HU Assessment Framework

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Contents

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Preamble

The current memorandum, the *HU Assessment Framework* (2017), replaces the *HU Framework and Format Assessment Policy* from 2010.

The HU Assessment Framework aims to provide degree programmes with *direction, guidance and space* when designing or organising the programme's assessment policy, so that it corresponds with our educational vision with personalised learning:

- *Direction,* to allow all forms of assessment to contribute to the realisation of the HU's vision on education.
- *Guidance,* in order to achieve the intended assessment quality in line with standards 3 and 4 of the NVAO framework.
- *Space,* to take the specific context of the degree programme into account, as well as the student population and the professional domain.

The intention is that lecturers (teaching teams) assume the responsibility of using this assessment framework to give shape to the assessment policy within their programme. The principle of *apply* or *explain* is of relevance here: Apply: Degree programmes design all forms of assessment in accordance with the HU Assessment Framework. Explain: It is possible for a degree programme to deviate from the framework, as long as it has good reason to do so while remaining focussed on the HU's vision on education. The degree programme must provide adequate substantiation and justification for this deviation.

During the phase of implementation, it will be possible to adopt a ‘phased introduction’ that aligns with the context of the institution or programme. The aim, however, is that by 2022 all degree programmes will have developed an assessment policy that is in accordance with the principles and frameworks as presented in this HU Assessment Framework.

Quality is thereby the first priority. Appropriate and adequate facilitation (in terms of time, professionalisation and support) is part of this. It is important that lecturers have the space to share experience, knowledge and insights within and between institutes. This allows for a process of ‘sense-making’ that is essential for ongoing educational improvement.

Working with the HU Assessment Framework over the coming period will provide us with insight, experience and knowledge in terms of both process and content.

We believe and trust in the strength of professionals and teams to use this assessment framework to shape the assessment policy within their programmes in a high-quality manner and hope that this will lead to even better education at the HU.

1 Introduction

The HU Assessment Framework offers degree programmes guidance in achieving high quality tests, exams and overall assessment. The following developments necessitated the development of the HU Assessment Framework:

a. In recent years, the quality requirements set by external supervisors have been tightened and the overall bar has been raised. For example, standard 3 in the NVAO framework for limited programme evaluation has been split into two standards: standard 3 now concerns the quality of the assessment system and standard 4 covers the final level that is to be achieved. In other words, two of the four standards are now concerned with assessment. Moreover, the criteria for both assessment standards need to be met with at least a sufficient score.

b. With NVAO, it is no longer the case that the performance of programmes is solely measured according to standards 3 and 4. In line with the *Institutional Assessment Quality Assurance* (ITK) an institutional regime has been put in place to guarantee the quality of the processes, procedures and frameworks of all programmes at an institutional level. As compensation for adopting this institutional system, NVAO subsequently offers a less stringent regime for the substantiation and evaluation of individual programmes (limited programme evaluation). In order to offer degree programmes enough space and to unburden them as much as possible from this external evaluation, it is necessary to formulate common principles by means of a common approach to assessment within the HU. This allows us to guarantee that the HU's educational vision is maintained.

c. Assessment shapes the learning experience of students to a large extent. Moreover, when it comes to independent study & assessment (LOT), formulating common principles for assessment and determining learning objectives is what all the various programmes can share system-wide. After all, the curriculum and the didactic environment are often very different, not only between programmes but also within the degree programmes themselves, as a result of adopting the flexibilisation model. Thus, in order to be able to demonstrate that the quality of education can be guaranteed at the institutional level, a set of common assessment principles are required. Having this as a basis creates the space for degree programmes to place emphasis on areas of their own choosing, while it also relieving them, when and where possible, of having to provide a justification to the external audit of the NVAO.

d. At the beginning of March 2016, the Inspectorate of Education of the Dutch Ministry of Education, Culture and Science published a report on the 'Quality of assessment in higher education', in which recent developments in the field of assessment quality in higher education are described. The HU Assessment Framework meets the most important recommendations listed in this report: *'The Inspectorate advises institutions to devote extra attention to the quality of assessments in the coming years, and in particular to their consistency, professionalisation and organisational integration. Strengthening the internal and external quality protocols related to professionalisation, forms a part of this process and is appropriate within a culture of excellence.'*

e. Within the HU, there is a need for clarity regarding the distinction between *delivering* and *ensuring* assessment quality. These roles sometimes become intertwined for the Examination Boards. This is partly due to the fact that much has been developed and described in terms of the role of Examination Boards in ensuring assessment quality, while relatively little has been put into words concerning the actual delivery of assessment quality. The HU Assessment Framework provides degree programmes and programme managers with the guidance needed for their role in delivering assessment quality.

f. It is important that there is clarity about the principles of assessment within the HU. In this way, ambiguity can be prevented which in turn allow us to guarantee quality for all HU students, so that:
   - students know what criteria need to be met in order to acquire their diploma,
   - the assessment system optimally stimulates and facilitates learning,
   - teachers can make responsible decisions about the progress and certification of students,
   - the diploma represents the intended learning objectives and final level.

g. Another development with regard to the external demands that are placed on quality at the institutional level are the quality agreements with other institutions (instead of performance agreements) that the Minister of OCW is expected to be making in the near future. This requires common assessment principles at the institutional level, so as to guarantee the quality of our education in this burgeoning era of flexibilisation (both between and within programmes), different didactic learning environments and independent study & assessments (LOT). The formulation of the *HU Assessment Framework* is (one way in which) the HU is anticipating these developments.

The *HU Assessment Framework* is part of the responsibility and task of the Executive Board in monitoring the quality of the diplomas that are awarded by the HU.[1]

Structure
Chapter 2 sets out the *basic principles for the formulation of the assessment policy*. First, the HU's vision on education is translated into assessment based on the five core elements. This is followed be a description of the various functions of assessment. After that, we develop the assessment of professional competence, as well as the incorporation of the learning objectives into the assessment process. We also discuss evaluation (or grading) and how certain roles change during the process of evaluation. Finally, we address assessment quality and the importance of making responsible decisions regarding students.

Chapter 3 deals with the *development of the HU frameworks for assessment.* This describes the parameters of the frameworks within which assessment is given shape at the HU. The frameworks are formulated in terms of indicators. The text accompanying each parameter of the frameworks provides an explanation of the reasons for this particular parameter. Examples are also included and reference is made to the relevant literature.
The HU frameworks for assessment provide the direction for the organisation of the assessment policy, the assessment programme, the exams, evaluation and grading, the organisation of assessments and quality assurance.

Chapter 4 deals with *organisational embedding*. In this section we discuss the roles, tasks and responsibilities of the various actors in the delivery and assuring of assessment quality, as well as the importance of role stability herein. We also give explicit attention to the importance of cooperation in delivering and assuring assessment quality.

Chapter 5 provides an overview of the *formal frameworks* surrounding assessment. In doing so, we offer an outline of the main structures that form the relationship between these formal frameworks and the HU Assessment Framework.

[1] The HU Board and Management Regulations (2016) stipulate that the Executive Board is responsible for managing the risks associated with the exercise of the HU's primary tasks, such as education. It also has the task of determining the vision on education and the strategic education policy.

2 Principles when formulating the assessment policy

This chapter describes a number of principles that arise from our vision on education and educational quality. Institutes can formulate their own assessment policy on the basis of these principles.

Assessment is a crucial factor in the management of students' learning process. This is not just a matter of *testing what is learned* but primarily about *assessing to learn.* The HU's vision on education[2], which includes the HU's vision on learning, therefore forms the foundation and starting point for this memorandum.
Assessment forms the basis for ensuring the quality of higher professional education. It provides the guarantee that we are delivering professionals at the level that society requires. The professional field is therefore practically involved in the assessment process.

Various developments, such as personalised learning, *blended learning* and other technological developments, mean that we have to rethink the organisation of assessment, and therefore also of education in general.

- One way in which this manifests itself is by reversing the process; to reason and design things the other way around. Assessment then becomes the starting point and not the final phase of education.
- *Assessing to learn* is acquiring a prominent place in education nowadays.
- The role and position of students also changes during the process of assessment.
- However, the systems that support assessment must also develop in order to make this possible.
- And because the aspect of cost continues to play a (an inhibiting) role, we have to make choices, for example with respect to the chosen units of assessment.

This chapter is structured as follows:
It starts with the *translation of the educational vision into assessment* (2.1). We elaborate on what this means for assessment in terms of each of the five core elements of the HU's vision on education. This is followed by a description of the various *functions of assessment* (2.2). After that, we discuss the *assessment of professional competence* (2.3), as well as the incorporation of the learning objectives into the assessment process. There is also a separate section on *evaluation* (2.4) and the changing roles in the evaluation process. In section (2.5), we address assessment quality and the importance of making responsible decisions regarding students. And in the final paragraph (2.6), we present the *principles for digital independent study & assessment (LOT),* as formulated by the digital assessment project group of the Educational Innovation programme.[3]

2.1 Translation of the educational vision to assessment

The HU's vision on learning is characterised by collaborative learning, personal learning, and learning in the twenty-first century. In an effort to be future-proof, the HU headlines its vision on education in the following manner: *'Together with professional practice and through high-quality education and research, shaping the world of tomorrow'.* **Learning to create knowledge together.**

The HU's vision on education has been translated into five core elements:
1. Lifelong Learning
2. Education in co-creation with professional practice

[2] Programma Onderwijsinnovatie (2015). *Visie op onderwijs, Ontwerpdimensies voor richting en ruimte.*
[3] Educational Innovation Programme, Digital Assessment Project Group (2015). *Vision on Digital Independent Study & Assessment (LOT) within the HU.*

3. Practice-based research as knowledge base
4. Personalised learning
5. HU didactics

These five core elements[4] are further specified into 14 design dimensions (figure 2.1).

