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IBAR WP12

QUALITY AND SECONDARY EDUCATION

THE NETHERLANDS – NATIONAL REPORT

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1 METHODOLOGY

Methods used in the case studies are, as ever, documentary analysis (including web documents) and interviews at higher education institutions. Responding to the theme of the WP, case studies also included information gathered from secondary schools in the neighbourhood of the focal higher education institutions. One interview at national level was added (director of national platform of secondary schools).

2 SECONDARY AND HIGHER EDUCATION¹

The higher education system in the Netherlands consists of two sectors, the university sector (WO) and the sector of higher professional education (in Dutch *hogescholen* or HBO). Both the universities and the *hogescholen* have their own focus on education, as defined in the Higher Education and Research Act (WHW) of 1993: 'The universities prepare students for independent scientific work in an academic or professional setting; *hogescholen* offer theoretical instruction and aim to develop the skills required for application in a particular profession. Practical experience is an important part of the training.'

The university sector comprises 17 publicly-funded universities. There are nine universities which offer programmes in a wide range of disciplines and subject areas, three provide mainly technical and engineering programmes and one is specialised in agriculture. In addition the Open University provides programmes in part-time and distance education modes, both on university and UAS degree-level. Finally there are four small 'philosophical' universities for training of pastoral workers.² As a rule, the latter four universities are ignored in treatments of higher education in the Netherlands; we will not include them here, either. Undergraduate programmes as a rule comprise 180 EC; the second cycle takes 60-120 EC, depending on character of the programme and discipline.³

In 2012, the HBO sector consisted of 38 publicly-funded *hogescholen*, internationally called 'Universities of Applied Sciences' (UAS). They provide programmes in the following sectors: economics, law, health, social-agogic areas, agriculture, education, engineering and arts. These programmes normally have a standard length of four years (240 EC) and students receive a Bachelor degree upon completion.⁴ In a limited number of fields, UAS offer professionally-oriented master programmes on top of the first-cycle programmes (e.g. arts, nursing). Programmes can be on a full-time and part-time basis. Most UAS are comprehensive, but programmes especially in arts, teacher training and agriculture may also be offered in specialised schools.

Next to the publicly-funded sector, there are hundreds of mostly small and specialised private providers of higher education, offering programmes mostly in the first cycle and with professional orientation, and often in part-time and/or distance education modes. Yet some of these providers also offer some accredited programmes of academic orientation. And there is a post-graduate private business school, Nyenrode.

¹This section has been taken, *corrected and updated* from the WP6 report on access.

²These specialized universities service protestant or humanist 'creeds'. Catholics have private, church-related seminaries outside the higher education system. Islamic pastoral workers are educated inside one university and one UAS.

³For medicine and related areas, longer programmes are in place: 180+180 EC to the level of basic physician, and then multi-year specialization courses follow.

⁴In a limited number of cases, Associate degree programmes are offered (120 EC) in UAS. These vocationally-oriented programmes are organized in cooperation with regional employers and only if there is a specific need for such sub-degree programmes. The Ad-EC's count towards the first-cycle degree as well.

The UAS-sector is the largest sector of publicly-funded higher education, with over 380,000 students enrolled either full-time or part-time (respectively 80% and 20% of enrolments) in 2010. The total enrolment in universities is about 220,000 students.

1.1 STRUCTURE OF SECONDARY EDUCATION

The Secondary Education Act (WVO) distinguishes four main streams of secondary education each with their own specific orientation and qualification level (see Figure 1). The first three forms follow immediately after primary education.

- Middle general secondary education (VMBO): 4 years,
- Higher general secondary education (HAVO): 5 years,
- Pre-university education (VWO) including gymnasium: 6 years.

The first one to two years of these three tracks are usually mingled in large secondary school conglomerates, helping pupils to get streamed into a track they can master with their talents and inclinations (not depicted in Figure 1).

