall indication of the change processes observed (during the last 20 years) related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)'.

Higher education learning pathways are offered by three types of institutions in Italy: universities belonging to the system of academic higher education, high-level arts music and design institutions (Alta formazione artistica e musicale, AFAM) and higher technical institutions (Istituti Tecnici Superiori, ITS) belonging to the system of the tertiary education. Higher education institutions in Italy are autonomous. They are able to establish their own mission and governing bodies (Rector, Board of Management and Senate) and their teaching and research structures. Italy has 95 university institutions (61 state universities, 17 non-state universities, 6 higher schools and 11 online universities) and 127 higher education institutions for fine arts, music, dance and design.

The entire sector, but especially the university education category, underwent a radical renewal at the end of the 1990s, motivated both by choices of national significance and by the desire to bring the system into line with the European model outlined by the Bologna which Italy has helped to promote from the outset.

In Italy, the introduction of VET at higher levels is quite new.

Traditionally the Italian higher education system has not included programmes and approaches oriented to enhance and increase the transition of students from school to work. Moreover, the current presence of VET in this kind of education is limited, as well as the contribution and co-operation with employers and labour market stakeholders.

In Italy only 18% of people aged 25-65 year old have attained tertiary education, 4% at bachelor's and 14% at master's or equivalent level. Regarding young adults aged 25-34 the difference with OECD countries is more moderated compared to the previous one, in particular 26% have a tertiary education while the average in OECD counties is 43%. ([153]).

In Italy there is a consistent number of students leaving the study cycle (many of them become NEET) or accessing the labour market without continuing the learning pathway. This can be related to a low level of enrolment of students coming from secondary education, a significant level of drop-out and an insufficient offer of tertiary courses with a strong vocational structure. According to OECD indication in Italy the low level of tertiary attainment is also due to poor employment prospects and low financial returns from attaining tertiary education (with a significant difference amongst gender).

Recently the Italian government has enhanced the level of technical and vocational content in academic pathways, linking them with labour market needs in order to create specific links between non-academic tertiary education and academic pathways, which will encourage the access of students in higher education.

([153]) OECD, 2017

In 2007 (Decreto Ministeriale 16 marzo 2007), a 'Bachelor's degree' (Laurea) was provided by the Universities, as an alternative to the 'Master degree' (obtained after 5 years) which has already been formally established. This short academic pathway lasts 3 years and is aimed at providing students with easier access to the labour market gaining technical skills and increasing their employability, especially for specific vocational profiles in the health and legal sector. Unfortunately, the outcome of this pathway was not what the reform was expecting. In fact, the number of students accessing the labour market after these courses is very low, and the majority of students choose to continue their studies for acquiring a Master degree. Others students, on the other hand, leave their studies to choose a different job career, or end up becoming unemployed.

The insufficient results obtained through the introduction of Bachelor's degree, and the low and poor linkage of the learning paths with the labour market, resulted in the Italian Government introducing a Professional Bachelor's degree (Decreto Ministeriale 12 December 2016, n.987) which was more oriented to the employability of students and better connected with employers and labour market needs. The implementation of the **Professional Bachelor's degree** can be considered as **vocational drift** of higher education, as it foresees the introduction of vocational learning approaches and methods in the academic pathway.

In 2007, Italy carried out a significant evolution in the field of higher education promoting specific vocationally-oriented higher education programmes aimed at enhancing and facilitating young people's access to the labour market, taking into account an academic profile. In particular, specific formal VET pathways have been established with the strong co-operation of employers, universities, schools and VET Agencies. These new institutions (*Istituti Tecnici Superiori, ITS*) established with a specific National Law (Legge 2 aprile 2007, n. 40, art. 13), offer short-cycle tertiary programmes according to the Bologna structure but which are not linked with the Bachelor programmes and are less theoretical. They cover techniques, ideas and concepts not generally taught in upper secondary education. In the last few years, the school reform introduced measures to boost the ITS such as:

- enabling students with only four-year upper secondary vocational qualification to access ITS after completing a foundation year;
- increasing the permeability between ITS and academic higher education (e.g. Bachelors' degree and Master degree) by simplifying administrative procedures.

The introduction of **ITS** as vocationally-oriented higher education programmes can be considered as **vocational drift** of higher education.

The importance of strengthening the connections between VET (including ITS) and academic higher education pathways (Bachelor's and Master degrees) is a primary objective for the Italian Ministry of Education, University and Research (MIUR) and it is a priority in the future educational strategy and policy. In particular, a single framework is requested in order to guarantee an effective and efficient tertiary education system as well as effortless bridges between VET and Academic Higher Education. This aim is the main focus of the policy of the Ministry.

2. VET at higher levels

Please briefly describe the current situation related to 'VET at higher levels' in your country and refer to the following questions:

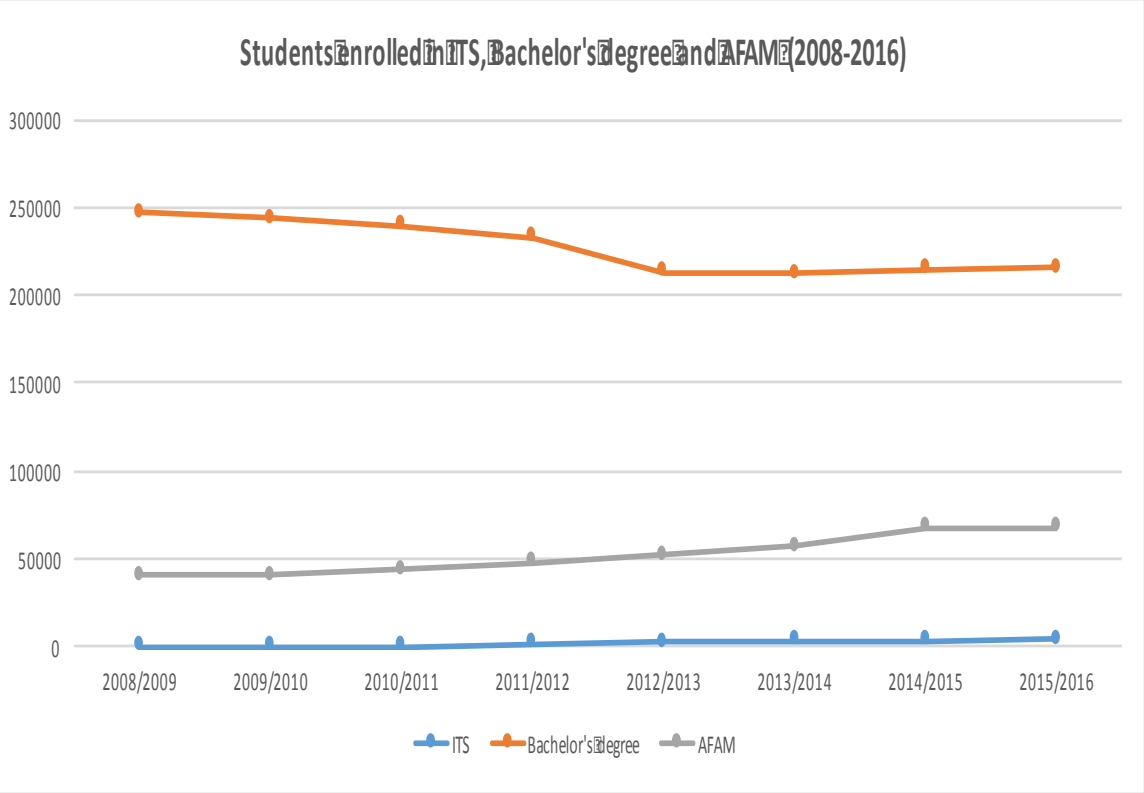
*Which **types of vocationally oriented degrees/qualifications** are currently awarded at **EQF levels 5-8** and **since when**? Please include the titles of these types and their NQF/EQF level and **describe them briefly**! Please use the most commonly used English translation for the titles of qualification*

types and use these titles consistently! ([154]) *To which* ***educational segment*** *do they belong (e.g. higher education, post-secondary level VET, CVET)? What is the* ***'importance' of these types*** *(e.g. in terms of number of learners or graduates) compared to other types (such as number of students enrolled in academic HE programmes)? Are there any prevailing economic sectors?*

Please include any ***figures or diagrams*** *(time series), if possible!*

In Italy, VET at higher levels is offered by three types of institution: *universities*, *high- level arts, music, and design institutions* (Alta formazione artistica e musicale, AFAM) and *higher technical institutions* (Istituti Tecnici Superiori, ITS). The figure below provides an overview of the enrolled students in the main programmes offered at these institutions. ([155])

Fig. 1: Students enrolled in ITS, Bachelor's degree and AFM (2008-2006)



Source: Author based on ISTAT, ANVUR, INDIRE, 2008-2015

Other private providers (private schools, agencies and academies) offer higher level courses with a vocational profile but the certificates/diplomas provided by them after the courses are not recognised in the NQF and, with the exception of specific significant cases, they will not be taken into account in this case study.

Linked to EQF levels 5-8, there are five types of vocationally oriented qualifications:

1. Qualifications at EQF level 5 from Higher Technical Institutions
2. Bachelor's degrees with a vocational orientation (professional Bachelor) at EQF level 6, traditionally acquired through studies at university (within higher education)

([154]) If applicable, refer to the Cedefop NQF monitoring reports – see: http://www.cedefop.europa.eu/en/events-and-projects/projects/national-qualifications-framework-nqf/european-inventory

([155]) Data about University Master degree (levels I and II) are highly fragmented and it is not possible to acquire useful information.

3. University Master (levels I and II) at EQF level 7-8 from universities or specialised university institutions
4. Higher specialisation diploma linked to EQF levels 7 and 8
5. . First and Second level academic diploma in Arts and Music (AFAM) linked to EQF levels 6 and 7

When we talk about tertiary education in Italy, it becomes clear the number of people enrolled in this typology of learning pathway is lower than the EU 28 average, and this trend will persist in the next few years (tab.1).

Tab.1: Number of tertiary education students by level, 2015 (thousands)

	Short-cycle tertiary education (e.g. ITS)	**Bachelor degree or equivalent**	**Master degree or equivalent**
Italy	6.5	1076.7	710.5
EU 28	1397.5	11984.4	5423.1

Source: Author based on EUROSTAT Statistic explained (online data code: educ_uoe_enrt01) 2015

The table n. 2 on the other hand provides the percentage of enrolled Italian students acquiring a qualification related to the higher education (considering short-cycle tertiary education, bachelor degree and master degree).

Tab.2: percentage of students enrolled acquiring a qualification related to higher education (2016)

	Short-cycle tertiary education (e.g. ITS)	**Bachelor degree**	**Master degree**
Italy	0.2	28	20
OECD average	11	36	17

Source: Author based on 'Education at a glance (OECD, 2017, http://gpseducation.oecd.org/CountryProfile?primaryCountry=ITA&treshold=10&topic=EO)

In the following paragraphs, we will briefly present the main types of vocationally oriented degrees/qualifications currently awarded by the Italian VET and education entities at EQF levels 5-8, on the basis of the organisations providing them.

Ad 1. Higher Technical Education diploma

As indicated in the introduction, in 2007, the Italian government established a new type of vocationally oriented learning path aimed at providing students with newer, faster opportunities to access the labour market.

The *Higher technical education diploma* (Diploma di Istruzione Tecnica Superiore) is classified at EQF level 5 and can be acquired at the end of a specific course attended in a Higher Technical Institute (ITS), which is a Foundation made by different 'productive actors' (listed below) and stakeholders. ITS' were established in 2007 and formally implemented in 2010. The number of students enrolled in ITS between 2011 to 2015 is around 12,000 (1,492 students in 2011, 1,893 students in 2012, 2,270 students in 2013, 2,938 students in 2014, 3,521 in 2015). In 2016, 4,131 ([156]) students were enrolled in ITS for the first time and the level of employment of graduates (1 year after graduation) was around 80% ([157]).

([156]) Source of data: INDIRE (2017). Monitoraggio Nazionale 2017 Percorsi ITS, 2017

([157]) Source of data: INDIRE (2017). Monitoraggio Nazionale 2017 Percorsi ITS, 2017

There are 93 ITS' distributed at regional level and they are focused in 6 Technological Areas:

- ✓ Energy efficiency (13 Institutes)
- ✓ Sustainable Mobility and Transportation (17 Institutes)
- ✓ Life Technologies (7 Institutes)
- ✓ New Technologies for enhancing "Made in Italy" (34 Institutes)
- ✓ Information and Communication Technologies (10 Institutes)
- ✓ New Technologies for arts, tourism and heritage (12 Institutes)

ITS are Foundations made by schools, vocational training agencies, employers, universities and other stakeholders which co-operate in designing and providing the courses. At the present, the main partners of ITS are 676 employers, 404 Secondary Schools, 295 Vocational Training Agencies, 194 Local Administrations, 98 Universities, 93 Employers' Consortiums and Research Institutions, 40 Employers' Associations, 33 Professional Orders, 15 Chambers of Commerce, 13 Trade Unions, 7 financial institutions. The presence of the Universities guarantees an academic approach of the programmes and content.

Ad 2. Bachelor's degree

The Bachelor's degree course gives the student an appropriate command of general scientific methods and principles, even when the programme is oriented toward the acquisition of specific professional knowledge, and provides a solid base for those who wish to continue their studies with a 2nd level degree or a 1st level master (see below).

To be admitted to a Bachelor's degree course, people must have a secondary school diploma or a suitable equivalent foreign qualification. This degree course lasts three years.

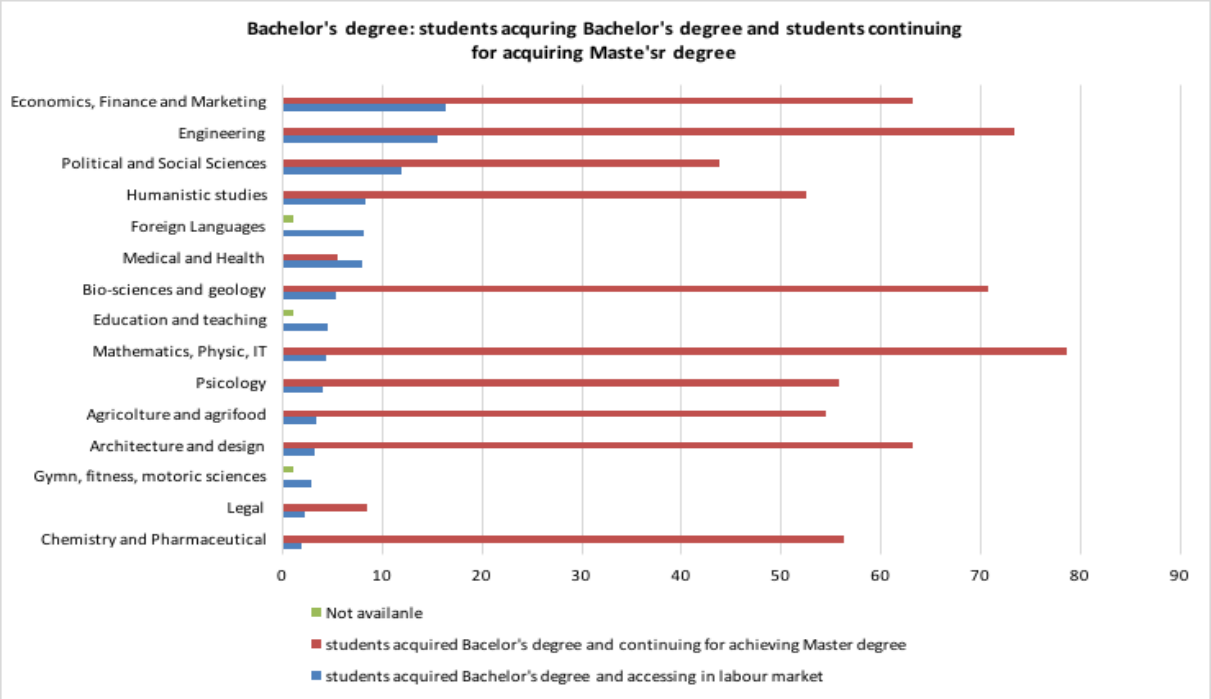
In 2007, the Italian Government established a short academic education cycle lasting 3 years and providing, at the end of the learning path, a *Bachelor's degree* (Laurea) which is classified at EQF level 6. The aim of this introduction was to design a higher education pathway with a vocational component, aimed at facilitating the access of graduates to the labour market.

However, the expectations have not been met. The courses, in fact, were only attended by students as a bridge for attending learning pathways for the acquisition of a Master's degree (additional 2 years) and did not respond to the employers' expectations. This trend generated a significant diminution of the number of courses offered in this 'short academic pathway' and also an important and strong re-thinking of this educational option. Moreover, the number of students enrolled in the Bachelor's degree courses in the year 2015/2016 was in total 1,002,758 ([158]). The majority of the graduates, 75.2% ([159]), continued their learning pathway in order to acquire the Master's degree. This is a signal that these short academic programmes, originally aimed at helping young people to access the labour market, had not worked as the government had expected (fig.2).

([158]) Source MIUR Statistic Database, http://statistica.miur.it/scripts/postlaurea/vpostlaurea.asp

([159]) ANVUR (2016). Rapporto biennale sullo stato del Sistema universitario e della ricerca, 2016

Fig.2: Students who have acquired Bachelor's degree and accessing in the labour market and students who have acquired Bachelor's degree and continuing studies for acquiring Master's degree-



2016

Source: Author based on statistic MIUR Statistic Database, ANVUR, 2016 Rapporto biennale sullo stato del Sistema universitario e della ricerca, 2016

Bachelor's degree courses with a stronger vocational orientation and a significant link with the labour market concern especially the Medical and Health sector and, in particular, job profiles as physiotherapists, dieticians, obstetricians, health and radiology technicians, dental hygienists and nurses.