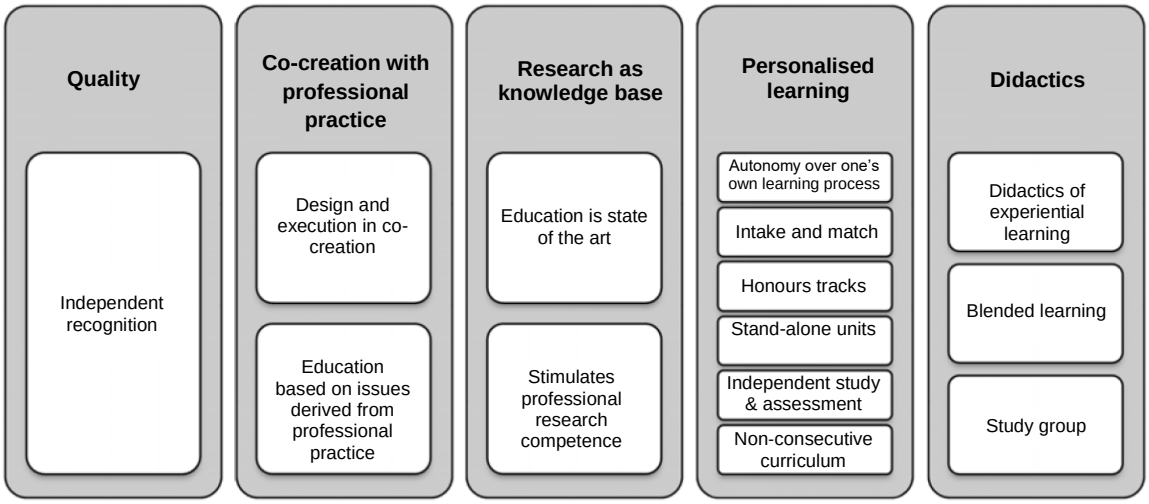


Figure 2.1: Core elements and design dimensions of the HU's vision on education

Education in co-creation with professional practice
For assessment, this means that examination assignments and questions[5] are derived as much as possible from professional practice and that the types of examination used are in line with accountability standards in professional practice.
Professional practitioners, for example, can be involved in the formulation of core tasks, professional products and assessment criteria. They may also provide authentic examples for constructing examination questions and examination assignments, or input for the assessment of professional tasks.

Practice-based research as knowledge base
The HU's educational vision attaches great importance to the development of students' professional research competence. This means that professional research competence is operationalised in concrete learning outcomes and that the assessment programme provides for an assessment of these learning outcomes.
Following the dictum *practice what you pr(t)each*, this core element of the educational vision is also translated into our professional practice. The examination practice is *state of the art* and based on current and relevant research. Our examinations and assessments use proven methods and techniques from educational practice *(evidence informed).* By testing our assessment methods in practice by further developing them and by generating new knowledge about assessment by conducting research, the HU contributes to the professionalisation and innovation of assessment in educational professional practice.

[4] The core element of 'Lifelong Learning' does not have specific design dimensions, but the element of 'Quality' has been further elaborated upon with a design dimension.
[5] Tests and examinations may consist of assignments and/or questions. Also see the explanation regarding the Miller pyramid in the *HU Assessment Framework*, section 3.2.

Personalised learning
Assessment is organised in such a way that students have the opportunity to take control over their learning process themselves. While the learning outcomes are fixed, the path of learning that students follow can vary. The programmes on offer for our professionals allow for the uncoupling of education, supervision and assessment. The guiding principle is that study and assessment should be independent.
The Assessment Expert Team (Educational Innovation Programme), have further elaborated *independent study & assessment (LOT)* within the context of personalised learning.[6] For the purposes of this memorandum, it is worth noting the following from their elaboration of LOT:
Since the learning objectives and learning outcomes are fixed while the degree programme is becoming more flexible, the approach toward education and the development of assessment needs to adapt. The learning objectives and learning outcomes are the guiding factor (outcome-oriented design). The assessment programme is designed at an early (or much earlier) stage and provides input for the development of the curriculum. The same applies at the level of the study units.
Students following their own study path use the formative function of assessment and related feedback to determine to what extent they have mastered the learning outcomes and how to further manage their own learning process. In this way they can form their own estimation as to whether they are ready for the summative examination. Also see section 2.2 for the various functions of assessment.
The organisation of assessments is flexible in the sense that students have (more) autonomy in managing their assessment. Students themselves determine (to a large extent) *when* and *how* they are ready to demonstrate the required learning outcomes. There are multiple and/or more flexible assessment opportunities,[7] as well as various types of assessment models that can be used to demonstrate learning outcomes. This can be expressed, for example, in the type of evidence that the student needs to provide in order to demonstrate having achieved the stated learning outcomes, such as an oral presentation, a video or a written report.
HU Honours offers students the possibility of maximising talent development, without a defined upper limit. The assessment and evaluation of performance within the honours track is further described in the Educational Innovation Programme.[8]

HU didactics
HU didactics is characterised by experiential learning, *blended learning* and study groups. This means that the formative function of assessment, along with giving and processing of feedback from multiple perspectives, is given a more explicit role in education.
For experiential learning, the results of formative assessments and feedback are necessary in giving meaning to the students' actions; for allowing them to reflect critically and to possibly experiment with a new approach to studying.
Learning at a distance, via *blended learning* (workplace learning and online learning), generates a greater need for the formative function of assessments, both for lecturers and students. It allows them both to follow the student's learning process and to make adjustments and anticipate changes.
One characteristic of studying in study groups is that students become each other's *critical friends*. Peer feedback is an important feature that contributes to this process.
Similar to students learning in study groups, lecturers also work in lecturer teams. This form of collaboration has become vital, given the increased integral nature of assessment. The responsibility for assessment is therefore assigned to lecturer teams (and not to individual lecturers).
With an educational system designed for 'the world of tomorrow', digital assessment is used wherever possible and when it is (more) efficient. This is a logical development, given the use of *blended learning,* online learning and the digital learning environment.

[6] Programma Onderwijsinnovatie, Expertteam toetsen (2015). *Leerwegonafhankelijk toetsen in de context van gepersonaliseerd leren.*
[7] The number of assessment opportunities remains the same per academic year.
[8] Programma Onderwijsinnovatie (2016). *HU Honours 2015-2020, Onderwijsconcept voor ambitieuze studenten.*

Quality
The foundation for this is an independent, external recognition of our assessment quality. This is done by NVAO for the educational *degree programmes*. In the context of this memorandum, the standards 3 (assessment system) and 4 (final level) are relevant. This is explained in more detail in section 5.1 of the *HU Assessment Framework*. This section also indicates which elements of the framework are crucial for the standards mentioned above. The theme of assessment quality is elaborated in section 2.5.

2.2 Functions of assessments

Assessments have a twofold function in the learning process: to steer the development of students (assessing to learn) and making decisions about the development of students (testing what is learned). In addition, assessments also provide information about the quality of the programme itself. Therefore, three functions of assessments can be distinguished.

Diagnostic function or formative function of assessments
In terms of *assessing to learn*, assessments function as part of the learning process. Important features of formative assessment are that it takes place continuously during the teaching and learning process, that it can be carried out in various ways (depending on the design and context of the degree programme), and that it stimulates intensive interaction between the lecturer and student.[9]
The essence of formative assessment is feedback. This provides information to the lecturer and student which can be used to adjust the learning process so as to reduce the gap between the student's current situation and the intended learning outcomes.
In our education we strive to train students to become *reflective practitioners.* Students must be able to evaluate their own actions and to develop themselves further, thereby managing their own learning process. This means that attention must be paid to the active role of students when designing formative assessments. The goal is not to just prepare the student for the examination *(teaching to the test),* but to show students how they can work towards achieving the learning outcomes, how they can both receive and give feedback, and how to develop an attitude of lifelong learning.
Section 2.1 indicates the importance of formative assessment within independent study & assessment (LOT), *blended learning,* experiential learning and learning within study groups. The formative function of assessments and the giving and processing of feedback are valuable educational activities that are increasingly being given a significant role in education.

Selective function or summative function of assessments
When it comes to *testing what is learned*, the function of assessment is a selective one. The purpose of the assessment process is to make decisions about awarding the appropriate amount of credits, admission to the next study unit, the completion of examination components and certification. The examination determines whether the intended learning outcomes have been achieved at the right level, along with the appropriate consequences determined by the educational institution. Ultimately, this leads to decisions about diplomas and degree certificates at the bachelor and master's level.
Section 2.1 describes the HU's vision on the design of summative assessments in the context of personalised learning and independent study & assessment (LOT).

Evaluative function
Assessment in education also has an additional self-evaluative function. Through assessment, information becomes available about the quality of the design, implementation and maintenance of the education provided. This also reveals whether the intended learning objectives and learning

[9] Sluijsmans, D.M.A., Joosten-ten Brinke, D., & van der Vleuten, C.P.M. (2013). *Toetsen met leerwaarde, Een reviewstudie naar effectieve kenmerken van formatief toetsen.* The Hague: NWO; Vermunt, E., Sluijsmans, D. (June 2015). *Toetsen doe je samen met studenten,* Onderwijsinnovatie, 17-25.

outcomes are being achieved. Lecturers can use this (indirect) feedback to improve the quality of education.

2.3 Assessing professional competence

Within higher professional education, we train toward professional practice, which means that we need to assess the professional competence of students. To do this, we work in collaboration with professional practice. Several forms of examination and assessment are required to demonstrate professional competence. Which forms these are is made transparent in the assessment programme. The professional competence of a student is expressed in the acquisition of a bachelor's or master's degree.
Degree programmes must be able to exhibit and substantiate professional competence in terms of content and level on the basis of international standards, such as the Dublin Descriptors and the European Qualifications Framework (EQF).
For many degree programmes in higher professional education (HBO), professional competence is determined nationally in the form of professional qualifications. Degree programmes translate these standards themselves into their intended learning outcomes. The learning outcomes of programmes are usually described in terms of competences or core tasks.[10] For the current memorandum, the learning outcomes of the programme are taken as the point of departure.

How are the learning outcomes translated into actual assessments in the assessment programme? This is partly determined by formal frameworks.