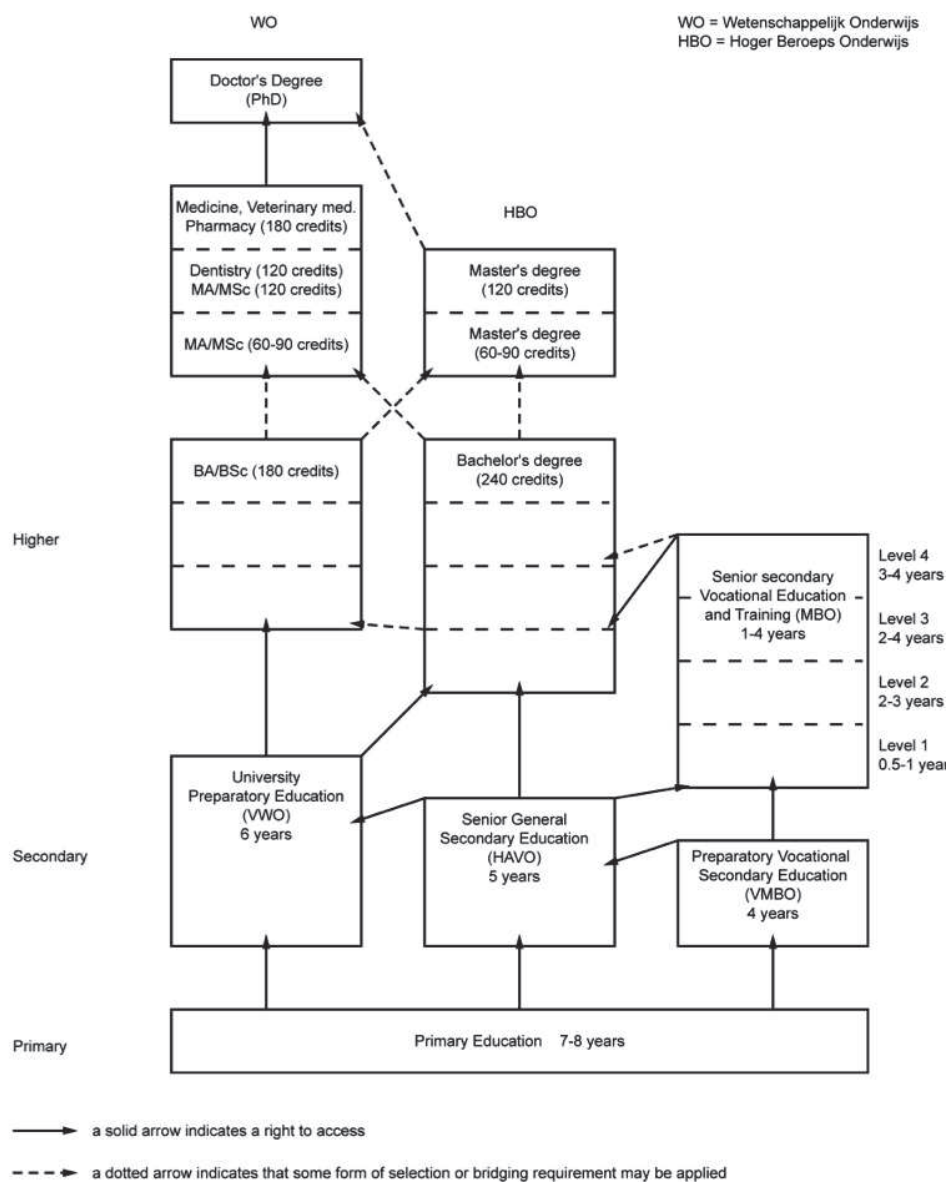


Figure 1 Scheme of education in the Netherlands

After graduating from these types of general secondary education, pupils may enter vocational secondary education:

- Vocational education (MBO): 2-4 years after VMBO

Vocational secondary education consists of one- to four-year courses; the short ones are basic levels; the longer ones are meant to give fully-qualified access to the labour market. There are transition options from the short to the long courses, e.g. in part-time education modes. The normal route into MBO is from VMBO, i.e. four years after primary school.

Pupils with the ambition to enter higher education have two options: the five-year track of preparatory higher professional education (HAVO) or the six years of preparatory university education (VWO). These are the streams of secondary education that we will look at in detail in this work package report. Alternative routes into higher education have been treated in the report on Work Package 6, Access.