The introduction, in 2016, of the 'professional Bachelor's degree' (*Laurea Professionalizzante*) (Decreto Ministeriale 12 December 2016, n.987) foresees the introduction of technical and vocational contents and methodologies in the universities pathways (excluding the health sector in which these components are already present). This new learning pathway aim at representing a new learning opportunity with a specific Bachelor degree acquirable at the end of the studies and can be considered as a recent sign of vocational drift in higher education. The new Legislative Decree foresees, the following dispositions that - in the next few months - will be applied in some pilot learning pathways:

- ✓ acquisition of input from the productive sector (mainly through employers' associations and social parties) in terms of professionals needs and skills in order to structure learning pathways providing technical knowledge and skills directly applicable in the labour market.;
- ✓ carry out a test of one pilot course in each Italian university acknowledging the following criteria: 1) establishment of an agreement amongst universities and employers and/or professional associations for the development and implementation of the pilot learning course; 2) opportunity for students to acquire training credits after having attended the internship period; 3) guaranteeing number of adequate teachers and tutors in charge of the implementation of the programme;
- ✓ enrolment of maximum 50 students;

- ✓ assessment of the pilot course in term of employment level of graduated (80% of graduates should be employed one year after graduation).

The launch of this new type of course will be in 2017/2018 so implementation data is not available yet.

However, it can be observed, looking at the draft design of programmes that several Italian universities are currently developing and that will be launched in the next year, these Professional Bachelor's degree pilot courses will concern especially sectors such as mechatronics, mechanical engineering, web design, agriculture and food.

Ad 3. University Master (levels I and II)

In Italy, the vocationally orientated training courses offered and provided by the universities, after the acquisition of Bachelor's and Master's Degrees, are several and heterogeneous. The reform concerning these paths is dated in 2004 (Decreto Ministeriale 270/04).

Unfortunately, there are no official data available on this kind of course. Data are quite fragmented, where possible all data are already indicated

All Italian universities offer this kind of course and, after their completion, it is possible to acquire a First Level University Masters (*Master Universitario di primo livello*) classified at level 7 EQF or a Second Level University Masters (*Master Universitario di secondo livello*) classified at 8 EQF.

In some cases, especially in the medical and health sector, courses are defined at the institutional level following specific legal rules and laws.

Due to the fact that these courses are aimed at specialising participants in a specific job, a lot of them are technical and vocationally oriented, lasting 1 year (at least) and foreseeing a mandatory traineeship.

In 2014/15, the number of students enrolled in a First Level University Masters was 23,440 ([160]) and the majority of courses focused on specific sectors such as marketing, architectural and mechanical design.

Students enrolled in a Second Level University Masters in 2014/2015 were 15,996.

The Italian scenario related to this typology of learning pathway is, anyway, quite fragmented in terms of data available and acquirable, in this respect there is not a single source where to pick up information because the Italian Regions and Universities are free to elaborate their data and information and release reports/documents. Thus, it is not always possible to provide information related to this qualification type in the later sections of this report.

Ad 4. Higher specialisation diploma

The Higher Specialisation diploma (*Attestato di perfezionamento*) established in the 1990s is classified at EQF level 7 and 8 and can be obtained after the completion of a course offered by a university. It requires the possession of a Bachelor's degree, a First/Second Level University Master's degree or an Upper Secondary Education diploma (if it fits with the scope and the contents of the course). Some of the Higher Specialisation diploma courses are linked with specific job qualifications or licences (e.g. teachers or naturopath etc.) and /or prepare students for exams for regulated jobs (e.g. accountant). Their duration can last from 3 months to 1 year.

([160]) Source: MIUR Statistic Database, http://statistica.miur.it/scripts/postlaurea/vpostlaurea.asp

These courses are based on the autonomy of each university so it is difficult to have data and figures on the enrolment rate or participation of students due to the fact there is not a unique entity in charge of the monitoring and collection of data.

Ad 5. Specialisation diploma

The Specialisation diploma (*Diploma di Specializzazione*), classified at EQF level 8, can be acquired after a Master's degree and is addressed to students who want to acquire a specialisation in specific jobs and sectors regulated by national laws. These kinds of courses were established in 1982 (D.P.R. 10 marzo 1982, n. 162) and are provided by specific Specialisation Schools linked to universities.

In particular, it is possible to acquire a Specialisation diploma for practicing jobs linked to psychology, health and medicine, veterinary, cultural heritage protection, public administration and legal areas.

For example, the Specialisation diploma for Teachers will, from 2018 on, have a duration of three years and will, with a limited number of places, be offered at universities at regional levels.

Ad 6. First and Second level academic diploma in Arts and Music (AFAM)

The Italian Ministry of Education established First and Second level academic diplomas in Arts and Music (AFAM) in 1999 (Legge 21 dicembre 1999, n. 508). The entities authorised to grant these titles are 137 institutions (public and private) such as Academies of Arts, Music, Theatre, Dance, Design etc. The acquisition of the title is linked to a learning pathway with practical exercises and lessons as well as a traineeship.

In 2014/15, there were 86,872 students enrolled in these kind of institutions, 44% of which attended Academies of Arts ([161]).

The First level academic diploma (*Diploma Accademico di primo livello*) classified at level 6 EQF can be accessed by students who have obtained the Upper Secondary Education diploma. It lasts 3 years and permits students to access public administrations (schools or other entities), artistic enterprises or the learning path for acquiring a second level academic diploma.

The Second level diploma (*Diploma Accademico di secondo livello*) classified at level 7 EQF, can be obtained by students with a Bachelor's degree or a First level academic diploma. It lasts 2 years and the number of places is limited.

In both learning pathways, there is an effective mix between vocational and academic components due to the fact the learning pathway is based on theoretical content and vocational learning methods needed to access effectively in the labour market.

This kind of learning pathway is not changed during the years and this is the reason why we will not focus on this in the following sections of the report.

[161] Source MIUR Statistic Database, http://statistica.miur.it/scripts/postlaurea/vpostlaurea.asp; ANVUR (2016). Rapporto biennale sullo stato del Sistema universitario e della ricerca, 2016

3. Change processes during the last 20 years - educational system perspective

One of the unique features of this study is the emphasis given to the historical development of VET systems. In this section, the focus is on the change processes that have taken place during the last 20 years related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' from the perspective of the educational system.

Depending upon the situation in your country, relevant developments might have started already before the 1990s. In other cases there may be no need to take such long-term perspective, but at the very least the commentary should go back to the middle of the 1990s.

Please describe first these change processes and their impact on the overall system (3.1), before presenting characteristics of VET offered at higher levels from the perspective of the educational system (3.2). Please clearly distinguish between the different objects and contexts of change, respectively the different types of VET qualifications/programmes offered at higher education levels.

Please refer to the "Characteristics and indicators of 'academic drift', 'vocational drift' and 'expansion of VET at higher levels (outside HE)'" (presented in Table 2 of the guidance note; the relevant aspects are included in each section here below): Please reflect whether any of these characteristics and indicators can also be identified in your country and which ones – identified in your country - should be added.

Please note: in the following section information related to the above-mentioned learning programmes and qualifications acquirable in Italy is reported. In some cases, due to the Italian administrative structure (where the organisation of training systems in under the responsibility of each Italian Regions) it was not possible to acquire homogeneous data about the issues and items discussed below. The available data has been reported in order to provide an overview as much as possible complete.

3.1. Change processes and their impact on the system

Since 1996 in Italy, a robust reform of tertiary education has been initiated.

In particular, the reform was focused on overcoming the current system that foresees that only universities can offer an access to the labour market and the only learning pathway of tertiary education. This irregularity was aggravated, in fact, by the almost exclusive offering of particularly long and challenging university courses - of a legal duration from four to six years, but of an average duration of more than seven, for obtaining a Master's Degree.

The introduction of two-year or three-year lasting university courses (Italian Bachelor's degrees in 2007), which should be more oriented to the labour market, had a very limited quantitative impact on the university system. Yet, the experience of these courses, especially the integration of traineeships and stage, was a significant innovation factor in the supply of higher education.

The 1990s reform of tertiary education has foreseen the creation of three institutionally and functionally distinct components:

- ✓ University education (universities and colleges)
- ✓ Higher artistic and musical education (art academies, music conservatories, etc.)
- ✓ Advanced Integrated Technical Training (actually named Higher Technical Education and Training)

The distinction between these components was based on the diversity of the internal institutional actors, the specificity of the training objectives, the teaching methodologies, the content and the duration of their respective study and the training paths.

The general adoption of training credits, moreover, allowed students to move from one component to the other with the recognition of acquired education and training levels. For

Higher artistic and musical education qualifications, it is possible, on a case-by-case basis and limited to access to public-service competitions, to recognise them as diplomas awarded in Universities' paths.

In the above mentioned higher education programmes it is foreseen in addition to the theoretical and classroom learning path internships lasting up to six months or up to twelve months will also be included. (this can also be considered and vocational drift in higher education).

Concerning the reform of Universities, in order to modernise them, in the years 1996-99, a large and comprehensive process of innovation was activated through specific legislative and administrative measures such as:

- access and guidance to academic studies (planned actions, in collaboration between schools and universities, during the last two years of secondary education, in order to guide and support the choice of students in tertiary education);
- introduction of the Higher education for specialisation: activation (1998-99) of the four-year degree program for the training of primary cycle teachers, activation (1999-2000) of the two-year lasting specialisation school for the training of secondary school teachers, establishment and activation (2000-2001) of the two-years specialisation school for legal professions (magistrates, lawyers, notaries), reform of the courses and schools for the specialist training of medical doctors. Before these types of specialisations there were only Master degrees after them, graduates were ready to access in the different professions (e.g. teachers, lawyers etc.).

Before the introduction of this new 'reformed' learning pathway the above-mentioned professions were still trained inside the higher education as mentioned through Masters degrees enabling graduates to access their professional system.

Concerning the strengthening of vocational aspects in higher education, as already explained, the introduction of the Bachelor's degree in 2007, classified at level 6 EQF was aimed at facilitating the access of graduates in the labour market in a fast way. Unfortunately, the effectiveness of this path was not successful due to the fact that the connection with the labour market and the employers was not so strong and effective.

For this reason, in 2016 (Decreto Ministeriale 12 December 2016, n.987) the Italian Government launched the '**professional Bachelor's degree**' (*Laurea Professionalizzante*) which is strongly oriented to labour market needs and following the requests from employers and employers' associations. It aims to provide graduates with technical skills directly applicable in the labour market. This new programme will be aimed at connecting the academic pathway with a vocational approach in order to improve, increase and accelerate the access of students in the labour market. The professional Bachelor's degrees can be seen as very important projects aimed at strengthening vocational aspects in higher education and their introduction can therefore be considered as **vocational drift** of higher education.

The **Higher technical education diploma** (Diploma di Istruzione Tecnica Superiore) introduced in 2007 and formally implemented in 2010, can be considered an example in which a vocational-based programme has been included in higher education programmes, introducing also academic contents, defining agreement with universities and creating an effective mix between academic and vocational approaches. The introduction of this programme could be considered as **vocational drift** (both for higher education and academic) because new types of programmes/qualifications with vocational orientation have been introduced as part of higher education.

This type of vocationally oriented learning path is aimed at providing students with new, fast and easier opportunities for accessing the labour market by introducing programmes

providing academic and theoretical contents mixed with on-the job-training phases. The universities are partners of this kind of institutions and guarantee an academic approach and permeability in these specific learning pathways.

3.2 Changes related to characteristics of 'VET at higher levels'

3.2.1 Changes related to governance and institutional structures of 'VET at higher levels'

Some of the programmes/qualifications listed in Section 2 are not changed during the last years. The only changes are focused on the **Higher technical education system,** the **Bachelor's degree** and **University Master (levels I and II)**

The **Higher technical education system** was launched by the Ministry of Education, University and Research (MIUR) in 2007 and permanently implemented in 2010. Regional Authorities are responsible for the financial management and coordination of the programmes while new legal entities called 'Technological Poles' (Poli Tecnologici) are responsible for designing and providing the courses.

Technological Poles constitute an organisational mode of sharing the public and private resources available, also for a more efficient and effective use of the spaces and laboratories of schools and training institutions, with the full use of the tools (financial, human, technological) provided by the Italian Government.

In order to ensure the coherence of the ITS learning pathway, the Regions prepare specific inter-institutional agreements including all actors involved in the functioning of the Technical Poles. In this way, Italian government and Regions choice is focused on connecting different actors and stakeholders, sharing their experiences and background combining the institutional strategies, with the objectives and needs from productive sectors (enterprises, employers' organisations and social partners) as well as vocational schools, universities and research centres located in the region.

INDIRE (Istituto Nazionale Documentazione Innovazione Ricerca Educativa, National Institute for Documentation, Innovation and Educational Research) on behalf of MIUR, develops and manages the Higher technical education database, which collects the Higher Technical Education offers at local level, monitoring them over time, with the aim of constantly improving the system. INDIRE contributes to the monitoring and evaluation of ITS courses and prepares monitoring reports. In addition, it conducts research to analyse the structural, organisational and educational elements practiced in the various ITS, in order to encourage a process of innovation and empowerment. ITS' are financed by the Ministry of Education, University and Research (MIUR), the Regions and the ESF.

Concerning the provision of courses, ITS (Istituti Tecnici Superiori) are Foundations made by schools, vocational training centres, employers, universities and other stakeholders that co-operate in designing and providing the courses (this type of governance – involving employers - can be considered as vocational drift). These courses are carried out by Technological Poles that are located in the schools and, for specific technical/vocational activities, in vocational agencies and private companies.

In regards to **professional Bachelor's degrees**, they are designed and launched by MIUR in 2016 and their provision and organisation is the responsibility of universities that define agreement and collaborations with employers, employers' associations and other stakeholders in order to design learning pathways really linked with labour market needs and requests. This governance structure can be considered as indication of vocational drift of higher education.

The monitoring and evaluation of this kind of courses is the responsibility of ANVUR (**National Agency for the Evaluation of Universities and Research Institutes**), which is

the agency that carries out the evaluation of the University system and specific research based on the data given to the system by MIUR. It proposes the criteria and indicators for the evaluation of the University and Research systems and for the accreditation of Universities. ANVUR works by following the principles of independence, impartiality, professionalism, transparency and is monitored by MIUR. The professional Bachelor's degree courses are financed with national resources managed by MIUR.

The establishment (in 2004) of **University Masters (level I and II)** provided by a partnership between universities and employers association can also be considered as vocational drift of higher education (for further information about this type please refer to paragraph 4.1). These Masters' programmes have a strong vocational orientation component due to the fact that most of them are provided by Universities in partnership with employers' association and/or single employers.

3.2.2 Changes related to the target groups of 'VET at higher levels'

The main target groups of **Higher Technical Education courses** and **professional Bachelor's degrees** include young people with an Upper Secondary Education diploma or a Professional technician diploma. They are predominantly students and no differences or changes can be observed in relation to the past 20 years.

In particular, a big portion of enrolled students in **Higher technical education system** (ITS) are young people aged 18-24 (see Table below) with an Upper secondary education diploma. Some of whom also have a Bachelor's degree or a Master's Degree. The main reason is due to the fact that ITS provide a more specific preparation (knowledge and skills) to students in line with the needs of the labour market and at the end of pathways finding a job is easier than the university pathway.

Tab.3 Number of enrolled students in ITS per age 2015-2017

Years Age	2015	2016	2017
18-19	539	631	836
20-24	726	731	1097
25-29	140	160	237
> 30	108	162	204
Total	**1,512**	**1,684**	**2,374**

Source: INDIRE, 2017

As we can see in table 2, the number of enrolled students in ITS has increased in the last three years but it is still considered low compared with the goals of Italian government and MIUR, who aim to increase the level of participation of citizens in vocational higher education by at least 50%.

Concerning **Bachelor's degrees**, enrolled people are young people around 19-years-old. The number of students over 19 are low due to the diminution of the number of recognisable credits for people coming from other universities or other learning pathways (from 60 recognisable credits of 2007 to 14 recognisable credits in 2010).

In 2016, about 17% of the students enrolled in a Bachelor's degree was over 19 years (of them: 35% in medical / health sector and 42% in the disciplinary group dealing with teaching ([162])).

Concerning the **professional Bachelor's degree**, now, there is no data available yet because the courses will start in 2018 but they will be open to graduates from upper secondary school as well as employed or adult people.

([162]) MIUR Statistic Database, http://statistica.miur.it/scripts/postlaurea/vpostlaurea.asp

Regarding the **University Master level** I the table below show the number of students graduated from the 2010 to 2016. It can be observed that the number of graduates decreased starting from 2014, probably due to the impact of the socio-economic crisis.

Tab. 3. Number of students graduated per year (University Master level I)

Year	Graduated
2010	24994
2011	19997
2012	22776
2013	19745
2014	22018
2015	19485
2016	18721

Source: Author based on statistic MIUR Statistic Database 2010-2016

The tab. 4 provides information about the number of students graduates for the University Master level II. In this case the trends is different, the number of graduates slowly increases starting from 2011.

Tab. 4. Number of students graduated per year (University Master level II)

Year	Graduated
2010	12.300
2011	11.231
2012	11.939
2013	11.538
2014	12.678
2015	12.887
2016	13.602

Source: Author based on statistic MIUR Statistic Database 2010.2016

The target group of the above-mentioned learning pathways (Higher technical education system – ITS, professional Bachelor's degree and University Master level I and II) is mainly composed by students, unemployed (normally not having accessed the labour market yet) willing to enhance their skills and knowledge in order to having more chances to find a job when concluded their learning pathway. The status of the students enrolled did not change compared to the past.