Formal frameworks
According to the Higher Education and Research Act (WHW), higher education uses study units and study load. The examination is passed when the study units have been achieved and the study load has been completed. This means that the learning outcomes are assessed via study units and the learning outcomes of each study unit are assessed in a summative manner.

Developments in Higher Education and Research Act: units of learning outcomes
The Ministry of Education, Culture and Science recognises the necessity of letting go of a *one size fits all* approach and the creation of various learning paths within a single programme that all lead to the same diploma. In order to be able to guarantee the quality of the diploma, the Ministry of Education, Culture and Science will start pilots in the autumn of 2015 on the outcome-oriented (re)design of part-time and dual programmes.
The focus is not on achieving the educational programme in terms of study units or completing the study load, but on achieving (elements of) the learning outcomes. The participants in the pilot are not obliged to work with the fixed range of study units described in the OER and they are allowed to uncouple the link between credits and study load. The HU is participating in this pilot with approximately ten programmes via the Education Innovation Programme. Approximately ten more programmes will be added over the coming years.
However, as long as some programmes are not participating in the pilot and the WHW has not yet been adapted, we are still obliged to work with study units and to maintain the link between credits and study load. On the other hand, we are able to explicitly include the intended learning outcomes in the description of the study units.

Translation of the learning outcomes to assessments, via the assessment programme
The assessment policy for each degree programme stipulates how the translation from learning outcomes to the assessment programme and assessments is given shape (Figure 2.2).

[10] For this reason, despite the difference in meaning, both these terms are used side by side in this memorandum.

The core tasks[11] of the programme's learning outcomes are translated into study units. For the realisation of flexible learning paths within the context of personalised learning, good content clustering is essential,[12] for example, by clustering the content in study units around professional tasks or professional assignments that are large enough in scope. The division into study units can be made apparent with a competency matrix. This shows the student's level of achievement in each study unit, with regard to competences, core tasks, knowledge and skills.

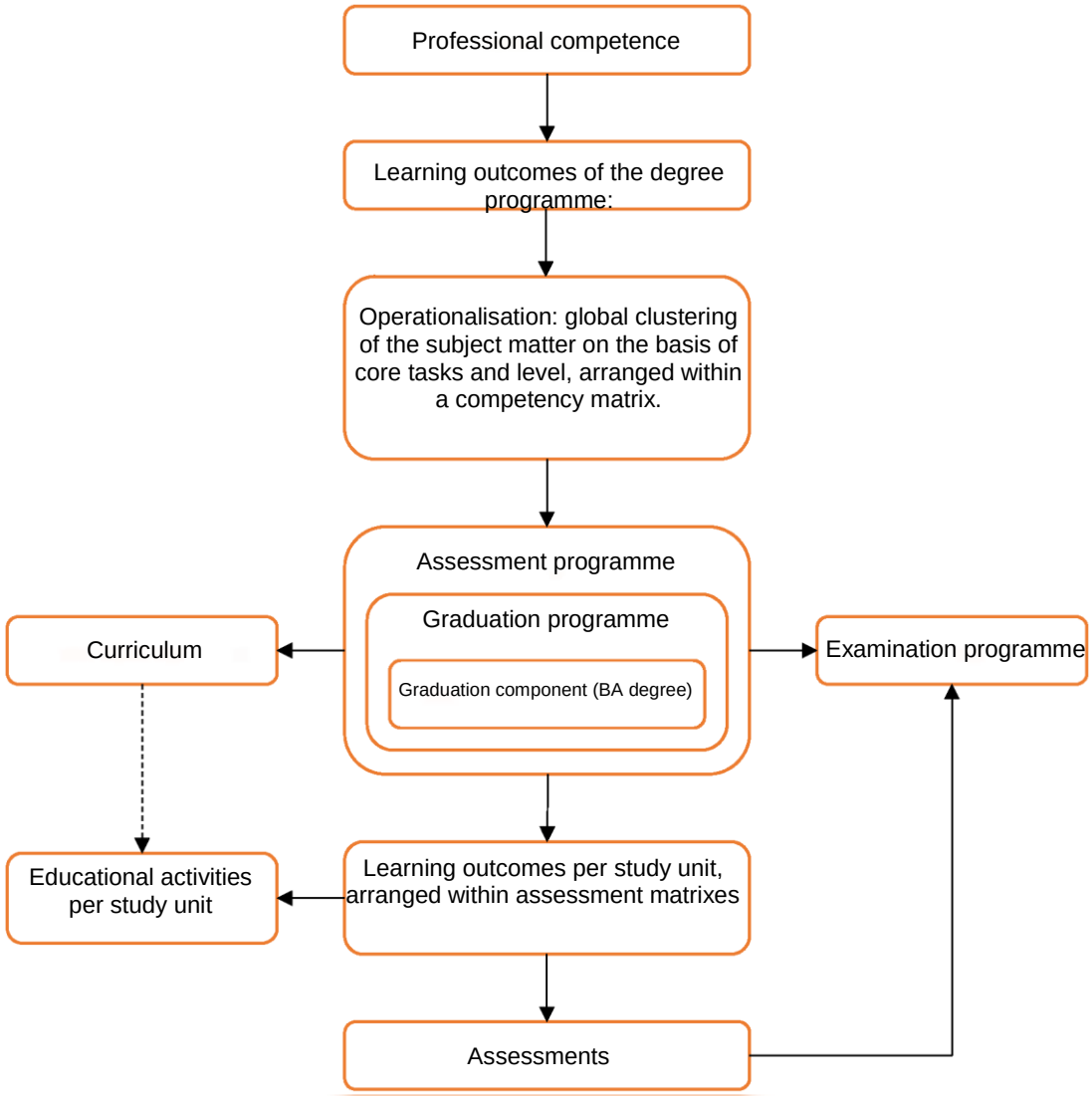


Figure 2.2: Translation of the learning outcomes to assessments

[11] These matrixes also show the relevant subject area, professional tasks or professional assignments.
[12] Programma Onderwijsinnovatie (2013). *Handreiking Flexibel Herontwerp.*

A competency or core task is an integral set of knowledge, skills and behaviour that cannot be assessed with a single examination. That is why a conscious, reasoned and coherent combination of assessments and examination methods is needed, in order to render a coherent picture of the students' competencies or core tasks: the assessment programme.
The assessment programme has three functions:
1. To ensure that all the learning outcomes are adequately covered.
2. To ensure a reliable overall assessment and evaluation through a combination of assessments.
3. To promote student learning during the entirety of the degree programme.

The development of the assessment programme is further elaborated in section 3.2 of the *HU Assessment Framework.* The assessment programme also contains the graduation programme, which assesses the final level of the learning outcomes. The graduation component for bachelor's degree programmes is part of the graduation programme and consists of one or more study units that together form a representative picture of the student's professional competence.

To make personalised learning possible, assessments are curriculum-independent. In other words, the learning outcomes are fixed, while the students' learning paths may differ (section 2.1). The curriculum (flexible) is therefore developed on the basis of the assessment programme (fixed), while the examination programme is based on the assessment programme (instead of the curriculum). The development of assessments with a summative function are also based on the learning outcomes of the study units (and not directly on what was dealt with during the curriculum). Educational activities are also not part of assessments with a summative function.

The development of the assessment programme in terms of the learning outcomes per study unit is done through assessment matrixes. An assessment matrix is a blueprint of the examination that indicates which learning outcomes are being assessed, along with the corresponding grade or weighting. The examination is designed on the basis of the assessment matrix. A student's summative assessment results demonstrate that they meet the requirements of the examination programme.
To demonstrate the professional research competence of students, it is necessary that this is operationalised for each programme in concrete learning outcomes that are included in the assessment programme and translated into assessment matrixes.

The summative function of assessments demonstrates the learning outcomes, as much as possible, by way of authentic professional assignments that are derived from and co-created with professional practice. In this way, knowledge, skills and behaviour are integrally assessed. However, programmes may consciously choose to assess knowledge and skills separately, for example, during the first academic year.[13]
Given the formative function of assessment, the role of the examination within the student's learning process forms the guiding principle in the choice for either separate or integral demonstration of knowledge, skills and behaviour.

The learning outcomes per study unit can be used to determine which educational activities the student needs to follow. Students gradually acquire more control over this process themselves. In this way, students develop different, personal learning paths (section 2.1).

[13] The separate assessment of knowledge should ultimately lead towards formative (institution-transcending) progress assessments. Van Trigt, M. (June 2015). *De toekomst van toetsen.* Thema-uitgave open en online onderwijs, SURF, 27-30.

2.4 Evaluation

It is characteristic of the assessment of professional competence in vocational education that it takes place as much as possible by way of professional tasks. The dilemma here is that the more authentic the professional task, the more difficult it is to objectively evaluate. The evaluation largely depends on the interpretation of the assessors. This means that in assessing professional competence, the role and competence of the assessors is crucial. Recent developments in higher professional education (HBO) are influential on this essential position of assessors or examiners, such as the Basic and Senior Examiner Qualification (BKE/SKE), the organisation of calibration sessions, the use of a second assessors, and the deployment of external assessors ('stranger's eyes'). This is discussed in more detail in section 3.4 of the *HU Assessment Framework.*

The HU's vision on education also gives direction to the assessment process, and in particular how the roles of different actors will change.

The role of study groups and professionals from professional practice
In the HU's vision on education, students work in study groups while professionals from professional practice are involved in assessment. The role of study groups and professionals is limited in the summative assessment: The summative assessment of students is an individual assessment that is given by a team of certified and appointed examiners. After all, the diploma is a student's personal document, for which HU University of Applied Sciences Utrecht takes responsibility as an educational institution, whereby professionals from professional practice may provide some input for the summative assessment.
On the other hand, both study groups and professionals play a crucial role in formative assessments, as an elaboration of the core elements outlined in *HU didactics* and *Education in collaboration with professional practice* (section 2.1).