The curriculum of havo and vwo has been organised in *profiles*, i.e. a set of subjects together constituting a particular profile on the basis of which access to specific higher education courses may be determined (De Weert and Boezeroy, 2007). There are four profiles: culture & society ('C+M', preparing in general for the social sciences, history, languages and culture), economy & society ('E+M', preparing for economy and social sciences), nature & health ('N+G', preparing for medical sciences and biology), and nature & technology ('N+T', preparing for natural sciences and engineering). Each profile forms a consistent set of knowledge and skills and consists of a compulsory part (50%) meant for general education, a profile part (30%) to prepare for higher education, and a free part (20%) for personal development. In the common core are subjects like Dutch and English languages and mathematics. Part of the common core also are courses on higher education in general, and guided self-reflection on the pupil's career in order to prepare pupils for the choices to be made after secondary education. The structure of profiles is continuously under revision: new subjects have been added, such as informatics and management & organization.

For access to particular higher education programmes a specific profile of secondary education may be required. For example, for access to technical and natural sciences the profile nature & technology is required. There is not always a one-to-one relationship, as for example for the medical sciences the profile of nature & technology as well as nature & health are accepted, and for access into many programmes in the social sciences and humanities all profiles are accepted. Besides, higher education institutions may admit students who do not have the right profile by their meeting the requirements in additional ways.

Whereas many HE institutions offer possibilities to repair shortcomings in the qualifications at the beginning of the first year, there is increasing pressure from the national level to deficiencies before students actually enrol in a programme.

The final examinations consist of school examinations (a weighted GPA from the fourth year onwards, making up 50% of the final grade) and national examinations (50% of the final grade). The leading principle for access into higher education is that everyone who has successfully completed the appropriate final examination has the right to enter higher education.

Admission to UAS is open to all students who hold the HAVO or VWO certificates. The UAS may set subject-specific entrance requirements particularly when the intended study programme leads to a professional qualification. All such requirements must have the Minister's approval and must be included in the national Central Register of Higher Education Study Programmes (CROHO) in advance of the application process.

Access to universities is open to students with a pre-university school-leaving certificate (VWO).

The only limitation to this “open system” in both the university and UAS sector is the system of *numerusfixus*, which applies to a limited number of study programmes, such as the medical studies (in Universities) and in the UAS for the paramedical subjects (e.g. physiotherapy), tourism, and arts. There are three types of *numerusfixus* (applying for both the hogescholen and the universities). The first type (also the oldest one) is known as the capacity fixus. When the number of applicants exceeds the national teaching capacity, the Minister decides upon the number of places (nationally and at the institutional level) which will be available. The Minister may also limit the intake of students if it can be shown that the supply of graduates from a particular programme exceeds the need of the labour market by a substantial amount and when this is expected to be the case for a number of years (labour market fixus). A third type of *numerusfixus* is the institutional fixus: HE institutions have been given more autonomy in determining their teaching capacity. If the number of applicants exceeds the expected enrolments in such a way that the teaching capacity of a particular programme is insufficient or a higher intake would in fact endanger the quality of teaching, the institution can apply for setting a *numerusfixus*.

In case of a *numerusfixus* programme, students can be selected through a so-called weighted-lottery system. This applies for example for the for the medical study. The main characteristic of this system is that the lottery ticket decides on admission to courses with an entrance restriction. However, it is a weighted lottery, which provides greater chances on admission for candidates with higher average examination grades in secondary education. Candidates are divided over different lottery categories according to the average grade attained at secondary school. Students who are not placed may re-apply the next year but they do not receive any credit for the waiting period.

Nowadays the candidates with an average grade of 8 or higher in secondary education will be directly admitted to the programme of their choice whereas the other applicants will have to go through the weighted lottery procedure. Since 2000 both hogescholen and universities have the opportunity to select a certain percentage (originally 10%) of the total places available (decentral admissions). Selection takes place on basis of motivation, working experience, or any other criterion the institution considers appropriate. In the arts sector all students go through a selection procedure.

These developments have been prompted by the changing regulation of access to higher education. Selection mechanisms has been changed since 1999 where according to the recommendations of the Drenth committee established in 1996, regulation from the Minister of Education, Science and Culture was passed. It introduced the average grade 8 or higher in secondary education for direct admission to a programme at a higher education institution. Other candidates have to go through the weighted lottery procedure as described above. Further changes were introduced in 2000, when institutions got an opportunity to select up to 10% of their students in a decentralized way (de Weert and Boezerroy, 2007).