3.2.3 Changes related to the main purposes and functions of 'VET at higher levels'

A great portion of students obtaining a **Higher Technical Education Diploma (ITS)** access the labour market immediately after the completion of the learning pathway, despite having the possibility to access an additional academic programme thanks to the training credits system established in 1996. Analysing 2015-2017 monitoring data provided by INDIRE, the total number of graduates employed 12 months after they achieved a Higher Technical Diploma, is 3,260, 79.5% of the 4,100 graduates, and 70% (2,875) have found work in a coherent area with the learning path attended. On the basis of this data, it is clear that this kind of learning provision is effective and responds efficiently to the requests and needs of the labour market.

Collected data per technology area show a large and growing share both of graduates and employed people in the New Technologies for Made in Italy area, and in the Sustainable Mobility area. The New Living Technology area has the lowest number of employed throughout the period considered. ([163])

In many cases they are enrolled in companies as Senior technicians, in particular employed in technical and productive processes in mechatronic, mechanic, food chain and food production sectors.

Concerning the occupational status of graduates coming from **Bachelor's degrees**, in recent years, the transition from higher education system and labour market it has been characterised by precariousness and a limited number of job opportunity. In regards to the coherence between the job acquired after the learning pathway and the contents of the degree, there is a strong coherence in medical and health professions as well as teaching professions while less coherence is visible in social studies, statistic, economics and engineering ([164]).

In 2016, the percentage of students employed one year after obtaining a Bachelor's degree is 41%. The effectiveness of the qualification can mainly be observed for health professions (81%), teaching and science and physical education (58%, 50% and 55% respectively).

Concerning the skills acquired one year after graduation, more than 34% of the students who found a job, stated that the contents acquired during the course was relevant to their current career, whilst 36% declare that their course has little relevance and 29% of graduates say they do not use the knowledge gained during the three-year university program at all (unlike the colleagues in the health professions and the group of teaching and gym) ([165]).

A different picture appears for the **University Masters**. The actual debate in education and training in Italy states that Italian training system is one of the poorest regarding work-based learning and lifelong learning. In the public debate on education amongst Italian Government and stakeholders it is seen as a positive aspect the emergence of master's courses also directed at managers, professionals from public and private entities and companies. In fact, in the last ten years, 18% of the people enrolled in Master programmes (level I and II) were also employed ([166]). It is also important to say that some of the courses consider professional experience as a compulsory requirement for admission (this aspect of change process can be considered as vocational drift of the higher education).

3.2.4 Changes related to the perception of 'VET at higher levels'

As we can see in the previous chapter, only a limited number of students are enrolled in higher learning pathways with a vocational focus.

Higher Technical Education pathways attract a low number of students both because it has a very technical approach and because it is not a well-known institution. Moreover, many students prefer to acquire a Bachelor's degree and a Master degree, thinking that an academic diploma is more valid than a technical one.

Bachelor's degrees are more often acquired even if more students, after achieving it, decide to continue their learning pathway instead of accessing the labour market (excluding

([163]) INDIRE,. Monitoraggio Nazionale 2017 Percorsi ITS, 2017

([164]) ANVUR. Rapporto biennale sullo stato del Sistema universitario e della ricerca, 2016

([165]) ANVUR. Rapporto biennale sullo stato del Sistema universitario e della ricerca, 2016

([166]) MIUR Comitato Nazionale per la valutazione del Sistema universitario (2008). Indagine nazionale sui master universitari. Il ruolo delle università nella formazione professionale post-lauream, 2008

health sector Bachelor's degree programmes in which a lot of students choose to access in the labour market without continuing the academic pathway).

Concerning the others programmes listed in section 2, not significant changes in the last years can be individuated.

4. Impact on content and delivery of qualifications and programmes - the epistemological or pedagogical perspective

This section focuses on the implications of 'vocational or academic drift' or of the 'expansion of VET at higher levels (outside higher education)' for the content and delivery of programmes and qualifications.

As we have described in the previous chapters, VET at higher levels is focused particularly in productive sectors such as mechatronics, food production, health and medicine. All these courses foresee a period of classroom learning as well as traineeships and practical learning.

4.1 Changes in relation to content and profile

The institutions of **Higher Technical Education (ITS)** offer learning programmes in which academic contents and vocational elements are strongly integrated in order to guarantee easier and faster access to the labour market. Thus, the introduction of ITS with their vocationally oriented profiles can be considered as vocational drift of higher education.

The basic mission of ITS is to train students in technical and innovative productive processes in order to contribute to the growth of economic development, also through high level professional skills. For this reason, ITS courses are focused on different technical contents which are linked to specific job profiles. These technical contents are energy provision and sustainability, supply chain transportation, vehicle engineering, logistic processes, biotechnology and biomedical tools and instruments, food production, fashion, design and mechanical instruments and engines, tourism and cultural heritage, ICT architecture, programming software and database.

The technical programmes foresee a part focussing on theoretical contents (more academic and linked with research approaches and scientific principles) and a part focussing on vocational approaches more linked with the techniques to be applied into the job as well as specific machines and engines, productive processes application etc.

In Italy, it is possible to achieve a **Bachelor's degree** in different content areas: economics, legal, science and bio-technology, cultural heritage, music, arts and theatre, fashion, industrial design, construction engineering, biology, tourism, training and education, communication, gym and sport, agriculture, food science, chemistry, pharmacy, ICT, security and defence, health (nursing and obstetrician, rehabilitation and physiotherapy technicians, radiology technicians).

Except for the health professions, for which the Bachelor's degree foresees a direct and fast access to the health and medicine sector (public and private hospitals and other health organisations, companies and entities) and that offers structured and articulated programmes with an effective mix between theoretical and vocational elements, other programmes are more theoretical and do not prepare students effectively for accessing the labour market despite some of them (e.g. scientific contents) including a short traineeship.

The insufficient connection between Bachelor's degree pathways and the employability of graduates contributed to the in the introduction of the **professional Bachelors** in 2016. These courses have not been launched yet but the pilot courses, foreseen in 2018, will be focused on mechanical engineering, mechatronic, food production and ICT, and will be oriented to instruments, methods and activities linked with technical professions and employers' needs.

Concerning the **University Masters (levels I and II)**, they are specialised higher education courses with a strong vocational component. This kind of courses are strongly linked to the real demand of specialised professional skills, explicitly expressed by employers and labour market stakeholders. This means that the First and Second level University Masters include programmes with a strong presence of technical contents and vocational approach. 60% of these Masters' programmes (introduced in 2014) have a vocational orientation component in each courses developed (especially those learning pathways provided by Universities in partnership with employers' associations or single companies).

The First and Second level University Master programmes are strictly linked to the business and economic sector and developed taking into consideration input and needs coming from a particular professional system (i.e. science specialist, maths and physics, specialists in education, specialists in economics, social professions, etc.). In the Italian scenario there are some Masters' pathway appearing underrepresented in respect to the 'weight' their professional sectors have in the labour market and the employment system.

The greater portion of these programmes is related to Economics (18.2%) ([167]). Considering the job profiles trained, they are 55.8% specialists in human sciences, legal, social and business management and 18% engineers and architects.

In Italy the majority of First and Second level University Master Programmes aim at better qualifying already existing professions, in terms of job profiles (i.e. specialists in human, social and managerial sciences, etc.) while on the other hand just a low number of Master programmes aim at specialising those job profiles and profession considered innovative (such as in the field of mathematics, physic, natural and life science, etc.).

4.2 Changes in relation to the delivery

The delivery of VET in higher education includes traineeships or internships as well as a strong link with the labour market and the employers from different productive sectors.

The **Higher education and research apprenticeship programme**, which was introduced in 2011, is an example of a new form of delivery of VET in higher education and a vocational drift in higher education. This programme, in fact, foresees that young people aged 18-29 can be enrolled in private or public companies with the aim to acquire skills and knowledge that is useful for the acquisition of an Upper Secondary Education diploma, a **Higher Technical Education diploma** or a **Bachelor's or Master's degree** as well as a **Research doctorate**. The duration of the company-based company component of the apprenticeship must be minimum of 6 months and many of apprenticeship programmes are connected to Master's diplomas and Bachelor's degrees focused on mechanic, logistic, public services and legal. An agreement/contract between company and apprentice and higher education institution is stated in order to guarantee the coherence of the pathway.

The diploma acquirable at the end of this particular learning pathway is the same students can acquire attending the traditional learning system (ITS and University). The Higher education and research apprenticeship programme is to be understood as a dual programme providing and allowing students to same degrees and qualifications of the corresponding mainstream courses.

The training/teaching staff of the Higher education and research apprenticeship learning pathway is normally composed by professors coming from the University system, highly specialised trainers in the field of the course and trainers directly coming from relevant economic sectors (companies, employers' associations, etc.).

([167])MIUR Comitato Nazionale per la valutazione del Sistema universitario (2008). Indagine nazionale sui master universitari. Il ruolo delle università nella formazione professionale post-lauream, 2008

Concerning **Higher Technical Education (ITS)**, approximately 30% of the duration of the course is in the company, establishing a very strong link with the productive sectors and labour market through internships which can also be organised abroad.

The pedagogical approach includes theoretical-practical lessons of a specialised level, integrated with: group work; exercises and case simulations; laboratory experiences; business testimonies and visits; participation in fairs and events of national and international interest. In some case training activities abroad are planned with the aim of sharing businesses, research centres and industry institutions. Each course is structured with a classroom component and internships in significant companies in several productive sectors (at least 30% of the whole duration of the course).

Observing the percentage of ITS training hours organised in the business context, in 2016 they were 44% of the total amount. The detail of the technology area shows that the largest number of internships concern the 'Sustainable Mobility' area. Analysing 'New Technologies for Made in Italy', there is an increase in 2017 compared to 2016 in internships in all areas with the exception of Business Services. The highest percentage of participation in ITS programmes is in the agri-food sector and Mechanical sector. The lowest percentage of training hours developed in business contexts is found for the 'Home sector' ([168]). This distribution of time and content has been in place since 2010 and reflects the rules and the guidelines defined by MIUR concerning ITS.

The teaching staff comes at least 50% from the workplace. Courses are usually articulated in four semesters (1,800/2,000 hours). The courses end with final exams, conducted by Exam Committees consisting of representatives of the school, university, vocational training and labour market stakeholders. Work experience in the company can be also completed under apprenticeship, ensuring greater integration between training and work, to reduce the mismatch between demand and supply of figures and professional skills.

Referring to **Bachelor's degrees**, they apply a didactical approach which is very academic and has a poor presence of vocational training. The only aspect that is linked with the connection to the labour market and the idea of providing fast access to employment, is the internship which is voluntary and can be attended during the course or afterwards, with the aim of guiding people to get to know and access the labour market. Also, teachers are from the academic area.

There are two kinds of internships:

- Internships carried out during the course and aimed to integrate the knowledge acquired through the acquisition of professional experience;
- Internships for guidance, done after obtaining the degree in order to support graduates' in making their professional career choices, to give them the opportunity to acquire additional skills and tools useful in pursuit of a profession and for accessing the labour market and / or to support them in the preparation of the exam for the enrolment in regulated professions.

The first type of internship is determined by the single course and a number of university degree credits (CFUs) are recognised. Italian universities, with respect of the principles established in 2004 by DM 270/04, promote and support internships carried out during the course especially for students enrolled in undergraduate courses, non-medical specialisation schools, master's or doctorates. It is useful to remember that the internship is aimed at increasing and facilitating the learning and training process. Duration of the internship is based on the regulations of each university. Universities and departments are in charge of development and management of internships, according to the rules adopted by these structures.

([168]) INDIRE, Monitoraggio Nazionale 2017 Percorsi ITS, 2017

In analysing the various economic sectors for which internships have been activated, it appears that the health and medicine sector activates the highest number of internships for professional practice (45.3% started in 2013/14), while the others are distributed between public institutions and administrative national bodies, schools for teachers legal and regulated professions ([169]).

The new introduction of **professional Bachelor's degrees** (2016) and the pilot courses commencing in 2017/2018, define a drastic change in the methodological and didactical approach of the programmes and learning pathways in this segment of higher education. In particular, these new courses will foresee a strong autonomy of universities in terms of governance for the management of human and financial resources, they will offer professional two-years courses (possibly managed, designed and coordinated by a board of economical stakeholders and partners co-operating with the universities), based on 50% of technical content and a 50% internship.

About **University Masters (levels I and II)**, they have a mix of an academic and vocational didactical approach. The specialisation which students acquire in these programmes mainly derives both from the contribution of the academic disciplines (i.e. theoretical lessons and exercises) and the experiences developed in enterprise and job context. Internships are included in 70% of Master's and have significantly increased since 2004 also because the cooperation between universities and employers/labour market stakeholders has grown.

At present, the connection with labour market and the activation of strong collaboration with employers are considered a very important component of the learning pathway (e.g. the Higher Education and Research Apprenticeship programme is strongly connected with Masters' programmes).

The internship included in Masters' programmes acquires a significant role principally in science, maths, biology, biotechnology and other scientific sectors.

5. The context of change: rationale and drivers for change or persistence

This section aims at understanding how policy influences and justifies the change processes and which external factors influence and shape policy responses/decisions and the change processes observed.

The OECD statistics show that the employment rate is normally influenced by the positive impacts the outcomes of higher education systems can generate in terms of specialisations and skills enhancement and placements. The vocational component of the learning pathway can be seen as the 'most advanced technology' for tackling the youth unemployment rate. OECD analysis and MIUR data agrees that one of the main causes of the high youth unemployment rate in Italy is the structure of the training courses provided: a low number of training and learning offers which are able to quickly specialise students and which are closely integrated with the economic and productive sector able to pick up their professional needs and features.

In February 2017, a specific **National Steering Committee**, promoted by the Ministry of Education, University and Research and attended by the Minister of Education, the Education and the VET ministry department director, the President of Universities Committee and the Coordinator of ITS Committee, has been initiated (Ministerial Decree n.115 of February 2017), aimed at coordinating and harmonising the system of Higher Technical Education and the professional Bachelor's degrees.

([169]) ANVUR. Rapporto biennale sullo stato del Sistema universitario e della ricerca, 2016

The Committee agreed that a unitary design is required, in order to have a systemic picture of the relationship between Universities and ITS and their final qualifications. The Committee says also that it is necessary to create models and processes that make it possible to move students from one system to another in a logic of continuation and completion of the learning path, within a formal and stable collaboration between different actors and stakeholders.

Among the issues considered strategic, in line with the EU guidelines for a successful policy on tertiary education, the National Steering Committee has highlighted the need to:

- ✓ take the strategic and operational dimension of lifelong learning not only for young people but also for working adults, and for young people from the age of 15, and also value the credits acquired in the school-work alternative paths and apprenticeship and for adults, those acquired at work in the context of the knowledge society and innovations which characterise the fourth industrial revolution;
- ✓ make it transparent and simpler to understand the organisation of the overall offering of VET institutes and agencies, universities and ITS tertiary education pathways to facilitate orientation, giving constant visibility to its employment outcomes;
- ✓ optimise resources by integrating ITS and professional Bachelor's degree;
- ✓ mark the identity of the different training paths, by defining ITS increasingly as 'Special Schools for Applied Technologies' and on the other by professionalising degrees as orienting towards (new) regulated professions nationwide, starting from those ordinances, nevertheless being aware that in certain areas already there is a specific legislation that links university curriculum, internship and enrolment to the profession (this is the case of Legal professions);
- ✓ diversify the training offer regarding: the mission of Universities and ITS, study methods and teaching methods (functional to enhance quality, relevance of skills, attractiveness) with the possibility of calibrated recognition of training packages between the various paths;
- ✓ encourage partnerships between vocational training institutes, research universities, employers and high technology centres;
- ✓ engage ITS on the training of specialised figures that are able to move in the industrial contexts, with particular reference to the profiles that are emerging in Made in Italy; without forgetting other highly competitive sectors such as Big Data, the Internet, Nanomaterials, Neuro-technologies, Advanced Robotics, etc.
- ✓ Increase funding dedicated to ITS.

In Italy there is still no organic design for professional tertiary education. The Higher Technical Institutes (ITS) have been constituted for a few years following the DPCM on January 28, 2008 and, with Ministerial Decree no. 987/2016, it has been foreseen the testing of Bachelor's professional degrees.

Starting from these initiatives, in the last few years, the Italian Government has discussed the opportunity and necessity that higher education programmes increase their connection and cooperation with labour market and consequently increase the vocational component in their learning pathways. ITS and new professional Bachelor's degrees are significant outcomes of this debate.

In particular, the drivers that led to the introduction of these programmes were strongly connected with the need of empowering higher education programmes with a different pedagogical approach in which theoretical contents can be effectively mixed with vocational

and technical contents, methods and tools. Specifically, the main drivers for the creation of ITS were:

- ✓ answering to the employers' needs with a higher qualified training offer based on new and specialised technical skills in order to promote innovation processes and technological development also for a smart specialisation;
- ✓ supporting the integration between education, vocational training and labour market systems concerning, in particular, technical professions in order to promote and share scientific and technical culture and approach;
- ✓ boosting innovation policies and technological development in SMEs;
- ✓ spreading technical and scientific approaches increasing the interest of young people to the technical professions;
- ✓ establishing and defining permanent and formal relationships with Inter-professional funds (funds aimed at training employees and created by employers' associations) for adult training.

Concerning the new introduction of Professional Bachelor's degrees, the main driver of this reform is the need to respond to the employers' requests to enrol graduates with a learning background based on theoretical basic contents but especially on technical knowledge. This background is strongly linked with companies and labour market approaches and processes, and will be strategic for the fast and effective employability of graduates and also strongly appreciated by employers and labour market stakeholders. The effort of the Universities from 2016 is to link the Masters levels I and II with the features (in terms of requests, needs, skills and knowledge, job profiles, etc) of the labour market and the challenges employers and companies have to face.