The role of students
Evaluating assessments with a formative function is primarily aimed at student learning. This means that the student plays an active role in the evaluation. Students learn to judge their own actions and each other's as part of the learning process (feedback and feedforward, see *HU Assessment Framework,* section 3.4), and to develop themselves as *reflective practitioners.*
Lecturers as instructors of learning processes naturally have an important and active role in the formative evaluation of students, giving and processing feedback and guiding students in self- and peer-assessment. Lecturers are and remain responsible for the formative evaluation of students.
In the formative function of assessments, feedback is more important than the grade or the final evaluation. Research[14] has shown that giving grades undermines the formative function; the students' attention tends to focus on achieving a grade rather than learning from the feedback. Preferably, feedback is given and no grade, or the grade is only given after discussing and processing the feedback.

The role of lecturer teams
The holistic assessment of professional assignments is complex and takes place within an interdisciplinary context. Several areas of expertise require multiple experts and thus from the viewpoint of quality it is performed by a team of lecturers. This means that lecturers jointly and methodically determine and evaluate the assessment criteria, assessment scales and decision-making procedures (weighting, cut-off scores, and compensation).

[14] William, D. (2011). *Embedded formative assessment.* Solution Tree Press: Bloomington.

2.5 Assessment quality

Assessment quality is of great importance because assessments are used to make responsible decisions about students. Assessment forms the basis for assuring the quality of higher professional education. In this section, various aspects of assessment quality are discussed.

Delivering and ensuring assessment quality
It is important for our view on assessment quality that a clear distinction is made between *delivering* and *ensuring* assessment quality. Delivering assessment quality is the responsibility of the programme manager. The *HU Assessment Framework* indicates (in chapter 3) the minimum that has to be delivered and when this is sufficient. Ensuring assessment quality is the responsibility of the Examination Board. The roles, tasks and responsibilities associated with delivering and ensuring quality, and the required cooperation between the programme manager and the Examination Board, are elaborated in the *HU Assessment Framework*, in the chapter on organisational embedding (chapter 4).

Different levels of assessment quality
The assessment quality within the HU is *state of the art* and based on current and relevant research *(evidence informed). The quality pyramid of contemporary assessment and evaluation*[15] (Figure 2.3) provides insight into which aspects play a role in assessment quality.

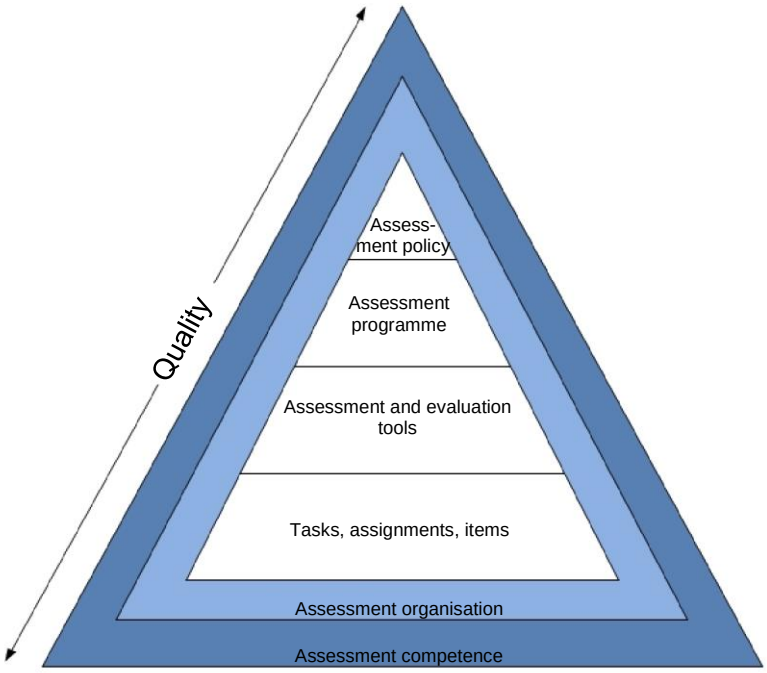


Figure 2.3: The quality pyramid of contemporary assessment and evaluation

In the quality pyramid, assessment quality is divided into six levels: the quality of assessment tasks, assessments, the assessment programme, assessment policy, assessment organisation and assessment competence. The lateral arrow indicates that the assessment quality is determined by a good interplay of all the layers of the pyramid. This means that assessment quality as a whole is determined by quality on all layers, and that the assessment quality as a whole is only as strong as

[15] Joosten-ten Brinke (2011); Sluijsmans, et al. (2012).

the weakest link.
Chapter 3 of the *HU Assessment Framework* further elaborates on the quality requirements per level.

Assessment quality and independent study & assessment (LOT)
Independent study & assessment sets specific requirements for the assessment quality. In the case of independent study & assessment, students have the opportunity to make an examination on the basis of their personal learning path and demonstrate that they have mastered the learning outcomes. To this end, it is essential that it is clear in advance what will be assessed and at what level. This requires well-formulated learning outcomes, clear criteria and clear assessment procedures. It also requires a well thought-out and flexible assessment organisation, with multiple examination moments and examination methods, as well as a proper supply of information regarding the assessments that is set up to be independent of the learning path. In addition, by uncoupling supervision and evaluation within independent study & assessments, extra requirements are imposed on the assessment competence of examiners.

Requirements of external supervisors for assessment quality
The most important external supervisors for HBO are the NVAO and the Inspectorate of Education. As already indicated in section 2.1, within the context of this memorandum, mainly standards 3 and 4 of the NVAO framework are relevant.[16] The strategic plan of the HU, as outlined in *Hogeschool Utrecht in 2020* (2014), formulates our ambition to achieve accreditations with a final evaluation of either 'good' or 'excellent' on a scale of insufficient, sufficient, good and excellent.
To achieve a sufficient score on standard 3, there must be a programme-wide, transparent and coherent assessment policy. In order to achieve a 'good' score, it is additionally required that this *assessment policy will serve as an example for other degree programmes*.
With standard 4, at the very least the intended learning outcomes must be achieved to attain a 'sufficient' score. The programme qualifies for a 'good' if *the realised learning outcomes translate into products that are systematically above average*.
The national framework for the external validation of examinations in higher professional education (HBO) is formed by the recommendations in the report "*Vreemde ogen dwingen"* (2012). The *HU Assessment Framework* (chapter 3, section 5.1) elaborates on the implications this has for the assessment policy.

Assessment quality and cost control
The demands made on assessment quality require constant scrutiny. On the one hand, we want to eliminate any possible doubt regarding the quality we offer. After all, this forms the guarantee that we will deliver professionals with the right qualifications at the right level. The requirements we have set for assessment quality are therefore high. On the other hand, delivering and ensuring assessment quality also depends on its price tag, both in terms of time and money. Quality is therefore a matter of constantly weighing up the options and making choices.
The formulation of the frameworks in the *HU Assessment Framework* (chapter 3), and the choices that go along with this, is an ongoing search for the balance between assessment quality on the one hand and cost control on the other. This means that every choice made entails also making an estimation of the minimum requirements for quality, the costs associated with the choice, and the risks that are and are not acceptable.
In the development of the assessment policy and the assessment programme, it is up to the various organisational units to make choices and to find the balance between assessment quality and cost control. For example, the various organisational units may need to consider the number of assessments and/or examination methods that are required (also see section 3.2 of the *HU Assessment Framework).* Another area in which the balance can be found is by organising things in clever way, for example by reconsidering the size of certain study units.[17]

[16] Limited Programme Evaluation
[17] Study units of a larger size (15-30 ECs) ensure that independent study & assessment can be better organised and at less cost. In addition, larger units contribute to depth, coherence, social cohesion and transparency (Educational Innovation Programme, 2013). *Guide to flexible redesign*

2.6 Principles for digital independent study & assessment

The HU's vision on digital independent study & assessment (LOT) was delivered in the period between January and August 2015 by the Digital Assessment Project Group, as part of the HU Education Innovation Programme.[18]
One of the sub-projects of this project group was: *Develop and describe a vision on digital assessment in line with the HU's vision on education. This should focus on the broad (re)introduction of independent study and summative assessment (LOT) as well as on formative digital assessment in relation to blended learning.* The result of this sub-project is shown below.

Contribution of digital assessment to the realisation of the HU's vision on education
Digital assessment contributes as follows to the various core elements of the HU's vision on education:

1. Didactics and development towards personalised learning:
    - Increased focus on formative assessment: digital assessment offers the possibility to do this "at a distance" within a blended learning environment. Feedback can be given automatically, substantively and almost immediately.
    - Digital assessment offers the possibility for assessments that are independent of both time and place (formative and summative) and are thus in line with the LOT objective.
    - Digital assessment brings forms of assessment within reach that previously were not.
        - There is a greater variety and more choice of (advanced) question types, in the case of conceptual assessments.
        - There is a greater variety in the options of using media for skills and product assessment, which thereby also acquire a more authentic character (for example, the use of audio and film recordings of practical situations of the student's performance as part of a product assessment).
2. Permanent strong focus on quality that can also be justified externally. Digital assessment contributes to this by:
    - Promoting cooperation: more external assessors (‘stranger’s eyes’) during the entire examination cycle (design and evaluation).
    - Possibilities for examination analysis and learning analytics in a broad sense.
    - Increased transparency and efficiency in the assessment process, including digital archiving.
3. Job orientation / co-creation: greater need for more authentic and practice-oriented assessments. Digital assessment contributes to this by using multimedia:
    - By involving lecturers in item design in digital examination depositories (practical situations can be brought into the examination by means of photos, film, and sound). Due to the investment costs (and time), this will mainly apply to programmes where the student volumes are high or where cooperation with partners outside the HU can be established when developing examination items.
    - By helping students in demonstrating their skills or their application of knowledge (in the form of providing "documentational proof" of authentic professional situations), for example, by using video/multimedia, digital feedback from practitioners, etc.