This freedom for HE institutions to select their students on entrance has been extended over the years and institutions increasingly take the opportunity to select their students (for example for medical studies varying from 10% up to 40%). The current government advocates this development and challenges HE institutions to assure that ‘the right student will get the right place’. In the Strategic Agenda published by the Minister in July 2011, the view dominates that selection on entrance will enhance the motivation and effort of students. Students will make a more conscious study choice and will be stimulated to perform better in secondary education. They will be challenged to get higher grades as this will increase their chances to be admitted to the study of their preference. The Minister aims to review legislation enabling HE institutions to select their students. Basic criterion is that selection always should be focused on a better tuning between the level and profile of the programme on the one hand and the capabilities and motivation of students on the other. In such a system the current lottery system is not seen an appropriate instrument and will be abolished.

This view of the Minister has been largely shaped by the conclusions of the Veerman Committee (2010) which had suggested that all HEIs should be allowed to select applicants at entry. However, selection ought to yield a better match between students’ interests and competences and the orientation of their

selected study programmes. Selection should not translate into a curtailment of participation in higher education (Cremonini et al. 2011). Hence, a key policy initiative at the moment is to improve the ability of getting the right student in the right spot, which is expected to bolster study motivation and student/faculty involvement, reduction of drop-out rates and transfers, and improve the graduation rates (Veerman et al. 2010)

In view of this policy development HE institutions will be able to develop their own access policies, such as defining own selection criteria or entrance prerequisites, the quantity of the student intake, and the connection with the different streams in secondary education. The question arises what implications this development may have for the accessibility of Dutch higher education as a whole.

3 NATIONAL POLICIES ON ALIGNING SECONDARY AND HIGHER EDUCATION

3.1 INFORMATION AS THE KEY POLICY INSTRUMENT

3.1.1 OFFERING INFORMATION NATIONALLY

The activities developed at the institutional level can be placed in the context of national policies on aligning secondary and higher education. In line with the earlier project report on access in the Netherlands (Leisyte, Epping, Faber, & de Weert, 2011), it has to be borne in mind that in principle, there is open access⁵ to higher education for all who hold a diploma from secondary education of the six-year type ('vwo', giving access to all of higher education) or of the five-year type ('havo', giving access to universities of applied science). However, there are some exceptions:

- First, certain types of study programmes may collectively set requirements regarding accepting only students with a certain 'profile' of courses in the national exam; this applies mostly to natural sciences, engineering, medicine and similar areas, which require pupils to take exams in science profiles (nature & technology or nature & health). But as long as pupils have passed those exams, they are free to enter such types of study programmes. The choice of a profile after year 3 of secondary school can be seen as the start of the college choice process.
- Second, there are areas with a *numerusfixus*. Such a restriction of access applies (1) due to capacity limits of the programme (e.g. when business studies was a growth area), or (2) due to labour market capacity (e.g. in medicine). Traditionally, the selection process was a national, weighted lottery based on secondary school examination results (GPA), giving 100% chance of selection with a GPA of 8.0 or above out of 10 (a GPA between 5.5 and 6.0 being the very minimum required for a pass). In recent years the option to add institution-based procedures has been enlarged (usually involving selection interviews).
- Third, some types of study programmes select students through entrance exams due to secondary education not providing training in relevant types of competencies (esp. art academies).
- Finally, an increasing number of universities have started undergraduate 'colleges' for talented students, inspired by the US model of liberal arts colleges, where students follow a broad range of courses across a number of disciplines. Admission to these special programmes is through selection by the individual college. Different colleges use different selection rules, some relying more on secondary school results (GPA), others on proof of motivation, etc.

⁵ 'Open access' may be a better term than the more usual 'free access', because the freedom does not mean there are no fees. In all public higher education institutions, students pay a uniform fee of € 1771 (2012/13, fulltime).

Yet for the bulk of study programmes and for the bulk of students, open access is the major mode of progression from secondary to higher education. As a consequence, attention in the access process is on the individual prospective student rather than on direct links between higher education institutions and secondary schools in their region (although such links exist, as will be shown below). And as a consequence of that, *information to individual prospective students* is the main tool of policy.