6. Focusing on nursing and engineering

Please reflect on the particular situation in the nursing and engineering areas: Which main change processes (in relation to 'academic drift', 'vocational drift', expansion of VET at higher levels outside higher education') can be observed in this area? What are the specificities and differences compared to other areas?

i) Nursing

Nursing is an example of **academic drift** inside a vocational programme.

Between 1990 and 1992 (Law 19 November 1990 and Legislative decree n. 502), a specific university path for nursing with the acquisition of an Academic diploma was established for the first time (before the Law 19/1990 and the D.lgs n. 502 the profession was regulated by the Law n. 124/1971 establishing ad hoc professional training schools for the acquisition of the qualification). In this way, the Government formalised the importance of this profession and the necessity to mix academic and vocational training in the learning path. In 1992, the professional qualification was further specified as an outcome of an academic pathway and part of higher education.

The law made on the 10th August 2000, n. 251 defines further the learning pathway of health professionals in the field of nursing who carry out professional autonomous activities aimed at the prevention, care, rehabilitation and safeguarding of individual and collective health, performing the functions identified by the rules of their respective professional profiles and the specific codes of ethics and using planning methods for assistance goals in the age of paediatric, adult and geriatric.

The **Bachelor's degree in Health professions** (Laurea triennale in Infermieristica) has been in place since 2004. It is coordinated by universities and lasts 3 years. It has an academic basis and a strong vocational focus. In 2016 the enrolled students were 662,000 of which, 64% enrolled in Nursing and 36% in other health professions ([170]).

The achievement of job skills is carried out through theoretical and practical training that also includes the acquisition of behavioural skills and is achieved in the specific work context of each profile so as to guarantee, at the end of the training course, the full acquisition of all the necessary professional skills and their immediate utilisation in the labour market.

Particularly important, as an integral and qualifying part of the nursing learning path, is the practical training and clinical training activity, with the supervision and guidance of assigned tutors, coordinated by a teacher belonging to the highest level of training provided for each specific professional profile and corresponding to the standards defined at European level, where available.

The vocational approach is the core of the Bachelor's degree in Health professions and the basic training way for developing professional skills, diagnostic reasoning and critical thinking.

The application of the University Reform Act 270/2004 to the Bachelor's degree in Health professions represents an opportunity to redesign and consolidate the experiences gained in university education. In the course of these years, many training strategies have been tested in the practical training of the students, and coordinators and tutors have invested considerable efforts to improve their pedagogical preparation and to disseminate tutoring skills in the training facilities.

However, there are still few publications and research on the quality and effectiveness of different internships, even though there is a wealth of tacit knowledge, not written or collected in documents, as a rule in the internal heritage of individual graduate courses.

The internship is included in the course in an integrated way and based on a plan based on theory and practice. It is believed that a model of internship subordinated to theory (first theory and then practice).

Students have to dedicate to the internship no less than 1,200 hours per year (1,400 hours for the first class) in contact with health professionals operating at hospitals, health companies, and health communities.

Internship locations can be identified within agreement between the health and social structures of companies and the University (regional or local agreement protocols) or national or foreign external structures for which accreditation and specific conventions.

j) Engineering

This can be considered as an example of vocational drift of an academic pathway.

A strong change in the engineering profession and, consequently, in the higher education path, was introduced in 2001 (DPR n. 328 "Changes in the regulatory rules for accessing and acting the Engineer profession"). The new rules introduced with this Decree, have changed

([170]) Source: Conferenza permanente corso di laurea in professioni sanitarie 2016 http://cplps.altervista.org/blog/

the academic pathway with the introduction of two different learning paths for acquiring the authorisation to formally act in the profession:

- the first one lasts five years (Master's degree) and allows access to National Exams for acting in the profession. This is more academic and based on theoretical and research content;
- the second one lasts three years (Bachelor's degree), has a vocational component and the graduates are called "junior".

Moreover, with the Decree of 2001, the traditional profession of engineering disappears and the Universities introduced three types of professions: engineers specialised in construction and environment, engineers specialised in industrial processes (e.g. mechanical) and engineers specialised in ICT and digital information.

At the same time, as requested by employers and labour market stakeholders, the offer of becoming a technician specialised in engineering processes (especially in mechanic, mechatronic and digital) in ITS courses focused in engineering as well as Master's strongly focused in engineering processes and products (also addressed to adult population).

Concerning ITS', the main productive sector involved in ITS' programmes, is mechanical engineering. In fact, more than 44% of students of ITS find a job in mechanical or mechatronics companies ([171]). In particular ITS prepares two job profiles:

- ✓ Senior Technician for innovation of mechanical processes and products: he/she works in the field of design and industrialisation, the use of materials, mechanical processes / products, the use of software for representation and simulation. He/she combines several technologies, such as mechanics and electronics, and acts in construction, testing, documentation of automated processes / systems. In this context, he/she applies control and control systems as well as testing, commissioning and fault prevention methods. He/she schedules and maintains the maintenance also by intervening in post-sales in collaboration with the commercial management and interacts and collaborates with the technological structures of the context in which it intervenes.
- ✓ Senior Technician for automation and mechatronic systems: he/she works to realise, integrate, and control automated machines and systems for the most diverse types of production. He/she uses interface devices between the controlled machines and the programmable devices that control and test them to put them into operation by documenting the solutions developed. He/she manages control and regulation systems and collaborates with the technological structures responsible for the creation, production and maintenance of the devices on which it is operating. He/she also cares for economic, regulatory and security aspects.

The ITS courses aimed at training these professions are provided in 4 semesters for a total of 2,000 hours of which 800 hours of training in the most important mechanical companies, with compulsory attendance with a minimum participation of 80%.

All courses are strongly oriented to the 'know-how' and work culture and are therefore focused on a practical-laboratory teaching that involves alternating theoretical lessons in the classroom and in the company, exercises and group work in the laboratory, visits and project work in the company. Most of the lectures are entrusted to professionals from the workplace.

([171]) INDIRE, Monitoraggio Nazionale 2017 Percorsi ITS, 2017

In fact, engineering technicians in the field of mechanics and design are involved and are working with the students in classroom, traineeship and project work at the company.

Concerning Bachelor's degrees, in 2015/2016, 155,013 students were enrolled in Engineering and the Engineering programmes were the second most popular ones in the whole University offer, after Economic academic pathways.

This figure increased in the last four years due to the strong requests of graduates from employers and also because the different specialisations foreseen in the academic pathway offered many employment opportunities for graduates. Sectors like engineering applied at productive processes management, digital innovation products or automation in mechanical and mechatronic production are very appreciated by employers and preferred by students.

7. Current debates and future perspectives

Please describe main current debates and any trends that can be observed or expectations related to future developments of 'VET at higher levels' (and specifically in the nursing and engineering areas) and provide evidence underpinning trends or expectations.

Currently, the Italian debate on tertiary education is very active and severe and involves the Ministry of Education, universities, schools, employers and research institutes as well as economic actors and social stakeholders.

A 'National Steering Committee' has been launched in order to define goals and priorities for improving the Italian tertiary education (see Section 5). The idea is that in the next future higher education pathways should be more open to the labour market introducing more vocational content and methods in didactical programmes and methodologies. At the same time, it is important to support and increase the offer of Higher Education training that actually in Italy is poor and not sufficient.

Strengthening the vocational aspect of tertiary education, in a way consistent with the EU strategic guidelines, means diversifying the supply of the various institutions that are part of the tertiary system, universities and higher technical institutes (ITS), because this can help to achieve specific goals, such as:

- ✓ increasing the level of participation in tertiary education;
- ✓ strengthening the entire technical and scientific training chain;
- ✓ significantly increasing opportunities for good employment for young people and permanence in the labour market for employed adults by developing proactively responsive skills, paying particular attention to digital and innovative skills.

The Italian scenario related to the VET in higher education is still quite heterogeneous and diversified in relation to the different geographical areas. The Higher Technical Institutes (ITS) have been established few years ago following the DPCM of the 28 January 2008 and with Ministerial Decree no. 987/2016 it has been foreseen the testing of Bachelor's professional degree.

The goals of VET at higher levels, for the future, include:

- increase the overall number of people between the ages of 20 and 34 who hold a tertiary or equivalent education diploma and support the continuous training of workers (also in relation to EQF levels 3 and 4);
- adopt innovative organisational models - to be stimulated with appropriate instruments not only financially - to develop and articulate the overall technical and scientific

training chain, making it more personalised, streamlined and communicative in the outcomes as well;

- promote retraining mechanisms for students leaving the university courses by orienting them towards professional paths;
- strengthen guidance and pathways for access to freelance professions and entrepreneurship, starting with technical ones, including better and more engaging higher secondary schools, in particular technical and vocational institutes, and accredited training institutions;
- improve the employment opportunities of young people and their permanence in the labour market through the involvement of economic and social actors by universities and ITS from the planning phase of the pathways also to facilitate the integration of available resources.

Starting from these goals and, in particular, concerning the new professional Bachelor's degrees, the universities are requested to define a new system of three-year, based on highly qualifying courses, enabling students to quickly acquire technical skills also introducing vocational approaches and tools. A compulsory partnership with companies, and employers' associations will be also requested from the new professional Bachelor's programmes adopting the approach already experimented in health professions.

Concerning the Higher Technical schools, the goal is to launch and carry out a system of degrees that can be achieved after 2/3 years. The training course, co-designed with businesses, is characterised not only by the links to the needs of the labour market, with particular attention to the technical characteristics of the productive sectors, but to allow young people and adults to work at the level of senior technicians in innovative work processes that require specific expertise in applied technology. The course could be designed and built by ITS only in the presence of a federation agreement with the university pursuant to art. 3, comma 2, of the law n.240 / 2010 and D.P.C.M January 25, 2008.

On the basis of these rules, universities can organise courses for achieving a Bachelor's professional degree in agreement with the Higher Technical Institutes, also using human resources, laboratories and other instrumental facilities of the ITS according to the criteria and modalities defined in the agreement mentioned above. A dialogue system must also identify training credits that universities intend, in their didactic autonomy, to recognise in addition to the minimum provided by current legislation for graduates of the Higher Technical Institutes. They will be used by graduates in ITS who wish to enrol in a professional Bachelor's degree course to acquire a higher-level qualification or a specialisation in a field consistent with the one already pursued.

It is desirable, moreover, that the coordinating bodies between universities and ITS be encouraged by appropriate measures concerning the organisation of the paths, including minimum operating requirements, and financial support, defined by the decree of the Minister of Education, University and Research.

8. Overview

This table should provide an overview of what types of changes due to 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' can actually be observed in the country.

Please indicate the <u>main</u> processes and phenomena identified during the last 20 years in the table below – referring to the direction of change, the object of change, the context of change (or target area of change), the key processes observed and the results of these processes as well as their time frame and indicate the sections in which they are presented! Examples of key processes/results are presented in table 1 of the guidance note.

Table 1 **Overview**

Direction of change	Object of change	Context/target area	Key processes observed / results	Timeframe	Section
Academic drift	**VET (outside HE)**	VET with academic contents	Introduction of Higher Technical Institutes (ITS): practical contents and traineeship mixed with academic principles and basis through the collaboration with Universities	**2007**	**2,3,4**
Vocational drift	**Higher Education**	VET with academic contents	Higher Technical Institutes (ITS): learning pathway with practical contents and academic principles (developed in collaboration with Universities)	**2007**	**2,3,4**
		Professional oriented HE	Introduction of Bachelor's degree	**2007**	**2,3,4**
		professionally oriented HE	Introduction of professional Bachelor's degrees as pilot programmes for linking Bachelor's degree with employers' needs and labour market Introduction of Higher Technical Institutes (ITS)	**2016** **2007**	**2,3,4**
		traditional (or academic) HE programmes	Introduction of Higher education and research apprenticeship programme	**2011**	**2,3,4**
		Professional oriented HE	Introduction of I and II level University Master	**2004**	**2,3,4**

9. Sources of information

References

ALMALAUREA (2016). *Rapporto 2017 sul Profilo e la Condizione occupazionale dei laureati* 16 www.almalaurea.it, 2016

ALMALAUREA (2017). XIX *Indagine Profilo dei Laureati* 2016, 2017

ALMALAUREA. (2017). XIX *Rapporto sulla Condizione occupazionale dei Laureati*.http://www.almalaurea.it/universita/occupazione/occupazione

ALMALAUREA (2015). *Esiti occupazionali dei diplomati accademici delle Istituzioni di Alta Formazione Artistica, Musicale e Coreutica* (AFAM)

ALMALAUREA (2010). *La qualità dei Master alla prova della valutazione*

Antonelli, G., Camillo, F., Cammelli, A.,di Francia, A., Ghiselli, S., Sgarzi, M (2009). *Graduates' employment and employability after the "Bologna Process" reform. Evidence from the Italian experience and methodological issues*, prepared for the: International Conference – DECOWE Development of Competencies in the World of Work and Education 24-26 September 2009, University of Ljubljana, Slovenia

ANVUR (2016). *Rapporto biennale sullo stato del Sistema universitario e della ricerca*, 2016

Bonafé, E. (2014*). Il terzo livello: profilo dei dottori di ricerca Pollenzo-Bra*. Approfondimento nell'ambito del Convegno di presentazione dei risultati della XVI Indagine sul Profilo deiLaureati, "Opportunità e sfide dell'istruzione universitaria in Italia".

Chiesi, A., & Cristofori, D. (2013). *Esperienza universitaria dei diplomati dell'istruzione tecnica e professionale*. In AlmaLaurea, XV Rapporto sul Profilo dei Laureati 2012 'Scelte, processi, esiti nell'istruzione universitaria'. Milano.

Conferenza permanente corso di laurea in professioni sanitarie 2016 http://cplps.altervista.org/blog/

EUA (2016). *Public Funding Observatory 2016*. da http://eua.be/Libraries/governance-autonomyfunding/ public-funding-observatory-2016.pdf.

Eurydice, European Commission (2016). *National Student Fee and Support Systems in European Higher Education 2016/17*.

EUROSTAT (2015), *Statistic explained http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Number_of_tertiary_education_students_by_level_and_sex,_2015_(thousands)_YB17.png*

INDIRE (2017). *Monitoraggio Nazionale 2017 Percorsi* ITS, 2017

ISFOL/EUC/Ministero del Lavoro e delle Politiche Sociali (2013). *Percorsi di IeFP : un'analisi comparata dei costi di Regioni e PA*, http://hubmiur.pubblica.istruzione.it/alfresco/d/d/workspace/SpacesStore/60422ac4-11e3-41c0-992d-45a7acf1ed1f/percorsi_iefp_13.pdf.

ISTAT (2016). *Italia in cifre* 2016. Roma.

MIUR (2017). *Indagine sull'Istruzione universitaria – Laureati nell'anno solare 2015.* da http://statistica.miur.it/ustat/Statistiche/IU_home.asp.

MIUR Comitato Nazionale per la valutazione del Sistema universitario (2008). *Indagine nazionale sui master universitari. Il ruolo delle università nella formazione professionale post-lauream*, 2008

MIUR (2015). *L'incontro tra istruzione, formazione et lavoro*, MIUR, Rome, http://www.istruzione.it/allegati/2015/istruzione_formazione_lavoro2015.pdf.

MIUR (2016). *Hub MIUR,* http://hubmiur.pubblica.istruzione.it/web/ministero/index_pubblicazioni_16

MIUR Statistic Database, http://statistica.miur.it/scripts/postlaurea/vpostlaurea.asp

Nardoni, M. (2012). *Soddisfazione per l'esperienza universitaria*.http://www2.almalaurea.it/universita/pubblicazioni/wp/pdf/wp52.pdf.

Nuti, S., & Ghio, A. (2017). *Obiettivo mobilità sociale. Sostenere il merito per creare valore nel sistema Paese.*

OECD (2014). *Education at a Glance*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2014-en.

OECD (2017). *Education at a Glance*, OECD Publishing, Paris, http://www.oecd-ilibrary.org/education/education-at-a-glance-2017_eag-2017-en

QTI (Quadro dei Titoli Italiani) [Italian Qualifications Framework], http://www.quadrodeititoli.it/Index.aspx?IDL=2 (20 January 2011).

Ribolzi, L. (2007). *Le determinanti socio-culturali delle scelte universitarie*. Torino: Fondazione Giovanni Agnelli.

UNESCO. (2017). *International student mobility in tertiary education: mobility indicators*. da http://data.uis.unesco.org/.

Viesti, G. (2016). *Università in declino*. (p.327) Roma: Donzelli.

INAPP – Public Policy Innovation (2016). *Atlante del Lavoro e delle Qualificazioni* , http://nrpitalia.isfol.it/sito_standard/sito_demo/index.php

List of interviewees:

Country	Name	Organisation and function	Contact information (Email, phone) List of interviewees	Date of interview	Agreement*– yes/no
Italy	Riccardo Mazzarella	INAPP – Responsilbe of National Research Group “Analysis on Competences and Qualifications Issues”	r.mazzarella@inapp.org	06.10.2017	YES
Italy	Marco Briolini	Bologna Business School - Bologna University - Head of Open and Corporate Programs	marco.briolini@bbs.unibo.it	09.10.2017	NO

* Interviewee agrees that his/her name can be included in the final publication

Case study

Country: Norway

Author: Torgeir Nyen & Anna Hagen Tønder

Title of the case study: Higher VET in Norway

1. Introduction

Please provide a concise introduction that gives an overall indication of the change processes observed (during the last 20 years) related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)'.