Digital independent study & assessment and educational innovation
The HU’s vision on digital independent study & assessment is intended to support developments in the field of digital assessment within the HU in the broader perspective of educational innovation. Based on the HU's innovation objectives, whereby personalised learning, co-creation with professional practice and the external evaluation of quality are (some of) the guiding principles in the development of our education, a system of independent study & assessment should be developed in which assessments can be taken at *any time, any place, and on any device*.
This concerns both conceptual assessments and assessments aimed at the higher layers in the

[18] Programma Onderwijsinnovatie, Projectgroep digitaal toetsen (2015). *Visie op digitaal leerwegonafhankelijk toetsen binnen de HU*.

Miller pyramid[19], as well as formative and summative assessments. The point of departure is to assess in a summative manner on the highest possible level in the Miller pyramid, based on predetermined learning outcomes. In this way, a shift will take place in the examination methods that are used; more summative assessments at higher levels of the pyramid and fewer summative assessments lower down on the pyramid. Parallel to this development, the number of formative assessments will increase.
With regard to conceptual assessments and skills and product exams, this has a number of consequences, which are described below.

Conceptual assessments
The formative conceptual assessments are organised in such a way that the student receives directly targeted (and automated) feedback in response to the results, so that it becomes clear where the student stands in relation to the learning outcomes established for the course in question.[20] The process of formative assessment and feedback is linked to the digital learning environment of the student. These formative assessments can take place at *any time, any place* and on *any device*.
The summative conceptual assessments will be conducted (if possible) within one HU-wide assessment software system on a secure (virtual and physical) examination site. Tests can be done by a student at the moment that he or she is ready to complete the relevant component in a summative manner. The number of moments in the year a student can do a summative conceptual examination should be broader (not *any,* but *many)* than is the case in the current situation. This requires setting up a flexible organisation of assessments. This is made possible by, among other things, the use of larger examination depositories (in the case of programmes with large student numbers or national cooperation with other university colleges) from which the assessments can be generated. In many other cases (smaller programmes) it will involve the design of several separate assessments because the development of an examination depository would not be viable.

Skills and product assessments
Formative skills and product assessments are organised in such a way that students receive feedback on their performance based on authentic material and, on this basis, gain insight into learning activities that have yet to be undertaken. This feedback will increasingly be derived from the *peer group* (fellow students) or have a 360-degree character (field supervisor, *peer group, self,* "customer") through digital e-feedback. The feedback itself will make use of multimedia abilities (spoken word, text, film). The formative examinations will be part of the digital learning environment of the student.
Summative skills and product assessments should be organised in such a way that students provide multimedia proof that is authentic in nature and is derived from professional situations. The entire examination process [21] will therefore be digitised (including evaluation, plagiarism and fraud scanning, archiving).

These principles for digital independent study & assessment require an environment in which there is the possibility of taking conceptual assessments in a flexible context *(any time, any place, any device),* while there is also an environment that facilitates working with authentic (multimedia) product assessments. Moreover, all this means that there is one digital environment in which students hand in their examination, lecturers assess them jointly or not, and all the materials can be digitally archived. The redesign of education with regard to (digital) assessment will have to focus on the above principles, along with added support, lecturer training, etc.

[19] Also see the explanatory notes to the Miller pyramid in the *HU Assessment Framework,* section 3.2.
[20] In the impact report "Digital assessment: opportunities for higher education"("Digitaal toetsen, kansen voor het hoger onderwijs, Surf 2014) a positive relationship was found between formative digital assessment and study success.
[21] Examination cycle, see *HU Assessment Framework,* figure 3.3.

3 Elaboration of the HU frameworks for assessment

In this chapter we elaborate on the principles (chapter 2) of the HU frameworks for assessment. In other words, in this chapter we describe the frameworks in which assessment is designed within the HU. We thereby distinguish between the strategic, tactical and the operational level (see figure 3.1). The HU frameworks for assessment relate to the strategic policy level and deal with the *why* and *what* (in general terms). The tactical *(how)* and operational *(who, what* (at the level of detail), and the policy levels (*where* and *when)* are further elaborated by the relevant educational organisation units in the assessment policy. The current focus is HU-wide; setting up and performing at the level of several institutes, the institute and the degree programmes.

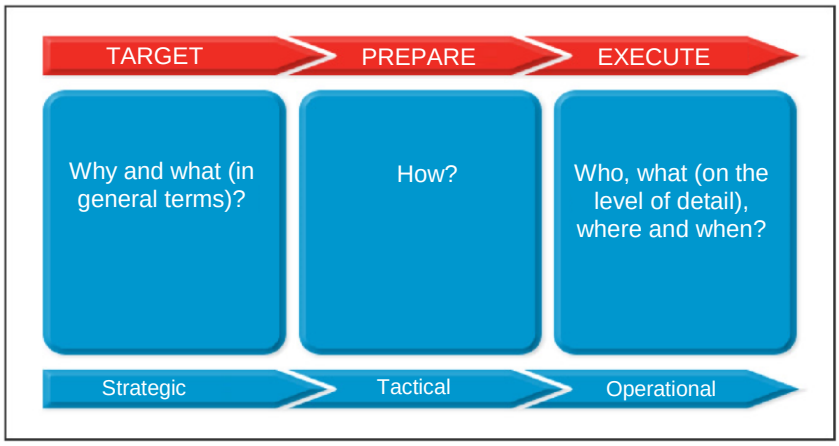


Figure 3.1: Strategic, tactical and operational policy level

Each paragraph of chapter 3 starts with the HU frameworks for assessments that have been designed in the form of indicators. Indicators show the criteria with which the assessment must (at a minimum) comply. The principle of *apply or explain* is relevant in this regard. The text that follows offers an explanation of the frameworks, and the reason for the frameworks is discussed. Examples are also included and reference is made to the relevant literature.

The HU frameworks for assessment provide the direction for achieving quality at all levels of the *quality pyramid of contemporary assessment and evaluation* (figure 2.3). Therefore, the different levels of this pyramid are used for the construction of chapter 3:

- Developing the *assessment policy* (section 3.1).
- Developing the *assessment programme* (section 3.2). This is an extensive paragraph because the assessment programme occupies a central place in the translation of professional skills into assessments. It therefore forms the basis for the curriculum and the assessment programme (also see Figure 2.2). In the development of the assessment programme, many choices and decisions are made which shape the form of education and assessment within a degree programme.
- Developing the assessments (section 3.3). Here, the two levels of *'assessment'* and *'assessment tasks'* are discussed in unison. Assessment tasks may consist of questions and/or assignments.
- Preparing for the evaluation (section 3.4). This is not a separate level in the pyramid, but it will be discussed separately here.

- Preparing the *assessment organisation* (section 3.5). This is a discussion of the strategic policy level. Chapter 4 on organisational embedding discusses the HU-wide tactical policy level: How has the organisation of assessments been organised across the breadth of the HU, and how have the roles, tasks and responsibilities been divided?
- Preparing assessment quality control (section 3.6). This concerns the various levels of the pyramid. The level of *'assessment competence'* is also discussed in this section.

In the development of HU frameworks for assessment, we want to do justice to both the objectives of innovative and flexible assessment (section 2.1) and to the objectives of reliable and controlled assessment (section 2.5). Sometimes these goals do not completely match. Where necessary, the balance between the two is sought and choices are made that go with finding this balance. This is reflected in the formulation of the indicators at the beginning of each paragraph.

3.1 Developing the assessment policy

HU framework for assessment

Indicators for developing the assessment policy

- The assessment policy for every degree programme of the HU is currently available.
- The assessment policy is developed in line with the HU Assessment Framework (this memorandum).
- The educational organisation units (multiple institutes, the institute and/or the degree programme) work out the design and the execution of the assessment (Figure 3.1) in the assessment policy.
- The assessment policy of a lower aggregation level fits within the assessment policy of a higher aggregation level.
- In the assessment policy, the various educational organisation units determine which choices have been made with regard to the elaboration of the HU's vision on education, as well as the principles for formulating the assessment policy, the quality requirements for the assessment programme and for assessment, and the facilitation of assessment in terms of time, resources and money.
- The assessment policy provides direction and guidance in the development of the assessment programme and the organisation of assessments.

Explanation

In the assessment policy, the various educational organisation units lay down the agreements and choices made about delivering and ensuring assessment quality, about how assessment contributes to the realisation of the vision on education and about the facilitation of assessments in terms of time, resources and money. The assessment policy thus forms a coherent set of measures and provisions with which the assessment quality and the vision on assessment within a degree programme can be realised.

Because the quality requirements for assessment have been tightened both externally and internally in recent years, the development of *state-of-the-art* and *evidence-based* assessment policy is encouraged. National agreements have been made about assessment quality - such as implementing the recommendations from the report '*Vreemde Ogen Dwingen*'. And from the point of view of efficiency, it is preferable to develop the assessment policy at the highest possible aggregation level. This assessment policy is the starting point for the translation into the context of the degree programme. Depending on the context of the programme (for example, full-time or work-study), this translation may differ: one programme may take over the assessment policy one-on-one, while another has to specify the policy in further detail.

The assessment programme can be developed on the basis of the choices and agreements listed in the assessment policy (section 3.2). The content, form and organisation of assessments can also be derived from the assessment policy.

A guide to the classification of the assessment policy is included in Appendix 7.1.

3.2 Developing the assessment programme

HU framework for assessment

Indicators for developing the assessment programme

- A reasoned assessment programme is available for each degree programme.
- The assessment programme is developed in accordance with the choices and agreements laid down in the assessment policy (section 3.1).
- The design of the assessment programme enables independent study & assessment[22] (section 2.1)
- In the assessment programme, conscious choices are made about the summative and the formative function of assessments.
- The assessment programme includes all assessments with a summative function in relation to each other and to the desired final level.
- The assessment programme indicates which assessments belong to the graduation programme.
- For bachelor's degree programmes, the assessment programme indicates which assessments belong to the graduation component.
- The assessment policy describes how (with which steps and methods) the programme translates the learning outcomes, via the assessment programme, into the assessments. This is the further elaboration of the outcome-oriented design according to Figure 2.2.
- The assessment policy describes which examination types are used based on a taxonomy, such as Miller or Bloom.
- The design of and the choices made in the assessment programme take into account factors that influence the viability and success of a study.
- The design of and the choices made in the assessment programme seek to find a balance between assessment quality and cost control.
- For the preparation, evaluation, determination, improvement and justification of the quality of the assessment programme, the programme uses relevant and current quality criteria.
- The assessment programme is submitted to the Examination Board for advice. The programme manager is responsible for the final determination of the assessment programme.