Information provision is probably the main instrument in the national policy. Thus, the Ministry subsidizes the *national student survey* ('NSE') in higher education, which (next to its use for internal quality assurance in the higher education institutions) is used in the major publications targeted to secondary school pupils. Two weekly magazines produce 'rankings' out of that information, a dedicated annual booklet is made out of it and most importantly, the Ministry also subsidizes *the website Studychoice123* (www.studiekeuze123.nl), which has grown into a national portal for 'ranking' information, information about open days and other information activities by higher education institutions and ancillary tools for prospective students (e.g. links to online tests of interest and abilities).

3.1.2 ORIENTATION ON HIGHER EDUCATION IN THE SECONDARY SCHOOL CURRICULUM

To ensure that information is not just offered, but also that pupils are made aware of the importance of making an informed and reflected choice, orientation on higher education has been made part of the national curriculum in secondary education. Throughout the years 4–5 (and 6) of secondary school, all pupils take lessons to help them become aware of their possibilities and preferences. Also, the schools organise collective visits to open days etc. organised by higher education institutions (see also below, § 4).

In the current economic crisis and the budget cuts on education, however, schools do not see this as the core of the education process, and tend to pay less attention to orientation issues, we were told in an interview.

3.2 RECENT POLICIES

In recent years, policy has increased its focus on quality and efficiency of higher education, and while the principle of open access remains apolitical axiom, new initiatives have been taken. In the new framework three related policy initiatives are predominant.

3.2.1 IN SECONDARY EDUCATION: 'PERFORMANCE BOX'

The Minister formulated an action plan to improve the performance of the educational system, in particularly at the secondary school level. Financial means have been made available and schools are assigned a 'performance box'. This includes professionalisation of teachers and school leaders, maximising learning outcomes, development of an ambitious learning culture and excellence particularly in science and technology subjects. The Dutch Ministry has involved the national Platform on Sciences and Technology (*Platform Beta Techniek*) and the Council for Secondary Education to assist schools in realising the objectives of the performance box. A national programme has been developed to support this initiative (*School aanZet*). In addition, secondary schools are now legally obliged (as most did already) to provide career orientation in the last three years of the study. In practice this is mainly an effort carried out by school deans.⁶

3.2.2 ACCESS TO HIGHER EDUCATION: FREE BUT INFORMED CHOICE

⁶Annemarie Oomen & Dick Nierop (2011) *Hoe het VWO voorbereidt op het wetenschappelijk onderwijs*. Utrecht: APS.

Regarding the connection between secondary and higher education, the Minister regulated the study choice process in the Higher Education 'quality and diversity' law⁷. Aspirant students legally obtained the right to receive advice on their study choice for the programmes to which they have applied, provided that they apply before May 1 of the year in which they enrol in higher education. The higher education institution must provide this facility. Conversely, higher education institutions can oblige aspirant students to participate in activities that result in a study advice; in practice this amounts to semi-obligatory intake interviews. Students will be advised about the study and about factors contributing to successful completion of the degree programme. The measure is intended to contribute to conscious choice and consequently to a better match between students and study. It must be stressed that the advice officially remains advice and is not a selection instrument. Prospective students retain the right to enter a study programme, irrespective of the advice being positive. However, students who apply for a programme *after* May 1 lose the right to open access. In those cases the higher education institution decides about their admission and may refuse candidates, though only on the basis of clearly formulated arguments.

3.2.3 STRATEGIC AGREEMENT IN HIGHER EDUCATION: SUCCESS RATE INCREASE

The Ministry emphasised over and over again that the success rate of students in Dutch higher education is unacceptably low and that improvements have to be made. A strategic agreement between the national University Association (VSNU), the UAS Association⁸ and the Ministry aimed, amongst other goals, to raise undergraduate success rates to above 70% and to increase the number of students who successfully complete their programme within the stated period. One of the key aims is to improve the match between students' interests and capabilities on the one hand and requirements of study programmes on the other. This is to be achieved by measures to improve the connection between secondary and higher education (see below, § 3.2.2 on access) and measures to identify students at an early stage who are at risk of dropping out in the first year in order to provide them with additional support or to refer them to another programme that may be a better match.