University colleges have since before 1990 provided vocationally oriented programmes in fields like nursing, engineering, teaching and social work. These colleges have gone through institutional changes the last 25 years that can be characterised as **academic drift**. In 1994, colleges with programmes in teaching, nursing, engineering were merged to regional university colleges (so-called state colleges). There has been a harmonisation of legislation and governance applying to university colleges and universities, in the form of common legislation (mid 1990s), academic career system, grade system (Bologna-induced) and financing system. The introduction of an accreditation system from 2004 has also contributed to academic drift because of staff competence criteria, although labour market relevance criteria have also been introduced. The latest decade has seen large institutional changes, where university colleges have become universities and university colleges have merged with each other or merged with existing universities. These restructuring processes have fundamentally transformed the higher education system in the direction of a unified system. Also, when it comes to content and delivery there are signs of academic drift. The general tendency is towards a stronger emphasis on theoretical and abstract knowledge.

Within higher education, there are also **some examples of vocational drift**, including new programmes that can be combined with work through the practical organisation of the programme and through programmes where students should apply theoretical knowledge to their work experiences.

Outside higher education, the **vocational college sector** has been increasingly 'institutionalised' as a part of the education system. Legislation in 2003 established it as tertiary education, with completed upper secondary education as admission requirement. The sector is diverse, with a stable segment functioning as further education in technical, maritime and health fields. In other fields, there are examples of academic drift, where some large mercantile and creative vocational colleges have become university colleges. So far there has not been an increase in students and programmes in the sector. However, the ambition of government and the social partners is to develop the vocational college sector as an alternative to academic higher education.

Non-formal tertiary vocational qualifications have by and large maintained its role in the labour market, primarily in the private sector. The *Mesterbrev* qualification is the most important of such qualifications.

2. VET at higher levels

Please briefly describe the current situation related to 'VET at higher levels' in your country and refer to the following questions:

*Which **types of vocationally oriented degrees/qualifications** are currently awarded at **EQF levels 5-8** and **since when**? Please include the titles of these types and their NQF/EQF level and **describe them briefly**! Please use the most commonly used English translation for the titles of qualification types and use these titles consistently*! ([172]) *To which **educational segment** do they belong (e.g. higher education, post-secondary level VET, CVET)? What is the **'importance' of these types** (e.g. in terms of number of learners or graduates) compared to other types (such as number of students enrolled in academic HE programmes)? Are there any prevailing economic sectors?*

*Please include any **figures or diagrams** (time series), if possible!*

On EQF levels 5-8, there are four types of vocationally oriented qualifications:

1. Qualifications at EQF level 5 from vocational colleges:
2. Vocationally oriented qualifications at EQF level 6, sometimes 7, traditionally acquired through studies at university colleges (within HE).
3. Vocationally oriented qualifications on EQF level 6-7 from universities or specialised university institutions
4. 'Non-formal' higher qualifications outside higher education and vocational colleges

Vocational colleges provide tertiary vocational education programmes that last between ½ - 2 years. Public colleges run by the county authorities offer technical and maritime programmes as well as health and social work programmes, while private providers offer an array of programmes, where the largest are within the fields of creative work (incl. media) and economy and administration (Høst and Tømte, 2016; Kyvik, 2016). The programmes provided by public colleges are the largest and are growing in student numbers, while the number of programmes and students in private colleges is declining. The sector is diverse, with both initial education and further education. Many programmes in vocational colleges function primarily as further education, especially for skilled workers with vocational upper secondary education, but vocational colleges provide also initial education. Some programmes are closely linked to particular positions in the labour market. Other programmes have weaker ties to the labour market, and correspondingly lower employment rates after graduation (Støren and Waagene, 2015).

In 2003 the sector was formally regulated by the Act Relating to Tertiary Vocational Education. All qualifications/education programmes in vocational colleges need to be accredited by the national accreditation body, NOKUT, but there is a provision that NOKUT can grant a college self-accreditation rights to establish new programmes within a particular field, which a few colleges have acquired. In recent years there has been a strong growth in the number of vocational colleges and the number of students enrolled in vocational college programmes. In 2005, there were around 3,500 students in vocational colleges. In 2016 there were 96 vocational colleges, with around 14,750 students (SSB, 2017b). There has also been a large increase in the proportion of students in private education. In 2005, almost all students in vocational colleges were enrolled in technical programmes. In 2016, less than half the student were in technical programmes. Other subject areas that attract as many students are health and social care, business and administration, and humanities and arts.

6,559 students completed such education in 2015 (KD, 2016). This segment of the education system is small compared to higher education which has around 289,000 students (SSB, 2017a).

Entry requirement to vocational colleges is vocational upper secondary education (trade certificate), general upper secondary education, or assessment of real competence. 60 percent is admitted on the basis of the vocational upper secondary education (trade certificate), 30 percent on general upper secondary education and 10 percent on assessment

([172]) If applicable, refer to the Cedefop NQF monitoring reports – see: http://www.cedefop.europa.eu/en/events-and-projects/projects/national-qualifications-framework-nqf/european-inventory

of real competence (NOU 2014, p. 20). In the Norwegian NQF, which has eight levels that correspond to the EQF, there is a subdivision of level 5 to distinguish between short programmes and more comprehensive programmes: 5.1 Certificate of completed postsecondary VET 1 (*Fagskole*), 5.2 Certificate of completed postsecondary VET 2 (*Fagskole*). The term 'higher vocational education' has recently (May 2017) been established as an official term for the vocational college programmes.

Vocationally oriented higher education qualifications, mostly on EQF-level 6, but some on EQF 7, have traditionally been offered by **university colleges**. These qualifications include nursing, teacher, engineering qualifications and various other qualifications. The ongoing restructuring process of higher education has seen many university colleges merged into existing universities or becoming universities on their own. Consequently, such higher VET programmes are increasingly offered by universities, although often at the college campuses and with the same college staff. In 2016, there were about 100,000 students in university colleges, of which 80,000 in public colleges and 20,000 in private (SSB, 2017a). These figures include all students in such colleges. There is no clear distinction between academic and vocational qualifications and programmes on the higher education level (unlike at upper secondary level, EQF level 4).

Vocationally oriented qualifications provided by universities or specialised university institutions include vocationally oriented bachelor (EQF 6) and master (EQF 7) programmes. The total number of students in such institutions, including more general programmes, was 173,000 in 2016 (SSB, 2017a). All higher education, both university colleges, universities and special university institutions, is regulated by the Act Relating to Universities and University Colleges of 2005. University colleges need accreditation from NOKUT for master or PhD programmes, but have self-accreditation rights for bachelor level programmes. Universities can establish programmes on all levels.

'Non-formal' higher qualifications ([173]) are not (yet) a part of the NQF, and thus not attributed to a particular EQF level. There are however a few qualifications that build upon upper secondary qualifications and which can be regarded as at least on EQF level 5 or higher. The most prominent example is the *Mesterbrev*, or master craftsman qualification within around 70 different trades, which is normally awarded on basis of a specific vocational and commercial education, the *Mesterutdanning,* though other routes do also exist. The normal entry requirement is the relevant trade certificate (upper secondary) and two years of practice as a craftsman. (Very long practice can be considered equivalent to the trade certificate.) The qualification is outside the formal education system, but regulated by a separate act, *Lov om mesterbrev i håndverk og annen næring*, of 1986 (Master Craftsman Certificate Act). The master craftsman scheme is regarded as a business policy instrument as well as an education and is therefore organised under the ministry of trade, industry and fisheries. The purpose is to strengthen recruitment and training in the trades, and to ensure the sound operation of enterprises and protect consumer interests.

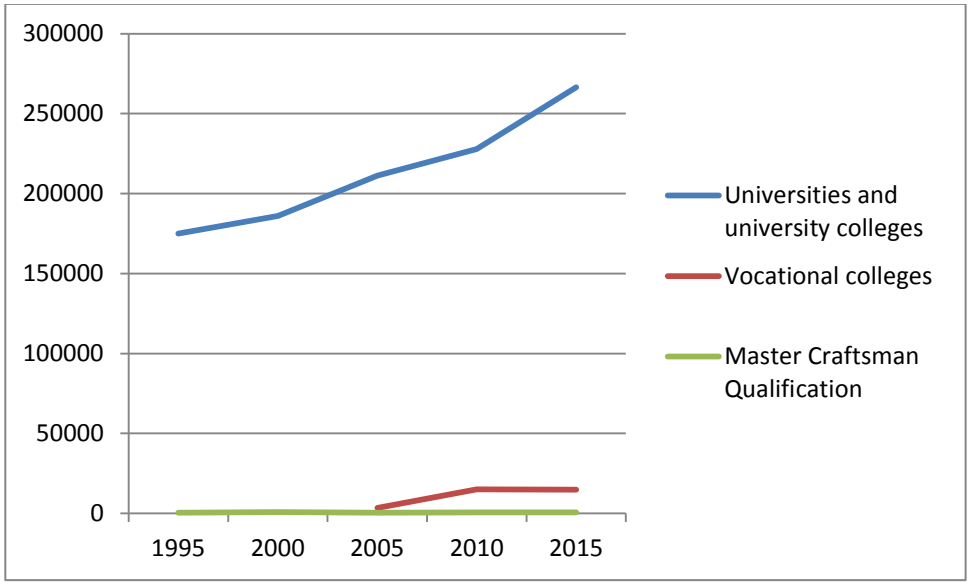
The qualification is 'owned' by a committee consisting of representatives from the main employer and employee organisation, which is responsible for managing the scheme. The committee is appointed by SRY, the main tripartite advisory organ for vocational upper secondary education. There is a permanent staff which administers the qualification. The education itself is provided by three different providers: a training institution established by employer organisations within construction, an adult education provider and a vocational college.

The figure below presents an overview of students enrolled in programmes offered at universities, university colleges and vocational colleges during the last 20 years.

([173]) Please note, this term is not officially used in Norway but used in this case study for qualifications that are offered at a tertiary level outside the formal education system.

Unfortunately, separate data for universities and university colleges for the 20-year period are not available. For vocational colleges, there are no continuous data series until 2011, so the figure is based on a report for the 2005 data point and the authors' own estimate for the 2010 data point based on the 2011 figure. There are no data for 2000 and 1995. Høst and Tømte (2016) estimate the number of students to be fairly stable in that period (based on a report from 1999 that is only available in printed form), but provide no exact figures. It was not possible to include *the Mesterbrev* qualification since there is on overview data available.

Figure 1 **Students enrolled in universities, university colleges and vocational colleges (1995-2015) and master craftsman qualifications granted**



Source: Statistics Norway (SSB), NSD-DBH-fagskoler, Master Craftsman Committee. Note: The graph for universities and university colleges include all students in these institutions. The graph for master craftsman qualifications shows the number of master craftsman qualifications granted in 1995 (487), 2000 (787), 2005 (406), 2010 (562), and 2015 (566).

3. Change processes durig the last 20 years - educational system perspective

One of the unique features of this study is the emphasis given to the historical development of VET systems. In this section, the focus is on the change processes that have taken place during the last 20 years related to VET at higher levels in terms of 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' from the perspective of the educational system.

Depending upon the situation in your country, relevant developments might have started already before the 1990s. In other cases there may be no need to take such long-term perspective, but at the very least the commentary should go back to the middle of the 1990s.

Please describe first these change processes and their impact on the overall system (3.1), before presenting characteristics of VET offered at higher levels from the perspective of the educational system (3.2). Please clearly distinguish between the different objects and contexts of change, respectively the different types of VET qualifications/programmes offered at higher education levels.

Please refer to the "Characteristics and indicators of 'academic drift', 'vocational drift' and 'expansion of VET at higher levels (outside HE)'" (presented in Table 2 of the guidance note; the relevant aspects are included in each section here below): Please reflect whether any of these characteristics and indicators can also be identified in your country and which ones – identified in your country - should be added.

3.1. Change processes and their impact on the system

j) To what extent can changes related to 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' be observed? To what extent have vocationally oriented programmes/qualifications at higher levels been introduced during the last 20 years and in which way (e.g. by up-grading VET institutions/programmes into higher education, by introducing new types of programmes within higher education without upgrading VET institutions/programmes, or by establishing new types of VET programmes/qualifications outside higher education)?

k) Can any different phases or stages of this development over time be identified?

l) What kind of impact does this have on the education and training system? E.g. development of a new sector outside higher education, development of a new sub-sector within higher education (and to what extent has this change led to the establishment of a - full or partial - 'unified', 'binary' or mixed higher education system)?

The restructuring process in **higher education** is an important change process impacting on higher VET. Through this process, the number of **university colleges** has been reduced considerably, and the distinction between universities and university colleges has been blurred to an extent that researchers within the field say that the binary system is breaking down in Norway (Kyvik, 2016, p.169). We can distinguish between two phases, first, the merger of university colleges, second, the gradual integration and later merger of university colleges and universities. These processes are highly related to academic drift, whether as cause or effect. The second phase of institutional changes has been interpreted as a result of academic drift of the vocationally oriented higher education in the vocational colleges (Kyvik, 2016), although there are of course mutual interaction effects, where institutional changes and harmonisation of rules/systems provide further incentives for academic drift.

Already in 1994, 98 regional colleges merged to become 26 university colleges, mainly through a regional integration of colleges within various fields, for instance nursing colleges and engineering colleges. Such changes were proposed as early as in the 1960s. The stated ambition on the 1994 reform was to strengthen research and education, improve administration and realise economies of scale. The ambition that teaching in colleges should be research based came with the merger in 1994, and so did the introduction of a leadership model similar to universities with a distinction between elected and administrative leaders (Kyvik, 1999).

The merger of university colleges was a prerequisite for the later gradual integration between universities and the university college sector. The integration has taken place through harmonisation of rules/systems, through new legislation allowing university colleges to become universities and through recent mergers between university colleges and universities. First, the rules and systems applying to universities and university colleges were harmonised. From the mid-1990s, university colleges and universities have been regulated by the same act (*Act relating to universities and university colleges).* Later, an academic career system was introduced in the colleges, the Bologna process lead to a common degree system, and financing of colleges became partly based on academic achievements. Along with increased competition for students in a 'market' where youths increasingly have had academic aspirations, these changes have reinforced the academic drift in the self-perception and goal-perception of the university colleges. Then from 2004, the colleges were allowed to apply for accreditation to obtain university status. Three colleges have become universities through this procedure. Four more have applied or will apply in 2017. The criteria to be accredited as a university obviously focus on the institution's academic merit, for instance the number of students in PhD programmes. Since 2010, several university colleges have merged with each other and/or existing universities, especially during 2015-2016 as a result of the incumbent right-wing government's explicit policy aims of making structural changes to create larger university colleges and universities. By the beginning of 2017 there

were 22 universities and state university colleges, compared to 33 as late as in 2015. There were 17 private university colleges which receives public funding, compared to 21 in 2015.

These restructuring processes have fundamentally transformed the higher education system in the direction of a unified system. As mentioned in chapter 2, there has been criticism of this, where some fear that the vocational programmes will become too academic and removed from practice. Changes in the content and delivery within the programmes are discussed in chapter 4.

Within higher education, both in **university colleges** and in **traditional universities**, there are examples of vocational drift. New 'work-based' bachelor and master programmes that can be combined with work have been established, including so called experience based masters (Kyvik, 2016). These can also function as further education for adults. This development has been spurred by a policy program - the 'competence development programme' (2000-2005) – which was part of a policy of developing lifelong learning and adult skills. That program led to many education programmes that could be combined with work and used workplace experiences as part of the programme. Besides, some academic bachelor and master programmes have introduced work practice periods to improve employability of candidates (Kyvik, 2016). An important reason for increasing the vocational aspect of higher education programmes or establish new more vocationally oriented programmes is to secure the recruitment of students to these institutions and programmes. Also new programmes combining elements of other programmes have been established, the primary example being the lecturer programme, where future higher-grade teachers (upper secondary) now study in an integrated programme with pedagogy, disciplinary subjects and practice.

The **vocational college sector outside the higher education system** is very diverse. Unlike higher education, this sector meets no formal requirement that the education should have to be research based. According to a NOKUT report, there is still a tendency towards academic drift through institutional changes and through establishment of higher education programmes within vocational colleges (Bakken, 2014). Some colleges have established programmes on the higher education level (EQF 6, accredited by NOKUT). It has led to a less clear distinction between vocational colleges and higher education (Bakken, 2014).

Besides, several vocational colleges have become university colleges (eleven in the period 2004-2013), including some of the larger ones. Only a limited number (14) of new vocational colleges has been established in the same period, mostly small institutions. However, as mentioned above, there is an ambition among the main social partners and government to develop this sector further to become a vocational alternative to the higher education system.

The **master craftsman scheme** was established in 1987 and is therefore relatively new. An adult education association used to be the main provider of the master craftsman education. Since 2010, a master craftsman programme has been offered by a vocational college, VEA. This programme is aimed at practitioners within traditional crafts. In 2016, a third master craftsman education was established by employer organisations within construction. The stated aim was to offer a modern, practical and relevant education aimed at master trades within construction. ([174]) It is also possible to obtain a master craftsman certificate through alternative routes, mostly programmes offered by vocational colleges. In recent years the number of students enrolled in master craftsman education has declined more than the number of new certified masters, indicating that more people have followed alternative routes to the master qualification (DAMVAD, 2014).