Explanation

The assessment programme of a degree programme is the overview of the conscious and substantiated combination of assessments, examination functions and examination methods that provide a coherent picture of the competences or core tasks of the programme, and thus of the learning outcomes (also see section 2.3). It is the link between what you want to achieve with the degree programme and how this will be assessed.

The assessment programme has three functions:

1. *Ensure that all the learning outcomes are adequately covered.*
   A prerequisite for this is that the competences (or core tasks) are clearly described and operationalised, so that for all those involved it is clear what is being assessed: the entire competency, parts (dimensions) of a competency, or multiple competencies. To ensure adequate coverage of all learning outcomes, it is important to examine (i) which (parts of) competencies the assessments are aimed at, (ii) whether the assessments jointly cover all competencies, and (iii) whether the assessments complement each other in terms of content and form.

[22] Programma Onderwijsinnovatie, Expertteam toetsen (2015). *Leerwegonafhankelijk toetsen in de context van gepersonaliseerd leren.*

2. *Ensure a reliable overall assessment and evaluation through a combination of assessments.*
   Because competencies (or core tasks) are complex, it is impossible to assess with one examination whether the competency is being mastered. For a reliable assessment multiple and different forms of proof are required. It is important that not only every examination is valid and reliable, but that the combination of exams per competence is valid and reliable.
3. *Promote student learning during the entirety of the degree programme.*
   Learning processes usually extend over a longer period of time than an educational period lasting 10 weeks. The assessment programme offers the possibility to build learning paths that stretch over the educational periods if necessary. The assessment programme also makes conscious choices about, for example, the formative function of assessments, the number of assessments, the programming, resits and compensation options, all with the aim of promoting the student's learning process.

Examination programme and graduation programme
The examination programme of a degree programme or a training phase is based on the assessment programme[23], and not - as is often the case - on the curriculum (also see figure 2.2). The assessment programme indicates which assessments belong to the first-year audit, the bachelor's examination or the master's examination.
The graduation programme is that part of the assessment programme in which the competences or core tasks are assessed at the final level. This makes the graduation programme relevant to standard 4 of the NVAO framework: the realised final level.
For bachelor's programmes, the graduation component is part of the graduation programme. The graduation component offers a representative impression of the final level and forms the final part of the programme. Specific requirements are set for the graduation component in the Education and Examination Regulations (OER).

Formative and summative function
The assessment programme establishes the balance between *assessing to learn* and *testing what is learned,* or the relationship between the formative and summative function of assessment.
Based on the principles for formulating the assessment policy (chapter 2) it follows that assessments with a formative function have a more prominent place in education.
When making choices about assessments with a formative function, it is good to keep in mind that 'feedback' is an important element that makes this function of assessment so valuable.[24] Three main processes can be distinguished:
1. Feedup: to what end (assignment, criteria) is the student working?
2. Feedback: how far has the student progressed towards this end?
3. Feedforward: how can the student make progress (what is the next step)?

Furthermore, it is important to think about the use of the formative and summative function of assessments and how these functions can reinforce each other in the service of learning.

Examination methods
To determine an examination method that suits the learning outcomes of a study unit, models such as the Miller pyramid prove to be insightful.[25]

The Miller pyramid (1990) distinguishes four levels (layers) on which the functioning of a student can be described and assessed. Each level forms the foundation for the subsequent level. The assessment of knowledge takes place in the bottom two levels, while skills and competences are assessed in the top two. The higher up in the pyramid, the more authentic the learning and assessment.
In our education we strive for a learning situation that is as similar as possible to professional practice. For that reason, we always aim for assessments at the higher levels. If necessary, one can always revert to a lower level.

[23] Programma Onderwijsinnovatie, Expertteam toetsen (2015). *Leerwegonafhankelijk toetsen in de context van gepersonaliseerd leren.*
[24] Hattie, J.A.C. (2009). *Visible Learning: A Synthesis of 800+ Meta-Analyses on Achievement.* Routledge: London.
[25] This model was chosen because the Miller pyramid is suitable for measuring proficiency levels, and because it is widely used and broadly applicable.

With the development of personalised learning and independent study & assessment, students themselves increasingly (partly) determine how they will demonstrate the required learning outcomes. Here too, the type of documentation or proof corresponds with the appropriate level (also see section 2.1).

Assessments with a formative function can be regarded as educational activities. Not only do the learning outcomes determine the examination method, but also the role of the examination in the learning process of the student. For assessments with a summative or formative function, the examination methods can be the same, only the functions of the assessments differ.
In the assessment policy the examination methods that are used are described and insight has been made into the levels at which the examination methods are used.
Examination methods that belong to the upper levels include product assessments, portfolio assessments, observation of actions, reports, presentations and criterion-based interviews.
Assessments with closed and/or open questions and case study assessments correspond with the bottom layers.

Study feasibility and study success[26]
The degree programme makes choices in the assessment programme that suit student needs. How the programme is designed influences the feasibility of the programme and the study success of students. Some examples from the literature, such as resits, the number and size of study units and compensation, are explained here.
Progress and yield are increased if it there is more incentive to pass each standard examination or assessment. The consequences for not passing an examination need to be substantial. In other words: resitting exams should be discouraged or rendered unattractive.
Another example concerns the number and size of the study units to be obtained. Education components within the HU are worth 5 ECs or a multiple thereof. The text *Studiesucces bevorderen: het kan en is niet moeilijk* (*Promoting Study Success: It's Not Difficult*) makes a plea for larger study components because, if the number of credits to be gained per study unit is high, the student has more interest in passing the examination. In addition to the size of the study units, yield is also influenced by the number and distribution of the assessments. An assessment programme consisting of a limited number of larger study units, and (therefore) a limited number of larger assessments, stimulates the yield.
With larger study units it is also possible to compensate between sub-assessments. Compensation serves to correct the noise in the measurement of part-examinations. Because study units form a coherent set of learning outcomes, compensating between study units is not preferable, unless study units together form a coherent whole.

Cost control
The development of the assessment programme offers opportunities to make choices and to find a balance between assessment quality and cost control, for example, by designing and developing larger study units with fewer summative assessments. A limited number of assessments with a summative function make it possible to bundle the capacity and thus invest in the quality of these assessments.
There are also choices to be made in terms of where, when and which examination method will be used and how this fits within the entire assessment programme. A more expensive examination method[27] can, for example, be compensated by a cheaper examination method.
Furthermore, all choices that reduce the number of resits also contribute to cost control (see *study feasibility and study success).*

Quality of the assessment programme
To determine the quality of the assessment programme, the degree programme uses relevant

[26] Cohen-Schotanus, J. (2012). *De invloed van het toetsprogramma op studiedoorstroom en studierendement.* In: Van Berkel, H., Jansen, E., Bax, A. (2012). *Studiesucces bevorderen; het kan en is niet moeilijk, Bewezen rendementsverbeteringen in het hoger onderwijs.* Boom Lemma publishers, The Hague, chapter 5.
[27] By organising things differently and cleverly, more expensive forms of assessment can also be made cheaper. One example of this is by utilising work stations, where students rotate during an 'observation of action' examination method, used in the bachelor's programme of Allied Medical Care and Physiotherapy.

established quality criteria or standards, such as the Quality categories and quality criteria for assessment programmes[28] (see appendix7.2 A).
The quality of assessment programmes is divided into four quality categories: validity, reliability, functions and conditions. Each quality category is elaborated in terms of quality criteria.

- Validity: does the assessment programme measure what it aims to measure? Criteria: operationalisation, coverage, complexity and form.
- Reliability: are the results of the assessment programme repeatable? Criteria: comparability and triangulation.
- Functions: is the assessment programme composed in such a way that it complies with the goals that it strives for? Criteria: selection, learning effect and educational effect.
- Conditions: does the assessment programme meet a number of preconditions? Criteria: transparency, judiciousness and organisation.

The graduation programme is part of the assessment programme. The programme uses the *Graduation protocol* [29] (see Appendix 7.2 B) to evaluate, improve and justify the quality of the graduation programme.

3.3 Developing the exams

HU framework for assessment

Indicators for developing assessments

- In the (development of) assessments, the examination cycle (Figure 3.3) is systematically followed.
- An assessment matrix is available for all assessments with a summative function.
- Assessments with a summative function are based on the learning outcomes (fixed). Educational activities (flexible) are not part of assessments with a summative function (also see figure 2.2).
- When constructing assessments, attention is not only given to the examination itself, but also to the documents that (may) accompany the examination.
- For each examination with a summative function, the cut-off score is carefully predetermined by a team of lecturers, in a way that is easy to explain and is therefore defensible.
- Professionals from professional practice are involved in the development of the assessments (supply input).
- When going through the examination cycle, the teaching team applies the four-eyes principle. The (interim) products are jointly developed and determined by lecturers.
- The degree programme uses relevant and up-to-date quality criteria to evaluate, determine and improve the quality of the assessments and the examination questions and assignments. The quality criteria have been operationalised in the assessment policy.

Explanation

The development of the assessments incorporated in the assessment programme is done in accordance with the examination cycle. By systematically following the steps of the examination cycle, we can achieve assessment quality.
We use the examination cycle of the Expertisecentrum docent HBO (Expertise Centre for Lecturers in Higher Professional Education) (figure 3.3) that has been developed within the framework of the BKE training and certification process.[30] This examination cycle is based on the examination cycle

[28] Baartman, L.K.J., Kloppenburg, R., Prins, F.J. (2013). *Kwaliteit van toetsprogramma's.* In: H. van Berkel, A. Bax, D. Joosten-ten Brinke (Ed.) (2013). *Toetsen in het Hoger Onderwijs.* Bohn, Stafleu van Loghum, Houten, 51-62.