Moreover, the Minister in 2012/13 launched legislative measures to drive the higher education system to become more excellent, more accessible and more future-oriented. This involves, amongst other measures, a more intensive and challenging study climate with stricter selection of students in the first year, more contact hours between teachers and students, smaller groups in the first years of the bachelor phase, increased qualifications of teaching staff.

Additional measures, almost all on information, target the areas of natural sciences and technology/engineering, because it is deemed that the country needs more scientists and engineers. The professed aim is to have 4 out of 10 students entering higher education enrolling in these areas of knowledge.

3.2.4 ADDING FUNDING TO THE POLICY INSTRUMENTS: PERFORMANCE CONTRACTS

Following the national strategic agreement mentioned above (§ 3.2.3) and to increase its impact on individual higher education institutions rather than being left to the collective, in 2012 the Ministry entered into four-year performance contracts with each individual higher education institution. Institutional plans are judged, with marginal financial consequences (around 2–7%), and the intention is to evaluate performance in the years 2012–2015 according to the individual targets after four years, which should lead to continuing financial consequences based on actual performance (increasing to 20%

⁷Wet Kwaliteit in Verscheidenheid, Hoger Onderwijs (Law on Quality in Diversity, Higher Education). WP10140 K-2. The law is under discussion in Parliament at the moment of writing (middle of 2013).

⁸Early 2013 the former 'HBO-Raad' was renamed into Netherlands Association of Universities of Applied Sciences (abbreviated to 'UAS Association' in this text).

of the budget). Of course, the intentions for the period beyond 2016 are political plans, subject to change after elections.

The major indicators in the performance contracts in the institutional plans have been agreed nationally, and focusing on our purposes, they include, amongst other indicators, quality of teaching, but also educational efficiency (reduction of dropout rate and increase of degree attainment) at each of the institutions—in different mixes according to institutional strategy.

4 RESEARCH QUESTION 1: HOW DOES INSTITUTIONAL POLICY ON QUALITY TAKE INTO ACCOUNT ISSUES OF PROGRESSION FROM SECONDARY TO HIGHER EDUCATION?

Since several decades, access to higher education has been an issue in the policy of higher education institutions. Failing selection mechanisms 'at the gate', much attention has been given to the functions of the first year of studies to give students a good overview of the field, thus enabling both selection of students by the institution 'beyond the gate' and self-selection of able and motivated students (the functions of the 'propaedeutic' year; van der Weiden, 1991; Prins, van Berkel, Westerheijden, & Maassen, 1991). These activities have been augmented in 2012, in the wake of the introduction of performance contracts (cf. § 3.2.4).

The new instrument 'at the gate' of intake interviews has been mentioned above (§ 3.2.2): it promises to become a major instrument to achieve a better match between students' capacities and expectation on the one hand and the study programme's demands on the other. The intention is that it should lead to lower drop-out and switching between study programmes in the first year of studies, thus increasing the efficiency of the higher education system, and reducing social cost of studying without calling the fundamental freedom to follow one's own preferences into question. At least in one of our case studies (Institution D), this instrument has been piloted already since 2012, and monitoring of different modalities of interviews is undertaken in the institution itself.

Various activities are undertaken to *inform* pupils about study in higher education in the years 'before the gate'. These activities regularly start with ca. 15–16 year old pupils, in year 4 of secondary school, in cooperation with secondary schools. Besides publication of flyers, brochures and web sites, the activities include collective visits of pupils to higher education institutions to attend 'pitches' of selected study programmes. Sometimes, such activities are organised by a group of higher education institutions, for groups of secondary schools collectively (regional platforms). Then, in year 5 (and 6), it is expected (both in the secondary school and by higher education institutions) that pupils will attend open days of individual higher education institutions. Moreover, in year 5 (and 6), pupils have the opportunity to attend 'taster' days, 'try-out lectures', 'join-a-student' days, one-day-a-week semester projects, student coaches, etc. to get a feel for study programmes they are considering to choose, and to prepare for selection/information processes. All of those information activities are announced in secondary schools in the region, but also on the national website Studychoice123.

The report on Case A adds that in recent years *parents* have become more important in the college choice process. Institution A organizes presentations at secondary schools specifically for parents to equip them for supporting their child in making a study choice.