3.2 Changes related to characteristics of 'VET at higher levels'

([174]) https://www.byggmesterforbundet.no/nyheter/mesterutdanning-fra-blimester.com

3.2.1 Changes related to governance and institutional structures of 'VET at higher levels'

m) *What is the governance structure of these VET programmes/qualifications at higher levels and what kind of quality assurance regulations are in place (e.g. which national/regional authority provides accreditation/recognition, how are aspects of academic or vocational drift reflected in accreditation regulations)? To what extent and how has this changed?*
n) *What is the role of labour market stakeholders/companies in relation to these types of programmes/qualifications? To what extent and how has this changed?*
o) *What are the funding sources (and with what share) for these type of programmes/qualifications? E.g. what is the role of the State (educational or labour market budget) and of labour market stakeholders? To what extent and how has this changed?*
p) *Which are the key providers of such programmes/qualifications? Do they differ from other providers, such as IVET providers or providers of more academic higher education? To what extent and how has this changed?*

Universities and university colleges are regulated by the Act Relating to Universities and University Colleges of 2005, while vocational colleges are regulated by the Act Relating to Tertiary Vocational Education from 2003. In a long-time perspective (over 30-40 years), there has been a shift from direct governance of higher education by the state, to greater institutional autonomy combined with external accreditation following the Bologna process. The role of labour market partners towards higher education on the national level has not changed considerably. The social partners have had a weak influence on the national level in this sector.

Accreditation rights differ between universities, university colleges and vocational colleges. Universities can establish programmes on all levels. University colleges need accreditation from the national accreditation body NOKUT for master or PhD programmes (with a few exceptions), but have self-accreditation rights for bachelor level programmes. Vocational colleges need accreditation for all qualifications/education programmes by NOKUT, but there is a provision that NOKUT can grant a college self-accreditation rights to establish new programmes within a particular field, which a few colleges have acquired.

The national accreditation body NOKUT was established in 2003. The accreditation criteria for institutions and programmes within higher education are formulated in a regulation about inspection of quality of 2017. The regulation has a number of general and more specific criteria, including requirements about percentage of staff at various academic levels for programme accreditation. The NOKUT accreditation and review processes have been seen as inducing academic drift in the **university colleges**, especially the requirement regarding percentage with research competence in the teaching staff. In an early review of nursing education in the university colleges, many colleges failed to be accredited, as they did not have a sufficient number of teachers with research competence, which led to a debate about the criteria. The criteria for accrediting vocational colleges are listed in a different regulation (about quality reviews in vocational colleges), and includes mostly general criteria regarding vocational relevance, competence and administrative elements. As far as we know there has not been a debate about academic or vocational drift regarding these criteria.

Vocational colleges are legally organised in different ways, both within the public and private sector. National legislation requires all colleges to have boards that are accountable. There are no requirements for representation of enterprises or labour market organisations in these boards. However, NOKUT requires vocational colleges to have a formalised agreement with labour market representatives to ensure that the content of programmes is relevant to labour market needs. On the national level, there is

an advisory tripartite body for the vocational college sector, called *Nasjonalt fagskoleråd*. It has a broad mandate focused on developing the sector at large. It was established in 2010. Establishing this body was a strategy to strengthen the vocational colleges' position within the education system and in society at large, and to coordinate a diverse sector, as well as to ensure their relevance to the work life. The body is inspired by the tripartite body for upper secondary education (SRY), and has a majority representation from the social partners (employer organisations, trade unions) in addition to representatives from the vocational colleges. It can be interpreted as a strengthening of the vocational aspect of the vocational colleges, bearing in mind that the relation to the labour market varies between different types of colleges. An evaluation has been carried out (Høst and Tømte, 2016). The evaluation report suggests that the vocational college sector might concentrate to a greater degree on the role of providing further education to people with upper secondary VET, as these programmes (within technical, maritime and health areas) are the most stable programmes with a clear relationship to the labour market, while there is much academic drift within other parts of the college sector.

Most **universities and university colleges** are public, and can in principle be instructed by the ministry of education although this rarely occurs. The ideal of academic self-governance is central, also for university colleges, including decisions on which programmes they offer. There is a joint body, *Universitets- og høgskolerådet*, which has all universities and university colleges as members, and which has a cooperative function and policy advising function towards government and parliament. There are a large number of national cooperative councils underneath this council/body, at different levels (aggregated education fields, professions, disciplines). From 2011, each university and university college has been required to have a council for cooperation with working life. In a recent evaluation (Tellmann et al., 2017), these councils are said to have strengthened cooperation with work life institutions, especially on the strategic level. This could be considered as vocational drift; however, few changes in the structure of programmes are observed yet, but the structural changes on the institution level have delayed the establishment of such councils, so they are still in an early phase of operation. Traditionally employer and employee organisations have had a weak or no role in the governance of higher education. However, there has been an increased emphasis on relevance and work life cooperation also for higher education, which has also led to new programmes, as described in chapter 3.1.

Funding for higher education institutions is public over the national state budget. Output/results-based funding were introduced in 2002, and currently account for 31 percent of state funding, while the rest is basic funding. There are comparatively few private higher education institutions. These also have primarily public funding, but some funding through tuition fees. Higher education institutions do not rely on funding from enterprises, but do receive private funding from enterprises for tailor-made continuing and further education courses; however, in most cases these are non-formal courses.

Vocational colleges, both public and private, receive funding primarily from the county administrations. This funding has shifted back and forth between state (2003-2010) and county (up to 2003 and from 2010 to present). ([175]) Some colleges receive funding directly from government ministries or underlying units, primarily within health care to cover skills needs related to government policies to improve quality within the sector. In the recent government white paper, Meld.St.9 (2016-2017), it is proposed to establish a new funding model for all types of vocational colleges, with earmarked state funding through a combination of basic and output[176] funding.

([175]) The counties receive cross-sector en bloc funding from the state. The number of students in vocational colleges influences the distribution of the en bloc funding.

([176]) Output funding will be based on study points completed.

The ***Mesterbrev*** **qualification** is, as mentioned above, governed by a committee consisting of representatives from the main employer and employee organisation. These in turn are appointed by SRY, the main tripartite advisory organ for vocational upper secondary education. Tripartite cooperation is therefore a strong element in the governance of these qualifications. The governance structure has not changed significantly in recent years.

Summing up, the governance structure has changed, with different changes pointing in different directions. On the one hand, accreditation procedures and government policy on institutional changes induce academic drift. On the other hand, a prime intention behind the establishment of the national advisory council for vocational colleges and local councils for higher education institutions has been to create stronger links between the educations institutions and labour market stakeholders and local companies. Overall, the trend has still been towards academic drift. Institutional changes 'upwards' in the educational hierarchy tend to move institutions into governance structures where labour market stakeholders have less efficient formal arenas to voice their concerns and where legislation encourages education with a research based and academic profile. The attempts to strengthen the vocational aspect through tripartite cooperation and local councils for cooperation with work life have not yet brought major changes.

3.2.2 Changes related to the target groups of 'VET at higher levels'

g) *What is the main target group of these types of programmes/qualifications, what are the access requirements? E.g. to what extent is possession* of an *IVET qualification, professional work experience or the school-leaving exam a requirement? To what extent and how has this changed?*
h) *How can the identity of students (their legal status) be indicated and how has this changed (e.g. are they predominantly students and in some cases interns and trainees or are they predominantly employees enrolled in programmes)? To what extent and how has this changed?*

A dimension to assess academic vs. vocational drift is the entry requirement for higher vocational education. Vocationally oriented programs in **university colleges** usually require general entry qualifications to higher education (like university studies). Completed general upper secondary education gives general entry qualifications to higher education, but completed vocational upper secondary education do not. However, those with vocational upper secondary qualification (trade certificate) may take a one-year course of general subjects to obtain general entry qualifications. (Also, vocational students at upper secondary level can take this course during their education to bridge across to the general, academic track.) Adding a vocational college qualification on top of a trade certificate does not give general access to higher education, but may give credit points for entry to some studies. ([177]) Before the reform of upper secondary education in 1994, there were a debate about whether vocational upper secondary education should give general access to higher education, but it was decided not to. Some alternative pathways into higher education, however, exist in the field of engineering and (as a pilot project) in nursing (see Section 6).

A small third path to **higher education** is admittance on the basis of assessment of 'real competence' (only for applicants 25 years or older). Between 1,500 and 2,500 applicants have entered higher education each year through assessment of real competence the last few years (2014-2016). ([178])

([177]) In May 2017, parliament decided that vocational college should give credit points for admittance to higher education, provided that the student had acquired entry qualifications (general or programme-specific).

([178]) The data are collected from the database Statistikkbanken at Kompetanse Norge.

Unlike the university colleges, students/participants in vocational colleges and the *Mesterbrev* programme to a far greater extent have work experience. The ***Mesterbrev* programme** recruits participants with previous work experience in the relevant field. The programmes in the various fields build upon vocational education on the upper secondary level and relevant work practice. A major segment of the **vocational college sector** recruits students with a vocational qualification (from upper secondary VET) and often with relevant work experience. This includes the technical, maritime and health colleges/programmes. In this segment, the vocational colleges function as further education institutions, or alternatively students with completed upper secondary VET transit directly to vocational colleges (in maritime programmes). A smaller segment of vocational colleges recruits students with a general upper secondary education. This includes creative studies, business and a variety of other programmes. These programmes have a less tight relationship to employers and work life, and students do not necessarily have previous education in the field or relevant work practice.

Mesterbrev and many vocational college programmes are offered in a part-time format, making it possible combining study and work. Also, university colleges offer part-time study programmes to accustom the need for employed students.

There is evidence of academic drift in students' educational aspirations. Although the proportion of each birth cohort who enters higher education has not increased substantially since 2000, an increasing number of those who complete initial upper secondary VET later enter higher education, measured as proportion of each cohort of VET graduates 2003-2012 (Nyen, Skålholt & Tønder, 2014, p. 151). Although some take higher education to move to other work fields, most within health care take higher education to work within the same field, but in other positions, as health care is a highly 'occupational labour market', with strict formal qualification requirements for various positions (Marsden, 1990).

3.2.3 Changes related to the main purposes and functions of 'VET at higher levels'

g) *What is the main destination of graduates, which qualifications and rights do they acquire? E.g. do they gain rights for progressing in education (such as access to higher education), do they occupational qualifications and rights or both, educational and occupational qualifications/rights? To what extent and how has this changed?*
h) *What is the occupational status of graduates? E.g. will they be technicians/professionals? To what extent and how has this changed?*

Over the last few years, little have changed regarding the value of qualifications from **vocational colleges** for access to higher education. The same is true with **non-formal tertiary qualifications like *Mesterbrev*** offered outside the vocational college sector. Both these types of qualifications are aimed at filling competence needs in particular positions in the labour market. Only a handful of these qualifications are certified occupations though, all in transport; either maritime, train or plane. Actors within the national council for vocational colleges have tried to achieve recognition for vocational college education into higher education (within the same fields), but have not succeeded. However, recently it was decided in Parliament that, although vocational college qualifications will not give general entry qualifications for universities or university colleges, vocational college will give extra points when competing for a study place (on par with military service) if the person have general entry qualifications from elsewhere.

Vocationally oriented qualifications at **university college** level are also aimed at the labour market. A number of these, including teachers, kindergarden teachers, nurses and various other health professions, are regulated professions. Most students within these programmes enter the labour market after completion. There are a number of specialisation programmes at university colleges (1-2 years) that function as further education for nurses. These are

often linked to specific positions which require such specialisation. As mentioned above, these programmes are increasingly offered on the master level.

3.2.4 Changes related to the perception of 'VET at higher levels'

e) *How are these VET programmes/qualifications at higher education levels perceived? Are the considered as second choice, equal to more academic higher education programmes or are they even valued higher? To what extent and how has this changed?*

Vocationally oriented programmes within **higher education** generally enjoy high esteem. **Vocational colleges** and qualifications like the ***Mesterbrev*** are less well known. Potential students often become aware of many of these programmes only after having gained work experience in the relevant field. The gradual institutionalisation of the vocational college sector, that started with common legislation in 2003 and will continue with measures from the recent government white paper (Meld.St.9 (2016-2017)), is probably helping vocational college education becoming more well-known. From next year, the colleges will probably have a common admission system, which might improve visibility.

It seems fair to say that here haven't been any significant changes in esteem through the last 20 years in neither sector. Efforts are currently being made by policy maker to present vocational colleges as a distinct vocational alternative to (academic) higher education and to raise their esteem by calling it 'vocational higher education' (Meld.St.9 (2016-2017)).

4. Impact on content and delivery of qualifications and programmes - the epistemological or pedagogical perspective

This section focuses on the implications of 'vocational or academic drift' or of the 'expansion of VET at higher levels (outside higher education)' for the content and delivery of programmes and qualifications.

4.1 Changes in relation to content and profile

g) *How can the content or profile of VET programmes/qualifications at higher levels be described? E.g. accentuation or reduction of theoretical, abstract and disciplinary based knowledge vs. practical or experience based knowledge or an enhanced emphasis on the integration of professional and academic knowledge? To what extent and how has this changed?*

As described earlier, vocational programmes like teacher training, nursing and engineering have been restructured and 'upgraded' from upper secondary or intermediate levels to bachelor programmes in **university colleges** over the last decades. In relation to the restructuring process, changes can also be observed in the content and profile of these vocational programmes. The general tendency is towards a stronger emphasis on theoretical and abstract knowledge. Smeby (2011, p. 2) describes the development in curricula as a movement from a craft model towards an academic model (i.e. academic drift). The university college sector in Norway is considered to be among the most theory and research oriented ones in Europe (Heggen et al., 2010). In the new bachelor programmes a stronger emphasis was put on theoretical knowledge at the expense of more practical elements (Smeby, 2011, p. 3). The connection between vocational programmes and the occupational sectors were weakened. Another tendency was that relevant occupational practice was removed as a requirement for enrolment (Smeby, 2006, p. 6). National policies have contributed strongly to this development. State authorities have emphasised that vocationally

oriented higher education should be research-based, and this has also been one of the requirements in order to obtain institutional accreditation (Heggen et al., 2010).

While there is a general tendency towards academic drift or research drift in the university college sector, there are also differences between programmes regarding their content and profile. Academic drift seems to have been stronger in some programmes, like teaching and nursing, than in others, like engineering (see Section 6).

A recent study found that three out of four **vocational college** graduates were in relevant work or engaged in further studies nine months after completing their education in vocational colleges. However, there were wide variations in the labour market and vocational relevance of the programmes. College graduates in media studies, business studies and in the humanities and arts were at great risk of being unemployed, underemployed or overqualified for the jobs (Støren and Waagene, 2015).

Concerning the **non-formal vocational qualifications**, we previously mentioned the growth in the number of persons who obtain the master craftsman certificate through other routes than the master education schemes, mainly through university college programmes. Within these programmes, there will often be a stronger emphasis on administrative and economic skills than on technical or vocationally oriented competences (DAMVAD, 2013). This development can be interpreted as academic drift in the sense that the education is more general and less oriented towards vocational specialisation. ([179])

h) To what extent do the learning outcomes refer to a specific occupation/profession, to a broader vocational field and to what extent can an equal balance between occupation-specific and transversal learning outcomes (such as leading teams, entrepreneurship) be identified? To what extent and how has this changed?

In **higher education**, the definition of learning outcomes varies widely between different vocationally oriented programmes (for information on nursing and engineering programmes see section 6)

As previously mentioned, there is much diversity between programmes offered within the **vocational college sector**. This is also reflected in terms of different learning outcomes. There is an ongoing debate about how to strengthen the vocational college sector as a vocational alternative to higher education while at the same time attract students who want to be able to go on to higher education. The discussion of measuring learning outcomes in terms of vocational college points or in terms of credits is important in this respect. The Norwegian Parliament has recently decided that the vocational colleges should be recognised as 'higher vocational'. ([180]) Some of the two-year technical vocational now colleges offer courses at the level of higher education, with a stronger emphasis on academic knowledge and learning outcomes. A main motive is to attract more students. Another is to prepare for an institutional change of status to higher education (Kyvik, 2016, p. 175).

The content of the **master craftsman education** is decided by the Master Craftsman Certificate Committee. New curricula were adopted from 2016, containing three main elements: Business management/entrepreneurship, professional management and vocational specialisation. The curriculum for business management is common for all master trades, professional management is adapted to the various groups of trades, while vocational specialisation provides a specialisation within the particular trade. The new curricula represent a shift in emphasis from the general to the occupation specific by establishing a stronger link between the education and the specific trades (Espelien et al., 2016).

([179]) Interview with Hilde Brodahl, Mesterbrevnnemnda, June 12, 2017.

([180]) http://norwaytoday.info/education/vocational-colleges-recognized-higher-education/

4.2 Changes in relation to the delivery

j) How can the pedagogical/didactical approach in relation to VET programmes/qualifications at higher levels be characterised? E.g. by enhanced practice-orientation (learning by doing) and work based learning (e.g. as traineeship periods') or by enhanced theory-based reflection on practice and scientific research? In which formats are they offered (e.g. as part-time study programmes for workers, as 'dual study programmes')? To what extent and how has this changed?

At the **university level**, several bachelor and Master programmes have recently introduced practice periods in their study programmes in order to enhance the employability of their graduates (Kyvik, 2016, p. 164). One example is the Master programme in cultural heritage offered by the Norwegian University of Science and Technology. The programme includes an eight-week training period with a further two-week period of complementary work and report writing. Even in disciplinary programmes, examples appear of practice elements, for instance in political science at the University of Oslo, where a practice module has been offered as an optional part of the master programme beginning from spring 2017.

In the **university college** sector, two opposite trends can be observed, according to Kyvik (2016, p. 164). On the one hand, theoretical knowledge has been strengthened in vocationally oriented programmes at bachelor's level over time, at the expense of practical training. This change can be related to the removal of work practice as an entry requirement as well as to the reduction of practical training within the programme. On the other hand, a range of alternative work-based bachelor programmes have been established in order to cover a demand for further education by employees in the public and private sector. One example is a workplace-based bachelor programme in preschool teaching. Several university colleges now offer part-time programmes aimed at assistants in kindergartens who want to become preschool teachers. The programmes are work-based, and the kindergarten is an important learning arena.