[29] Expert Group Protocol (2014). *Beoordelen is mensenwerk, Deel 2: Protocol Verbeteren en Verantwoorden van Afstuderen in het hbo.* Vereniging Hogescholen. A new version of the graduation protocol has become available between the writing of this memorandum and its final adoption: *Protocol Verbeteren en Verantwoorden van Afstuderen in het hbo 2.0* (2017). Instead of '12 questions', the protocol has been elaborated as a conceptual model with 8 supporting questions.

[30] Basis Kwalificatie Examinering. Expertisecentrum docent HBO (2015). *Expertisecentrum docent HBO:*

used in the BKE/SKE report of the BKE/SKE Expert Group, commissioned by the Vereniging Hogescholen (Netherlands Association of Universities of Applied Sciences) (2013).

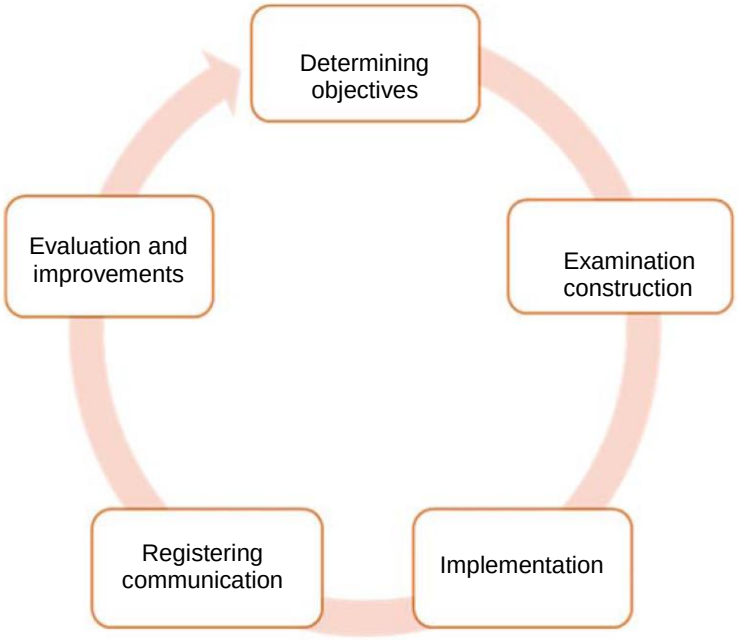


Figure 3.3: Examination cycle of the Expertisecentrum docent HBO (based on BKE/SKE Expert Group, 2013)

The HU examination cycle consists of five steps:

- *Determining objectives* This step is about designing an examination and describes the purpose of the examination, the examination function, the examination method and the examination contents. This is laid down in the assessment policy and the assessment programme. See sections 3.1 and 3.2. Based on the competencies or core tasks to be tested and the assessment programme, this step formulates the learning outcomes in such a way that they form a good basis for constructing the examination.
- *Construction* This step is about examination construction, which is the subject of this section (3.3). The sub-steps in this process are:
  - Preparing an assessment matrix,
  - Constructing examination questions and assignments,
  - Constructing the examination (including instruction and answer keys or assessment forms),
  - Determining the threshold grade.
- *Implementation* This includes actually taking the examination and evaluating it. These steps are dealt with in sections 3.4 and 3.5, which deal with setting up the evaluation and the assessment organisation respectively.
- *Registering communication* This step involves giving and discussing the feedback in response to the examination results, as well as announcing and registering the examination results. Giving and discussing feedback is elaborated in the section that deals with the organisation of the assessment (3.4). The publication of examination results is discussed in section 3.6, on the organisation of quality assurance surrounding assessment. Processing results and the registration of grades will be dealt with when setting up the organisation of the assessment (3.5).
- *Evaluation and improvements* This involves analysing the examination, interpreting the analysis

data and making the necessary decisions based on this, such as adjusting the threshold grade. This step also involves evaluating all steps in the examination cycle and making proposals for possible improvements. This is elaborated in section 3.6 on setting up quality assurance with regard to assessment.

Examination construction
The second step in the HU examination cycle (Figure 3.3) is concerned with the actual construction of the assessments. As indicated above, this step consists of several sub-steps.
Examination construction starts with the preparation of assessment matrixes. Assessment matrixes are a blueprint of the examination in which the most important characteristics of an examination are recorded:

- the learning outcomes that form the basis for the examination;
- the type and level of the actions associated with the learning outcomes that must be incorporated into the examination;
- the number of questions in the examination per learning outcome, or - in the case of assessments that consist of assignments - the percentage of each learning outcome within the entire assessment.

Assessment matrixes provide a representation of how the learning outcomes are distributed over the content of the examination, thereby forming an impression of the validity of the examination. A learning outcome is a concrete and unambiguous description of the actions that a student must show in order to demonstrate that the intended competency or core task has been achieved at the right level. To classify learning outcomes according to levels of increasing complexity, an appropriate taxonomy must be used. An assessment matrix is available for all assessments with a summative function.

Because assessments need to be independent from the curriculum, the principles of independent study & assessment (LOT) must be taken into account during their construction. With LOT assessments, the learning outcomes are fixed, while the manner of reaching these outcomes - the learning path - may be different for each student. Developing assessments within this model means that the learning outcomes form the guiding principle, not the curriculum (also see figure 2.2). Assessments with a summative function are developed on the basis of the intended learning outcomes and not on what has been discussed within the curriculum. Educational activities are not part of assessments with a summative function.[31]

When constructing examination questions and assignments, both the quality and the process of how to achieve these things are equally important. There is plenty of literature available on this topic, a good sample of which is listed in the BKE training course of the Expertisecentrum docent HBO. Examination questions and assignments are derived as much as possible from the professional practice (section 2.1). Professionals from professional practice can be involved by providing authentic examples.

The examination can be compiled using examination questions or assignments based on the assessment matrix. It is important that sufficient attention is given to the documents that accompany the examination. Consider, for example:

- Instruction for students;
- Overview of the required materials;
- Assessment model (assessment criteria, grading scale, assessment form, matrix) for assignments;
- Instruction for assessors on assignments;
- Grading or standardisation guideline;
- Answer model for assessments with open questions;
- Answer key for assessments with closed questions;
- Threshold grade (fail/pass grade).

For each examination with a summative function, a threshold grade - the grade that separates a

[31] Programma Onderwijsinnovatie, Expertteam toetsen (2015). *Leerwegonafhankelijk toetsen in de context van gepersonaliseerd leren, Ontwerpeisen voor leerwegonafhankelijk toetsen.* 2.2.

pass from a fail - needs to be determined. Determining the threshold grade has direct consequences for the justifiable or wrongful rejection or acceptance of a student's performance. Determining the proper threshold grade is therefore of great importance. A good threshold grade is one that is easy to explain and is therefore defensible. This is why sufficient time should be spent on carefully predetermining the threshold grade by a team of lecturers. The best way to go about this - though it is also labour-intensive - is to do things in a methodical way. An absolute threshold grade can be adjusted if this is warranted after receiving all the results. Any adjustment of the threshold grade must be assessed and approved by the Examination Board. The procedure for this is described in the assessment policy (also see section 3.6).

When developing assessments with a formative function, the process for feedback is preferably co-developed. In the case of assessments with a formative function that are taken digitally, this feedback can be given directly via the appropriate digital platform. This is especially valuable within an online learning environment.

Quality requirements for assessments
According to the principles for the formulation of the assessment policy (chapter 2), the responsibility for assessment lies with the lecturer teams. The lecturer team applies the four-eyes principle when going through the examination cycle. Assessment matrixes, examination questions, examination assignments, examination forms and related documents, and the threshold grade are jointly developed and determined by lecturers.

Assessment within the HU is *state of the art* and the development of assessments makes use of proven methods, models and (quality) standards (section 2.1, *evidence-based).* One example of this is the systematic way in which the examination cycle is used.
Assessments and all their corresponding examination questions and assignments therefore meet the relevant and current quality criteria. The basic criteria for assessments are validity and reliability. An examination is valid if the examination measures what is intended to be measured. It is reliable if the results on the examination are a reflection of the actual capacities of the student. In *Kwaliteit van toetsing onder de loep, Kwaliteit van toetsing geoperationaliseerd (Assessment quality studied in detail, Assessment quality operationalised)* (2015), overviews are provided of the quality criteria in the literature for assessments, examination questions and examination assignments (see appendix 7.2 C and D).
The Expertisecentrum docent HBO has developed checklists for the BKE training programme, with quality indicators for the various examination methods, based on the quality categories listed in appendix 7.2 A (assessment programmes). This has been done to develop a common language at both the level of the assessment programme and the assessments.
The quality criteria need to be operationalised; which agreements and measures can guarantee the quality requirements for assessments within the degree programme? These operationalised quality criteria are laid down in the assessment policy.[32]

3.4 Preparing for the evaluation

HU framework for assessment

Indicators for the preparation of the evaluation
- Calibrating sessions are regularly organised for the purpose of jointly establishing standardisation.
- The assessment policy for each degree programme, based on well-founded choices, stipulates how the second examiner is applied during assessment.
- Professional assignments that are part of the graduation unit (BA) or the graduation phase (MA) are always assessed by two examiners.
- The assessment policy for each degree programme also stipulates the interpretation of

[32] For a detailed example, see: FNT werkgroep toetsbeleid (2013). *FNT beleid voor toetsen, Chapter 4: Kwaliteitseisen aan toetsen.*

'foreign eyes' during (assessment and) evaluation.
- Lecturers jointly develop the assessment models with corresponding criteria, scales and decision-making procedures.
- Students always receive an individual assessment for assessments with a summative function.
- Students also receive and/or give feedback with each examination. The description of the examination includes information on how this feedback needs to be given shape and what the role of the student is.
- Students are involved in assessment through the use of formative activities.
- The evaluation of assessments meets relevant and current quality criteria.

Explanation
Evaluation is a sub-step in the step *Implementation* of the examination cycle (figure 3.3). This section also discusses giving and discussing feedback as part of the *Communicating and Registering* step of the examination cycle.