5 RESEARCH QUESTION 2: ARE THERE ANY SPECIAL INSTITUTIONAL ARRANGEMENTS IN PLACE – ACADEMIC, PERSONAL, SOCIAL, GEOGRAPHIC OR ADMINISTRATIVE – TO ASSIST STUDENTS IN THE FIRST YEAR OF HIGHER EDUCATION?

Increasing the efficiency of study programmes is in the limelight, also due to the performance contracts. Higher education institutions are under pressure to take measures in order to keep students, once they enter the institution, on track and on time.

First of all, students are increasingly *informed* about the expectation that they aim to study within the official time frame (plus one year).

Second, the *education process now has a minimum of twelve contact hours* per week in practically all study programmes, not counting independent study. This was not always the case before 2012.

Third, attention given to *didactical qualifications of teachers* has increased. In UAS's, this is operationalized as increase of the proportion of teaching staff with master's and PhD degrees; in universities, all new teaching staff (and increasingly also previously appointed ones) are required to gain a nationally recognised certificate on didactics ('BKO' or its higher-level follow-on 'SKO').

Fourth, higher education institutions have the right to deny access to the second year to students who fall below the threshold of success in the first year ('*binding study advice*' or 'BSA'); institutions are free to set their own threshold and again as a consequence of the performance contracts thresholds tend to be increased from *circa* 35-45 EC to *circa* 45-55 EC. Recent policy discussions suggested introducing BSA's also in the second year of study.

Fifth, measures are taken in all higher education institutions to increase *social integration* of first-year students, e.g. through staff members taking up a mentoring role for a group of students. In a large number of higher education institutions, there also are student mentors, peer learning groups, etc. In Case D, the intake interviews are performed mostly by student councillors, who will also give guidance to students during the first and second year of studies, thus ensuring continuity for the pupils/students, and also supporting their quick integration into the institution's community.

6 RESEARCH QUESTION 3: TO WHAT EXTENT ARE SECONDARY SCHOOL PUPILS PREPARED TO TAKE MAXIMUM ADVANTAGE OF THE HIGHER EDUCATION OPPORTUNITY OFFERED TO THEM?

In secondary schools, the main structure for guiding pupils into higher education is the *dean*, who is one person or small office collecting and disseminating *information* to pupils about study options, open days, etc., and who offers individual guidance to pupils as well (up to psychological tests of interest and aptitude). There are regional and national organisations for deans to share information about higher education and for professionalization of their supporting and guiding roles. Other teachers, in particular the *mentor* who has a responsibility for a particular class rather than just for his/her own subject, also has a (according to Case A and a national interview, increasing) role in the college choice process of pupils. It is the mentor's task to give the orientation courses (mentioned in § 3.1.2) that all pupils take in years 4 and 5 (and 6) of secondary school. Nevertheless, a respondent in Case A informed us out that secondary education is not always up to date about higher education and study opportunities. The respondent indicated that teachers at secondary education know little about what present-day higher education looks like. They are for example ignorant about the bachelor-masters cycles and often only know what higher education was like when they studied themselves. In the national interview, too, it became clear that assisting pupils in their orientation on higher education is an obligatory but not always enthusiastically undertaken task in secondary education, especially in the current times of budget cuts.

Preparation for higher education is also *built into the core curriculum* at secondary school. Especially, pupils from year 4 (out of 5 or 6) onwards are prepared for the national secondary school examinations; and in-school tests during these years count towards the schoolexam (up to 50% of the final grade, the other half being determined by the national examination).

Much attention is also paid to providing challenging and motivating didactical methods. Pupils are taught to work independently, to prepare them for university-level self-study. This occurs in different ways, for example doing mathematics assignments with on a computer, using foreign languages in real life situations, biology by doing experiments, writing small papers individually and in small groups, presenting results to the whole class, etc. Also the final year 'profile project' that is required of all pupils can be seen in this light.

Some schools offer additional courses and projects for pupils who are performing above average, who are highly motivated and who have the capabilities to take part in such extra programmes in addition to the standard teaching. *Attention for above-average ('excellent') pupils* is a new trend not only in higher education (think of the colleges, mentioned in § 3.1), with several aims, e.g. to keep pupils motivated, but also to develop the talents of the population for the benefit of the economy and society.