A study of practice periods in **vocational colleges** found that only 15 percent of the programmes had practice placements with supervision at a workplace outside the school (Storm, 2012). One reason for this is that many vocational college programmes are aimed at students with prior work experience. The majority of students in vocational colleges are adults with work experience. Some programmes are offered as part-time programmes for workers. In programmes with practice placements, the practice periods typically account for 20-30 percent of the education. Practice placements are most common within health care studies.

The **master craftsman education** is currently offered by three approved institutions. The education is a part-time education that can be combined with full time employment, either as an evening course or as a combination of seminars and an online course.

k) Which learning sites are used? E.g. mainly classroom with some practical experience, WBL-sites including real companies, multiple learning sites? To what extent and how has this changed?

In the **university college sector**, the role of work-based learning varies between different vocational programmes. Practical experience plays a major role within teaching and in health and social studies. In engineering and business administration programmes, the relation to practice is important, but the work place is not used as a learning site to the same extent (Kyvik, 2002).

The general long-term trend has been less emphasis on learning through work practice. However, much of these developments took place early, before the 1990s.

In the **vocational college sector**, most students are adults with prior work experience and many programmes are part-time programmes for employed persons. Many vocational college courses are also offered online. Work-based learning is integrated in around 15 percent of the programmes and is most common in health care related programmes (Storm, 2012). A governmental committee set up to examine the tertiary vocational sector suggested to introduce mandatory practice in all programmes in the vocational college sector (NOU, 2014). The committee stated that undertaking relevant projects in cooperation with a workplace should count as practical training (Kyvik, 2016, p.166).

The master craftsman education is currently offered by three providers that have been approved by the Master Craftsman Certificate Committee. All providers follow a national curriculum, with room for adaptation to each master trade. The education is usually offered as a part-time programme. Many participants work within the trade/craft while taking part in the master craftsman education. Courses are offered as traditional classroom instruction, as online courses or a combination.

l) What is the educational and professional background of teachers? E.g. are they required to have comprehensive work experience, are they part-timers who are also 'practitioners' or teachers with professional experience in industry, are they trainers in companies, do they need to have an academic degree? To what extent and how has this changed?

There has been an academic drift in the educational and professional background of teachers in **university colleges** over the last two decades. According to Kyvik and Marheim-Larsen (2010), very few of the teachers in the colleges of engineering and nursing were qualified for and actively took part in research when these colleges were merged into university colleges in 1994. Since then, there has been a markedly increased emphasis on academic qualifications and research activity at university colleges, although still considerably lower than in universities. By 2008, 26 percent of university college staff was at professor or associate professor level, compared to 75 percent of university staff (Kyvik and Marheim-Larsen 2010, p. 227).

There are broad national regulations regarding competence criteria for employment in positions at **university colleges** and **universities**, but each institution may set additional criteria. Among the most relevant positions for the vocationally oriented programmes are university college teacher and university college lecturer. For university college teacher four-year higher education, with minimum two years in the relevant field, is required, combined with relevant work practice. For lecturer, a minimum of a master degree or equivalent and researcher qualifications above master degree are required. As described in Section 3, the NOKUT accreditation and review processes have been seen as inducing academic drift. The accreditation criteria for programmes within higher education include requirements about percentage of staff at various academic levels. At bachelor-level a minimum of 20 percent should have PhD competence or equivalent, and at master level 50 percent (and 10 percent with professor competence). National evaluations of nursing, teacher training and engineering have recommended that the research competence of teaching staff should be strengthened. In 2008, a national commission, set out to propose reforms in the higher education system, argued that a stronger research orientation was needed in order to improve professional education and professional work (Heggen, et al. 2010, p. 47).

The criteria for accrediting **vocational colleges** include mostly general criteria, including general criteria regarding having staff with relevant competence. There are also criteria on cooperation with actors representing the labour market to ensure that the programmes are relevant to the work field. There are no national qualification requirements for being a vocational college teacher. Each institution sets its own competence requirements, according to the vocational college act. As far as we know, there are no research or survey/reviews on the educational and professional background of vocational college teachers. The technical,

maritime and health programmes, which are closely tied to particular labour market positions, are generally assumed to have staff with relevant vocational education and work practice and generally less emphasis on academic qualifications.

The master craftsman education is offered by three providers. We are not aware of any research or surveys on the professional background of their teachers, or whether they work part time or not. One of the providers is an adult education institution and has teachers with relevant work experience and teaching experience and/or pedagogical education, according to information on their web site. The other two are a provider established jointly by a number of trade organisations within construction (masonry, carpentry, plumbing etc.), and a vocational college. Both these providers have teachers with relevant vocational education and work experience.

5. The context of change: rationale and drivers for change or persistence

This section aims at understanding how policy influences and justifies the change processes and which external factors influence and shape policy responses/decisions and the change processes observed.

m) *How and to what extent are the change processes supported (or hampered) by specific educational policies?*
n) *What is the rationale for offering VET programmes/qualifications at higher levels respectively for the changes observed? How are these changes justified in educational policy? (E.g. increasing labour market relevance of curricula/qualifications, securing supply of highly skilled labour, professionalism, innovation and economic growth in enterprises, individual and social progression?) To what extent and how has this changed?*
o) *Which drivers for change or persistence can be identified that shape policy responses? (E.g. European/international developments, such as Bologna process – harmonisation of degree structures in higher education, expansion of higher education, autonomy of universities, technological changes, EQF/NQF implementation)?*
p) *How are the change processes perceived in the country? (e.g. are they generally welcomed, are there critical remarks?)*

Higher education policy and interests of professional groups combine to strengthen the academic aspects of the vocationally oriented higher education that has traditionally been offered at **university colleges**. The relative weight of policies and internal pressures in creating such academic drift is a matter of discussion. Smeby (2011) acknowledges that the professional organisations in fields like nursing and teacher training have considered academic drift an important strategy of their professional project. Still he argues that higher education policy and international policy trends have been more important driving forces behind academic drift within higher education. Kyvik (2016) sees academic drift in the **college sector** as the most powerful driving force in breaking down the binary system and bringing the two sectors, universities and university colleges, closer together. He mentions government policy in coupling the two sectors and vocational drift in the **university sector** as two other forces working in the same direction. As also discussed in Kyvik (2006) and Bakken (2014), it seems likely that there are mutual reinforcing effects between institutional changes and academic ambitions within the university colleges.

Educational policy influences vocationally oriented higher education in several ways. The institutional changes in higher education are to a large extent driven by government education policy. Larger units are seen by policy makers as important to increase the quality

of higher education. Furthermore, the Bologna process, with the common degree system, has made university colleges and universities more similar and has facilitated the policy of merging colleges with universities. Content and delivery within the college programmes has been influenced by the institutional changes that have turned colleges into universities. Besides, the introduction of the accreditation system and a common academic career system, also influenced by international policy trends, has contributed considerably to academic drift. However, internal pressures towards academic drift were in force within the vocationally oriented programs at university colleges before the accreditation system, and before the university colleges were merged with, or became, universities. Professional unions and the professional staff at the colleges seem to have contributed to the strengthening of the academic aspect of these programmes relative to the vocational aspect, and for some programmes, like teaching, also to an increased length/academic level of the programme. The professional ambitions of unions and colleges have fitted in well with a growing 'knowledge' rhetoric in the political arena, which have provided support from political parties for such changes and has formed part of their justification. It is possible that such rhetoric may in itself also inspire policies for enhancing the academic quality of vocational programmes. The rationale for such changes is to improve professional skills in a 'knowledge society' with perceived increased skills demands, and thereby providing better quality. For instance, improving the quality of teaching has been a reason for the increase in length of the teacher education, and the increased requirements for entry to the programme. As mentioned above, there has been criticism of the academisation of university college programmes both within the colleges and from employers. Also, the growing number taking master education has been discussed, referring to the debate about the 'master disease' in chapter 2.

Also within the **vocational college sector**, there have been academic drift in the sense that some vocational colleges have become university colleges and thereby a part of the higher education system, with corresponding academic requirements. We are not aware of research on the driving forces behind this development, but it seems likely that the prestige in being a higher education institution, in itself and as a way to attract students, may play a role. However, the colleges with technical, maritime and health programmes which recruit students with upper secondary vocational education, have remained as vocational colleges. These have not been subject to academic drift, neither through institutional changes or in the content of the programmes.

In governance of university colleges, there are elements of vocational drift in that each institution now needs to have a council for cooperation with work life and that a triparte advisory body on the national level is introduced. These changes can be seen as an attempt by government and social partners to strengthen work life influence on the programmes. Similarly, a tripartite advisory body exist for vocational colleges. So far there are no apparent effects of these bodies on the programmes offered, or on content and delivery or other matters such as permeability.

In **university and university college** programmes there are examples of vocational drift in the establishment new 'work-based' bachelor and master programmes. Also, some academic bachelor and master programmes have introduced work practice periods to improve employability of candidates. These changes have mostly been initiated by the universities and university colleges themselves to increase the attractiveness of their programmes. However, there are also some tailor-made work based programs established in cooperation with enterprises, either non-formal or formal, for instance management programmes.

6. Zooming in on nursing and Engineering

Please reflect on the particular situation in the nursing and engineering areas: Which main change processes (in relation to 'academic drift', 'vocational drift', expansion of VET at higher levels outside

higher education') can be observed in this area? What are the specificities and differences compared to other areas?

Nursing colleges and engineering colleges were among those 98 regional colleges that were merged to become 26 university colleges in 1994.

k) Nursing

Both under right wing and social democratic governments, the ministries of education and health have encouraged colleges to establish alternative pathways from upper secondary VET into higher education programmes in nursing (as established for engineering graduates, see below). The process has until recently been blocked by strong resistance from the university colleges and the professional nurse organisation. However, from the autumn 2017 a pilot project with admittance of people with vocational upper secondary health education to a specifically adapted nursing program will be carried out in the university college in Oslo and Akershus. It will be organised as a three-semester programme for 20 selected students the first year with the ambition that they can follow ordinary nurse education from year 2. This can be seen as an example of vocational drift. The main driver of change is the ministry of education which has gone to the rare step of instructing the college to establish a nursing course for students with a vocational qualification from upper secondary education. The leader of the nurse education in the college has publicly opposed the project though, and has stated that she hopes it will not be continued. ([181]) Also, the nurse professional organisation and the student organisation have strongly rejected the idea, while the encompassing labour union LO, through their member organisation, *Fagforbundet*, which organises health care workers, have supported the project. If implemented on a permanent basis, it may improve career development opportunities for health care workers with vocational upper secondary education and be a signal of recognition of their skills. The resistance against the project is rooted in concerns about lowering of standards and inadequate entry competence and in professional policy interests.

Academic drift seems to be strongly emphasised in nursing programmes. The nursing education is currently a three-year bachelor program. The content of the programme is guided by a national framework (*rammeplan*). A bachelor's degree in nursing is sufficient to work as a general nurse. The amount of practical training has been reduced, but still constitutes 90 out of 180 European ECTS (Credit Transfer System) points. Half the study period in the Bachelor programme is dedicated to the clinical practice: Within the programme there are a total of 60 weeks in practice, of which 50 are clinical practice placements whereas 10 are school based practice (Kyvik 2016, p. 167). As a consequence, nurse training may be considered quite vocationally oriented.

However, the theoretical content in the curricula has increased over time (since the quality reform of 2003, the theoretical subjects include medicine and natural science, social science and nursing science; clinical practice is divided between three years, comprising basic nursing, medical surgical care and mental health care). As a consequence, less time has been allocated to work practice (Kyvik 2009, p. 138). Nursing programmes became part of the university college sector in 1986, and then had a practice component of about two thirds of the programme. It fell in the late 1980s to the present one half of the programme.

Students have criticised the quality as well as the length of practical training. Students have also questioned the number of academic subjects in the curriculum in the relation to the practical skills needs they experience when caring for patients (Kyrkjebø et al., 2002). Most specialisation programmes for nurses require two years of clinical practice after the

([181]) https://sykepleien.no/2017/01/starter-sykepleierutdanning-helsefagarbeidere

bachelor's degree. Specialisation programmes often lead to a master's degree and typically take 1,5-2 years to complete.

l) Engineering

The Master of Science degree in engineering (*sivilingeniør*) in Norway has a long standing as a prestigious technical education. It was established as the first technical education in Trondheim in 1910 and has been a university degree since 1949 (Caspersen et al. 2014, p. 199). The Bachelor Degree in Engineering was formally established in 2003, but was more or less a continuation of the former engineering education. Thus, there are two different traditions within engineering, focusing on different learning outcomes. They differ in their academic orientation, but they both have an applied focus

Some university colleges accept students with specific types of vocational upper secondary education into specific higher education programmes in engineering. This is the so-called 'y-veien' or 'vocational path' to higher education. These engineering students generally do well in the colleges, and they are considered attractive in the labour market after graduation.

Academic drift seems to have been stronger in other programmes, such as teaching and nursing, compared to engineering. Three-year bachelor programmes in engineering are offered at many university colleges. There are no required practice periods within the programmes and there has not been any since 1969. The question of whether work practice should again become part of the engineering programme has appeared later, but has been dismissed by the Ministry of Education due to high costs. However, the bachelor thesis project is often undertaken in close cooperation between the student, the teacher and a workplace, and the topic for the thesis is often proposed by the enterprise (Kyvik 2016, p. 166).

In Bachelor programmes in engineering, there are different specialisations available within the 3-year programmes, like ICT, construction and machine engineering. With a two-year extension, engineers may also become 'civil engineers' which is a qualification at the master level. A review of the engineering education carried out by a committee appointed by NOKUT, the accrediting institution, highlighted on the positive side that most university colleges cooperated closely with local enterprises in order to secure the practical relevance of the programmes while still maintaining a sound theoretical knowledge base (NOKUT, 2008). On the other side, the teaching staff at each institution was small, and the ambition of teaching being research based was often not fulfilled. Teachers often lacked research competence and sometimes also formal didactic competence. Compared to teaching and nursing, the vocational aspect and relevance to work life needs seem to be more strongly upheld in engineering. Network ties between university colleges and local enterprises seem to mediate academic drift to some extent.

7. Current debates and future perspectives

Please describe main current debates and any trends that can be observed or expectations related to future developments of 'VET at higher levels' (and specifically in the nursing and engineering areas) and provide evidence underpinning trends or expectations.

g) What are the main current debates related to 'VET at higher levels' in your country, if any? Are there any main recent/planned developments or reforms related to 'VET at higher levels'?

There are at least three debates and policy processes regarding VET at higher levels.

First, there is the debate surrounding the long and still **ongoing restructuring process within higher education**. The number of university colleges has been reduced considerably, and the distinction between universities and university colleges has diminished. Colleges have merged with universities, colleges have become universities, and a number of other changes have blurred the boundaries between university colleges and universities, including common legislation, financing system, academic career system and grade system (following Bologna). Generally, there has been an increased emphasis on theoretic and research based knowledge in the college programmes over the past two decades. Kyvik (2016) claims that academic drift in the **college sector** has been the most powerful driving force behind the reduced differences between universities and university colleges. Some have raised concerns that academisation of university colleges goes too far and that students are not sufficiently prepared for the labour market due to a lack of integration of theory and practice. Colleges may not perform their function for the labour market if there is no differentiation between them and universities. This type of criticism has come from employers, college lecturers and students, particularly teaching and nursing students, who struggle to relate theory to practice. University college lecturer Karl Fredrik Tangen at Kristiania University College in Oslo stated: 'Now there will be a strong reward for being a disciplinary academic, but no reward for practical experience. […] (College lecturers) need to publish so and so much… I can understand that universities should (be) run like this, but that particular way is now the only way. Everything becomes the same.' ([182]) The following statement was made by Jens C. Smeby, head of the Centre for the Study of Professions at Oslo and Akershus University College of Applied Science: 'There may be a tendency that *fag* (*fach,* or professional knowledge) is taught in a way that does not take into account how it shall contribute as one of several building blocks in the professional knowledge base and where knowledge about the field of practice may be discounted relative to academic knowledge'. ([183]) Yet, among government and the main social partners, there has been relatively little debate about these aspects of the restructuring process (see more about the process itself in chapter 3.1).

Second, there has been a debate since 2013 about the level and type of qualifications society needs, especially surrounding the term **'the master disease'** following an article in the main business daily *Dagens Næringsliv* Sep.28th 2013 by the leader of the main, encompassing employer organisation *Næringslivets hovedorganisasjon* (NHO). Her position was that society in general, and the education system in particular, encourages too many students to take general higher education on master level and too few to take vocational education, either on the upper secondary level or higher-level VET. This is a kind of academic drift in students' educational aspirations. She referred to forecasts of labour needs by the central statistics bureau, Statistics Norway, that show a future lack of skilled workers and an oversupply of people with general higher education (for latest forecast, see Dapi et al., 2016). Her criticism was also directed towards employers: '…too many (employers) require master education also for positions that do not require competence on a master level' (speech on the NOKUT conference Nov. 7th 2013). ([184]) The availability of many with master education pushes formal competence requirements upwards. Other employer organisations

([182]) March 6th 2017, web paper Forskerforum, http://www.forskerforum.no/a-vaere-universitet-er-som-a-vaere-restaurant-med-rene-doer/. Our translation. Original quote in Norwegian: «*Nå blir det en voldsom belønning for de som er disiplinære akademikere, men ingen belønning for de med praksiserfaring. Du skal ha så og så høy kompetanse og så og så mye publisering. Jeg kan skjønne at noen universiteter skal drive på den måten. Men det som burde være ett spor, blir det eneste sporet. Alt blir likt.*»

([183]) May 8th 2014, web paper Khrono https://khrono.no/debatt/hvordan-star-det-til-med-profesjonsutdanningene. Our translation. Original quote in Norwegian: «*Det kan være en tendens til at fag formidles på en måte som i liten grad tar hensyn til hvordan de skal bidra som en av flere byggeklosser i det profesjonelle kunnskapsgrunnlaget og der kunnskap om praksisfeltet kan nedvurderes i forhold til akademisk kunnskap.*»

([184]) http://studenttorget.no/index.php?show=6513&artikkelid=13780

expressed similar concerns, but the position has also been heavily criticised by professional unions and some higher education institutions, economists, and employer organisations. A recent public committee analysing productivity changes claim the opposite, that too few take education on master and doctoral level. Their position is based on OECD-data that shows that the share with master or above in Norway is on the OECD average (NOU, 2016, p. 3). Most with academic higher education do find work (Støren et al., 2016), but many are overqualified, according to Lai (2011), who was the first to use the term 'master disease' as a newspaper columnist. The core of the 'master disease' debate is whether the increase in the number of academically qualified and the academic content of these educations (see chapter 4) reflect increased needs of this type of competence in the labour market, or whether it is driven by academic drift in education institutions combined with selection and signalling/credential mechanisms.