7 RESEARCH QUESTION 4: ARE QUALITY ASSURANCE REQUIREMENTS FOR SECONDARY EDUCATION AT ODDS WITH THOSE FOR HIGHER EDUCATION?

The educational model requiring pupils to develop self-study competencies during the final years of secondary education has been introduced as a result of policy negotiations, sparked by higher education's complaints about the deficient competencies of students entering higher education. The major change was made in 1998; since then, we may say that the quality requirements in secondary education in principle are well aligned with those in higher education. Evidently, this policy change predated influence of the Bologna Process, let alone of the ESG.

Quality assurance models for the school organisations in secondary education have also developed in recent years to resemble models used in higher education. This had to do with secondary education schools becoming larger as a result of mergers, stimulated by the government, in order to increase specialisation, synergies and efficiency (scale effects). Again, these developments were instigated before the Bologna Process could be of any influence.

8 RESEARCH QUESTION 5: ARE THERE FORMAL PROCESSES IN WHICH THE SECONDARY AND HIGHER EDUCATION SECTORS COMMUNICATE WITH EACH OTHER, EITHER AT INSTITUTIONAL LEVEL OR NATIONAL LEVEL?

8.1 INSTITUTIONAL LEVEL

Generally there is intensive communication between the higher education institutions and surrounding secondary schools about several activities, such as provision of information, organisation of open days and similar events, as mentioned above.

In the communication between university and secondary schools the deans of the schools play a crucial role. They are the contact persons in many ways.

Another formal point of contact concerns the professionalization of school teachers. In the Netherlands recurrent education (upgrading) of schoolteachers is mandatory. Universities and UAS's provide much of this teacher training. In this context several regional network activities have been initiated.

8.2 NATIONAL LEVEL

The Platform *Bèta-Technology* (www.platformbetatechniek.nl) is a national initiative funded by the ministries of education and economic affairs to increase the number of enrolments in the sciences and technology areas, and to enhance the quality of science education at all levels.

The Council for Secondary Education (VO-raad), primarily a lobby organisation for secondary schools, is active in the field of the connection between secondary and higher education. It initiates various research projects on the issue in cooperation with secondary schools and higher education institutions, and seeks collaboration with other national initiatives.

The Dutch University Association (VSNU) has a national platform for aligning pre-university and university education. Presently, discussions focus on the intake interviews that are currently taken place and their non-binding character (except where universities are allowed to select their students for particular programmes with a *numerusfixus*), and the effects of admission and selection procedures for the later study success.

9 RESEARCH QUESTION 6: HOW MIGHT MORE EFFICIENT ALIGNMENT BETWEEN SECONDARY AND HIGHER EDUCATION BE ACHIEVED?

The case studies uncovered several suggestions. A selection follows.

Respondents in case C considered the regional network Bètapartners/ITS Academy a trendsetting initiative that deserves extension to other subject fields, particularly humanities and social sciences. Subjects in these sectors attract large number of students, while some of those areas are not taught in secondary education (e.g. psychology). By organising activities similar to those in the Its Academy, aspirant students would be better informed about those studies and consequently a better match could be achieved between the aspirant student and the requirements of the study.

Feedback from higher to secondary education is felt to be problematic because of privacy considerations and administrative complications. School deans state that they do not get a complete picture how their former pupils are doing in higher education as there is no systematic feedback from universities. For the schools it would be important to hear how their own pupils are faring in higher education, which studies have a high dropout rate and what the reasons might be. This feedback information should primarily be used for quality improvement at the school, although it was mentioned that such information might also be used for benchmarking purposes. Schools can be compared in the degree to which their former pupils successfully are proceeding in higher education. Some higher education institutions (e.g. Case D) are working on improving the feedback to secondary education in their region, but 'best practices' were not yet available.

A university respondent referred to the attitude in the Dutch educational system (and wider society) that to excel is 'not cool' and consequently that there are too many pupils who perform below their level of capacity and tend to choose the easier options. It is important to break out of this attitude and to challenge pupils to get the most of their education. For this purpose it is important to upgrade teachers and team leaders and equip them with interesting subject content and didactical materials. Some structural changes have already been made available (additional programmes for excellent pupils, mentioned in § 6 above, and students in the first cycle such as 'honours tracks').

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