Third, there is a debate about **the role of the vocational colleges**. The government and the main social partners, the LO and the NHO, have publicly attached high importance to vocational colleges and have expressed commitment to developing this sector further. Vocational colleges are seen by these actors as important in addressing current and future competence needs in the labour market, as well as being an alternative to academic higher education and a career path that may increase the attractiveness of vocational upper secondary education.

A public committee was charged with the task of assessing the role of vocational colleges and how the quality and attractiveness of vocational colleges could be strengthened. The committee's report was delivered in late 2014 (NOU, 2014). As mentioned above, the vocational college sector is relatively small, with about 15,000 students. However, the committee sees a larger potential in the vocational college sector. It argues that vocational colleges need to be developed as an equivalent alternative to higher education. This touches a central dimension in the debate about vocational colleges. Many emphasise that vocational colleges should not become academic, but retain and further develop their vocational nature, including a stronger cooperation with working life/social partners. This does not preclude developing better opportunities for further skills development for vocational college candidates, also within the higher education system.

The committee proposes that vocational colleges are merged into larger units with strong ties to the local labour market. These colleges should receive institutional accreditation by NOKUT (and be allowed to establish their own programmes). The committee proposes that the state should take over and increase funding considerably for accredited colleges. The committee further suggests that the state should take responsibility for determining the number of study/training places in each field on the national level, in cooperation with new national vocational councils within each field (that should be placed under the existing national council of vocational colleges).

A government White Paper, Meld.St.9 (2016-2017), about vocational colleges was sent to parliament in 2016. In the White Paper, the government shared the committee's vision of developing the vocational college sector as an attractive vocational alternative to universities and university colleges. However, some of the more radical proposals from the committee were not incorporated in the White Paper. The most important proposals in the White Paper were that completed vocational college education should give credit points for entry to higher education (provided that the students have general entry qualifications) ([185]), a new financing model and a proposed development fund to develop new programmes in cooperation with working life or improving quality. The paper also proposes new student rights and a new national admissions system more similar to higher education. All these changes were adopted by parliament in May 2017.

([185]) These extra points will increase students' chances of getting the study place they want if the number of applicants exceeds the number of available study places. Military service similarly gives extra points, so does *Folkehøgskoler*.

There is little public debate about n**on-formal higher qualifications outside the formal education system**. However, there are different views on the inclusion of non-formal qualifications in the NQF. Some of the largest employer and employee organisations press for inclusion of such qualifications to increase visibility and recognition of such qualifications. These organisations include the encompassing organisations LO (labour) and NHO (employer) and other large organisations on the employer (Virke) and labour (YS) side. On the other hand, the labour organisations which organise people with higher education, together with employer organisations in the public (municipal) and semi-public sector, oppose inclusion of non-formal qualifications. A committee established by the Ministry of Education was unable to reach a joint conclusion ([186]), and the inclusion process has so far stalled. The difference in views reflects that such qualifications play a larger role in the private sector, in particular industry and construction, than in the public sector.

h) Can any trends related to future developments be observed? (e.g. in terms of increasing or decreasing use of 'VET at higher levels'; changes in regulations, types of providers offering 'VET at higher levels', profile of learners/teachers, involvement of labour market stakeholders, partnerships/cooperation; development of new types of 'VET at higher levels'; coverage of 'emerging' fields)?

Government policy for the **vocational colleges** is that these educations should be vocational in the sense that they should provide students with competence that matches specific needs in the labour market (Meld.St.9 (2016-2017). The term 'higher vocational education' has now (May 2017) been established as an official term for the vocational college programmes. The ambition for both government and the social partners has been to raise the esteem (and student number) of the vocational colleges while at the same time preserving their vocational identity. There is a possibility that the academic drift of university colleges has made the policy actors more determined to keep vocational colleges vocational and closely linked to the labour market. By strengthening the vocational college sector and its esteem in society, some actors within the social partners hope to stem the tide towards unwanted academic drift of vocational education. As mentioned above, there will be moderate changes for the vocational college system following a recent government White Paper.

As far as we are aware there are no immediate plans for moving non-formal qualifications like *Mesterbrev* into the vocational college system. The process of including non-formal qualifications in the NQF has also stalled, maybe temporarily.

Within **higher education**, most of the institutional restructuring has now taken place. However, it seems likely that recent institutional changes, and the stable incentives provided by the academic career system and the accreditation system, will continue to contribute to academic drift, at least in the sense that the academic achievements of the staff in the traditional vocational programmes will be important, both to the institution and the individual staff member. Although there is a reaction and debate about unwanted academisation in society (see chapter 2), the fact that much of higher VET is within higher education, and even within universities, means that is subject to a system that provides incentives for academic drift. That also includes engineering which up to now has 'resisted' this drift more than for instance nursing.

i) Please add any further information and concluding remarks!

([186]) See the committee report: Innplassering av kvalifikasjoner fra ikke-formell opplæring i Nasjonalt kvalifikasjonsrammeverk (2015). http://www.nokut.no/Documents/NOKUT/Artikkelbibliotek/Norsk_utdanning/NKR/kd_kvalifikasjonsrammeverksrapport_org.pdf

The largest vocationally oriented programmes, measured in number of students, have traditionally been found at university colleges, and include nursing, engineering, teaching and social work. The institutional context of these programmes has changed gradually. Government higher education policy has aimed at creating larger units with larger professional staff to improve quality. First, the programmes were outside the higher education sector until the 1970-1980s when they became university colleges. Then there was a regional integration of colleges in 1994. The last two decades have seen many colleges being merged with other colleges, being merged with universities or becoming universities in their own right. The institutional changes mean that vocationally oriented programs in nursing, engineering, teacher education etc. now increasingly are being offered by universities. This development has gone along with a harmonisation of structures between university colleges and universities regarding for instance degrees, career systems, financing systems etc. The introduction of an accreditation regime from 2004 has also required university colleges to conform to requirements regarding academic competence within staff.

Academic drift is in this report a concept that characterises both institutional changes as well as changes in the content and delivery of the programmes. As such, these institutional changes can be seen in itself as academic drift. It is also clear that this development combined with the harmonisation of rules create clear incentives for academic drift in a narrower sense, in the content and delivery of the programmes. All vocational programmes within higher education are expected to be research based educations and college staff is expected to do research, which they also actually do more than before. Despite the ideal of research based education, the 'belief in [the merits of] research based education is not research based' according to the researcher Jens-Christian Smeby (interview). Previous research and critical public debate seems to indicate that the programmes have indeed become theoretically oriented in a way that relates less to the practical tasks that students face during practice. A recent book chapter (Messel & Smeby, 2017) compares curricula for these programmes over the last decades though, and present a mixed picture, where what they call 'research drift' at higher education institutions does not automatically lead to 'academic drift' in curricula.

Although there are obviously interaction effects between institutional/rule changes and professional ambitions, all institutions within higher education face a set of regulations and systems that provide incentives for academic drift regardless of the interests of a single profession. So even if academisation may be a strategy for some groups' professional project, a central interviewee (Smeby) tends to consider the general changes in higher education a stronger driver for academic drift than professional interests within each occupation/programme. Still there are differences between for instance the nursing and engineering programme. There is a possibility that strong networks between engineering teachers and local enterprises have made the engineering programme 'resist' such academic influences to a greater degree than the nursing programme, but the difference may also be due to different labour markets, where engineers face less competition with other occupations.

Vocational colleges are outside higher education, but are increasingly 'institutionalised' as a part of the education system, starting with legislation in 2003 regulating it as tertiary education, and just recently being termed 'higher vocational education' by parliament. The political ambition is to raise their profile and develop the sector as an alternative to academic higher education. Some vocational colleges have become university colleges since 2003 (academic drift), but the colleges with technical, maritime and health programmes that build upon upper secondary VET has remained within the vocational college sector.

8. Overview

This table should provide an overview of what types of changes due to 'academic or vocational drift' or 'expansion of VET at higher levels (outside higher education)' can actually be observed in the country.

Please indicate the main processes and phenomena identified during the last 20 years in the table below – referring to the direction of change, the object of change, the context of change (or target area of change), the key processes observed and the results of these processes as well as their time frame and indicate the sections in which they are presented! Examples of key processes/results are presented in table 1 of the guidance note.

Table 1 **Overview**

Direction of change	Object of change	Context/target area	Key processes observed / results	Timeframe	Section
Academic drift	**Higher Education**	professionally-oriented HE	- University colleges: Increased emphasis on theoretical knowledge and research based education, less on practical relevance -driven by institutional changes in HE (mergers, joint / unitary systems) and possibly professional ambitions. - University colleges: increased length of some programmes, teaching has become a master programme. - University colleges: strengthened focus on academic background of teachers	1990-	4.1.a, 4.2.a 2 4.2c
		traditional (or academic) HE programmes			
	VET (outside HE)	VET transformed to HE	- Some vocational colleges have become university colleges.	2003-	1.; 3.1
		VET offered at higher levels outside HE	- Some vocational colleges offer programmes at EQF level 6		3.1; 4.1b
Vocational drift	**Higher Education**	professionally oriented HE	- University colleges: New work-based and part-time programmes that can be combined with work - University colleges: Attempts to create formal arenas for cooperation with enterprises and social partners, both at institution and national level (from 2011, each university and university college has been required to have a council for cooperation with working life + new national advisory body on higher education with representation from the social partners.). - University colleges: Attempts to increase permeability from VET by providing alternative access routes.	2000	3.1; 4.2.a 3.2.1 3.2.2
		traditional (or academic) HE programmes	- University: Work practice introduced as an element in some programmes. - Attempts to create formal arenas for cooperation with enterprises and social partners, both at institution and national level (see above).	2000-	4.2a 3.2.1
Expansion of VET at higher levels (outside HE)	**VET at higher levels (or 'higher VET') offered outside HE**		- Vocational colleges: Tripartite advisory policy body on national level. - Ambition to strengthen the vocational college sector as an alternative to traditional higher education.	2010- '	3.2.1 3.1; 7.b,c

9. Sources of information

References

Bakken, P. (2014). *Institusjonell dynamikk i høyere utdanning og fagskolesektoren 2013*. Oslo:NOKUT.

Caspersen, J., Frølich, N., Karlsen, H. & Aamodt, P.O. (2014). Learning outcomes across disciplines and professions: measurement and interpretation. *Quality in Higher Education*, 20 (2), 195-215.

DAMVAD (2014). *Analyse av mesterbrevordningen*. Oslo: DAMVAD.

Dapi, B., Gjefsen, H.M., Sparrman, V & Stølen, N.M. (2016). *Education-specific labour force and demand in Norway in times of transition*. Report 2016/31. Oslo: Statistisk sentralbyrå (Statistics Norway).

Espelien, A., Høiseth-Gilje, K., Colbjørnsen, T., Myklebust, A. & Helseth, A.M. (2016). *En fremtidig mester. Evaluering av mesterbrevordningen*. Menon-publikasjon nr. 34/2016. Oslo: Menon Economics.

Heggen, K., Karseth, B. & Kyvik, S. (2010). The relevance of research for the improvement of education and professional practice. In S. Kyvik & B. Lepori (Eds.), *The Research Mission of Higher Education Institutions outside the University Sector. Striving for Differentiation* (pp. 45-60). Dordrecht: Springer.

Høst, H. & Tømte, C. (2016). *Styring og styrking av en fragmentert sektor. En evaluering av Nasjonalt fagskoleråd.* Rapport 2016:11. Oslo: NIFU.

Innplassering av kvalifikasjoner fra ikke-formell opplæring i Nasjonalt kvalifikasjonsrammeverk (committe report 2015)

KD (2016). *Fagskoler 2015. Tilstandsrapport.* Oslo:KD (Kunnskapsdepartementet).

Kyrkjebø, J.M; Mekki, T.E. & Hanestad, B.R. (2002). Nursing education in Norway. *Journal of Advanced Nursing*, 38 (3), 296-302.

Kyvik, S. (1999, ed.). *Evaluering av høgskolereformen*. Sluttrapport. Oslo: Norges forskningsråd.

Kyvik, S. (2002). The merger of non-university colleges in Norway. *Higher Education* 44: 53-72.

Kyvik, S. (2006). *Endringsprosesser i høyskolesektoren i Vest-Europa*. NIFU, Arbeidsnotat 7/2006.

Kyvik, S. (2009). *The Dynamics of Change in Higher Education. Expansion and Contraction in an Organisational Field.* Higher Education Dynamics, Volume 27. Dordrecht: Springer.

Kyvik, S. & Marheim-Larsen, I. (2010). Norway: Strong State Support of Research in University Colleges. In Kyvik, S. & Lepori, B. (eds.) *The Research Mission of Higher Education Institutions outside the University Sector.* Dordrecht: Springer.

Kyvik, S. (2016). Tertiary vocational education and training in Norway. In Hippach-Schneider, U. & Schneider, V.(eds.) *Tertiäre berufliche Bildung in Europa – Beispiele aus sechs Bildungssystemen..* Heft 175, Wissenschaftliche Diskussionspapiere. Bonn: BIBB (Bundesinstitut für Berufsbildung).

Lai, L. (2011). Employees' perceptions of the opportunities to utilize their competences: exploring the role of perceived competence mobilization. *International Journal of Training and Development*. Volume 15.(2) p. 140-157.

Marsden, D. (1990). Institutions and labour mobility: occupational and internal labour markets in Britain, France, Italy and West Germany, in Brunetta R. & Dell'Aringa C. (eds.) *Labour Relations and Economic Performance*, London:Macmillan, 414-38.

Meld.St.9 (2016-2017). *Fagfolk for fremtiden. Fagskoleutdanning.* (Skilled workers for the future. Vocational college education.)

Messel, J. & Smeby, J.C. (2017). Akademisering av høyskoleutdanningene. Book chapter. (forthcoming)

NOKUT (2008). *Evaluering av ingeniørutdanning. Sammendrag av viktige konklusjoner og anbefalinger.* Oslo:NOKUT.

NOU 2014:14 *Fagskolen – et attraktivt utdanningsvalg* (The vocational college – an attractive educational choice).

NOU 2016:3 *Ved et vendepunkt: Fra ressursøkonomi til kunnskapsøkonomi* (By a turning point: from resource economy to knowledge economy.)

Nyen, T., Skålholt, A. & Tønder, A.H. (2014). Fagbrevet som grunnlag for arbeid og videre utdanning. In *Kvalitet i fag- og yrkesopplæringen. Fokus på opplæringen i bedrift.* NIFU-rapport 2014:12. Fafo-rapport 2014:20. Oslo:NIFU/Fafo.

Smeby, J.C. (2006). *Professionalism in a knowledge society: The academic drift of professional education in the "new" professions*. Working paper no. 07/2006. Centre for the Study of Professions. Oslo University College.

Smeby, J.C. (2011). *Professionalism, education and competence.* paper presented to the Swedish Network conference 'Kunnskap, profession och expertis'. 28-29 September 2011, Linneæus University, Växsjö.

SSB (2017a). *Studenter i høyere utdanning*. Oslo: SSB (Statistisk sentralbyrå).

SSB (2017b). *Fagskoler*. Oslo: SSB (Statistisk sentralbyrå).

Statistikkbanken. Kompetanse Norge. http://status.vox.no/webview/?language=no

Storm, I. (2012). *Praksis i fagskoleutdanningene* (Practice in tertiary vocational education). Oslo: NOKUT

Støren, L.A., Salvanes, K.V., Reymert, I., Arnesen, C.Å., & Wiers-Jenssen, J. (2016*). I hvor stor grad er nyutdannede mastere berørt av nedgangskonjunkturen?* Rapport 2016:17. Oslo:NIFU.

Støren, L.A. & Waagene, E. (2015). Fagskoleutdanning – relevant for arbeidsmarkedet? *Søkelys på arbeidsmarkedet,* 3, (32), 223-243.

Tellmann, S.M, Aamodt, P.O., Elken, M., Larsen E.H. & Skule, S. (2017). *Råd for samarbeid med arbeidslivet. En underveisevaluering.* Rapport 2017:9. Oslo:NIFU:

List of interviewees:

Country	Name	Organisation and function	Contact information (Email, phone) List of interviewees	Date of interview	Agreement*– yes/no
Norway	Hilde Brodahl	Mesterbrevnemnda,		12.06.2017	?
Norway	Jens-Christian Smeby	Professor at Centre for Professional Studies, University College Oslo and Akershus	Jens-Christian.Smeby@hioa.no	19.06.2017	Yes

* Interviewee agrees that his/her name can be included in the final publication