Assessment of professional competence
In the principles for the formulation of the assessment policy (section 2.4) it is described how the assessment of professional competence in higher professional education takes place as much as possible via professional products. However, the higher we are on the level in the Miller pyramid (Figure 3.2), the more difficult it is to achieve an objective assessment. The assessment and evaluation of professional tasks is largely based on the interpretations of the assessors. The role and competence of the assessors is therefore essential when assessing professional competence.

The reliability of the assessment is strengthened by:
- the qualification of examiners;
- the regular organisation of calibration sessions;
- the use of a second assessor;
- making use of ‘stranger's eyes’;
- the responsibility for assessment and evaluation lies with the teaching staff;
- and the uncoupling of supervision and evaluation.

Within higher professional education, the Basic and Senior Examiner Qualification (BKE/SKE) is the standard for the qualification of examiners.[33] The Expertisecentrum docent HBO provides the training and certification programmes BKE and SKE for HU lecturers.[34] (also see section 3.6). Because the assessment of professional assignments largely depends on the interpretations of the assessors, it is important to establish a commonly agreed upon standard. This can be done by organizing regular calibration sessions, for example. The advisory report of the Expertisecentrum docent HBO, entitled *Beoordelen is mensenwerk* (*Assessment is a human process),* provides a guide as to how to go about such calibration sessions.

Professional assignments are preferably assessed by two examiners. At least one (of the two) examiner(s) is preferably not involved in the supervision of the student or the implementation of the professional assignment. When needed, professionals from professional practice (e.g. the company supervisor) advise the examiner(s) regarding the assessment.
However, this form of collaboration, which is highly desirable from the point of view of assessment quality, can result in a disproportionate use of lecturer capacity during peak load. This requires that one finds a balance between assessment quality and cost control.
This can be done, for example, by making a distinction between transient and non-transient examination results.[35] Examples of examination methods with transient examination results are 'observations of performance', 'presentations' and 'criterion-based interviews'. The examination result is a snapshot. Therefore, assessments with transient examination results are preferably

[33] Expertgroep BKE/SKE (2013). *Verantwoord toetsen en beslissen in het hoger beroepsonderwijs. Een voorstel voor een programma van eisen voor een basis- en seniorkwalificatie examinering (BKE/SKE).* Vereniging Hogescholen.
[34] HU Services, Education, Research & Student Affairs (2014). *HU kader BKE.*
[35] For a detailed example, see: FNT werkgroep toetsbeleid (2013). *FNT beleid voor toetsen.*

assessed by two examiners. Examination methods with non-transient examination results are for example 'product assessment' and 'reports'. The examination results can, if there is reason to do so, be assessed by a second examiner at a later date. For assessments with non-transient examination results, a second examiner may be employed at random. There is also the possibility of including transient examination results, such as an action or interview, and making them non-perishable. Professional assignments that are part of the graduation unit (BA) or the graduation phase (MA) are always assessed by two examiners.[36]
The assessment policy for each degree programme, based on well-founded choices, stipulates how the second assessors are used during assessment.

It is also possible to make use of 'stranger's eyes' during assessment.[37] This can be done during the actual assessment, but also when drafting and determining assessment criteria or holding calibration sessions. Stranger's eyes can be colleagues from another programme or educational institution, professionals from professional practice or education specialists. The assessment policy of each degree programme stipulates the way in which 'stranger's eyes' are used in the assessment.
Lecturer teams are responsible for assessment and evaluation. Lecturers jointly develop the assessment models with corresponding criteria, scales and decision-making procedures.
The uncoupling of supervision and evaluation is achieved by having at least one of the examiners assess the professional assignment who has not been involved in the supervision of the student or the professional task. The uncoupling of supervision and evaluation is also promoted by independent study & assessment .

Students always receive an individual evaluation for assessments with a summative function, as well as for examination assignments that are carried out jointly by several students. Also see section 2.4.

Evaluating honours achievements[38]
An honours achievement is appreciated with a star. Stars are issued by the honours lecturer, in consultation with the student and users or stakeholders from professional practice. A student with a minimum of five stars can apply for the distinction *'with honour'*. The HU Honours Committee (in formation) is responsible for the evaluation of students who want to qualify for this distinction, and appoints an evaluation committee for this purpose.

Feedback
When evaluating assessments with a summative function, one seeks to answer the question whether the learning outcomes have been sufficiently achieved. With the evaluation of assessments with a formative function, the goal is to determine which learning outcomes the student has mastered and which are not yet mastered.
Giving and processing feedback is essential for the formative function of assessment, but it is also important when evaluating assessments with a summative function. Students need the feedback to reflect on their actions and to then take the necessary steps in their learning process to improve their performance.
The characteristics of good feedback are (Gibbs & Simpson, 2004):

- Sufficient feedback is given, often enough and detailed enough.
- Feedback is given quickly enough.
- The feedback is focused on learning and improvement.

The effect on learning is greater as the feedback becomes more specific. However, specific feedback is also very labour-intensive. It is therefore advisable to adjust the form of the feedback to the purpose of the examination (function and learning outcomes).
Students play an active role in giving and processing feedback and thereby learn how they can work towards the learning outcomes. Students receive and/or give feedback at each examination. The

[36] Also see: Van Cijfer tot Diploma: *Infosheet Afstudeereenheid.*
[37] Commissie externe validering examenkwaliteit (2012). *Vreemde ogen dwingen, Eindrapport Commissie externe validering examenkwaliteit hoger beroepsonderwijs,* Vereniging Hogescholen.
[38] Programma Onderwijsinnovatie (2016). *HU Honours 2015-2020, Onderwijsconcept voor ambitieuze studenten.*

description of the examination includes information on how this feedback needs to be given shape and what the role of the student is.

The learning value and the motivation of both students and lecturers can be increased if students are involved in assessment by way of formative activities,[39] for example, by having students set up assessment criteria, so that students get a better idea of what they are working toward (feedup, section 3.2). Or one can have students check and assess their own or each other's work on the basis of assessment criteria (feedback). This way students get a good view of how much progress they have made. Lastly, with feedforward, the student gains insight into the gap that needs to be bridged (what is the next step?). This can be achieved, for example, by discussing the examination afterwards with the study group.

Quality requirements for evaluation
The quality requirements for evaluation are often part of the quality requirements for assessment (section 3.3). More specifically in reference to evaluation, assessments are evaluated, and a systematic method of scoring and evaluation is laid down in a protocol for assignments and assessments with open questions.
For the assessments within the graduation programme, use can be made of the *Protocol Verbeteren en Verantwoorden van Afstuderen in het HBO (Protocol for Improving and Justifying Graduation in Higher Professional Education)* (2014)[40] which was developed by the Protocol Expert Group on behalf of the Vereniging Hogescholen (Netherlands Association of Universities of Applied Sciences). The Graduation protocol consists of 12 questions divided over the categories: Learning outcomes, Professional tasks, Assessment, Preconditions and Accountability and quality development (see Appendix 7.2 B).

3.5 Setting up the organisation of assessments

HU framework for assessment

Indicators for setting up the organisation of assessments

- The organisation of assessments is set up with the processes and systems that are necessary for the effective and efficient completion of the examination cycle.
- The processes and systems within the assessment organisation are organised in such a way that they facilitate personalised learning and independent study & assessment.
- The processes and systems within the assessment organisation facilitate assessment with questions and assessments with assignments.
- The assessment organisation facilitates digital assessment (constructing, administering, checking and analysing assessments). This not only concerns the processes and systems, but also technical facilities and technical support.
- The assessment organisation facilitates the use of digital development portfolios.
- The processes within the assessment organisation meet relevant and current quality criteria.
- Every process within the assessment organisation has a process owner. The quality criteria have been operationalised by the process owner.

Explanation
Setting up the assessment organisation concerns the processes and systems regarding assessment. This section discusses the strategic level, the *why* and *what* (in general terms).
The tactical level, the *how,* is described in chapter 4 on organisational embedding. This is where the different actors and their roles, tasks and responsibilities are discussed. Setting up the assessment organisation is developed for those the steps in the examination cycle where it is most relevant. See

[39] E. Vermunt, E., Sluijsmans, D. (June 2015). *Toetsen doe je samen met studenten.* Onderwijsinnovatie, 17-25.
[40] Expertgroep Protocol (2014). *Beoordelen is mensenwerk.* Vereniging Hogescholen. A new version of the graduation protocol has become available between the writing of this memorandum and its final adoption: *Protocol Verbeteren en Verantwoorden van Afstuderen in het hbo 2.0* (2017). Instead of '12 questions', the protocol has been elaborated as a conceptual model with 8 supporting questions.

Implementing, Communicating and Registering (Figure 3.3). This concerns the HU-wide facilitation of assessment. The emphasis here is on how the current processes and systems must be developed in order to realise the HU's vision on education.

The processes involved in *implementing* assessments are:
- Information supply regarding assessment;
- Registering for assessments;
- Scheduling assessments;
- Preparing the assessments (hard copy or digital);
- Administering the assessments;
- Submitting assignments;
- Invigilating during written and digital assessments.

To enable personalised learning and independent study & assessment, it is necessary that with the above processes (and the associated systems) there is a shift from a cohort approach toward one geared for individual students. For example, students must be able to register individually for an examination. Also, the registration for an examination should be separate from the registration for a study unit.
With study-independent assessments, the learning outcomes are fixed while the learning pathways that students follow will vary. For the provision of information on assessments, this means that it must also be uncoupled from educational activities, since not all students will be following the same educational path. And when the assessments are scheduled, the assessment programme is taken as a starting point and not the educational programme or curriculum (flexible).
Students will also (increasingly) determine for themselves when and how they should demonstrate the learning outcomes. Several assessment moments (including feedback moments) per study year will need to be scheduled, while the number of examination opportunities per student per academic year remains the same. For some assessments, the examination opportunities will allow for more freedom and the student will indicate when they want to take the examination. For this purpose, examination corridors can be scheduled at fixed times per week, whereby students may be sitting for different examinations or assessments (in the same room). Examples of such assessments are progress assessments with a formative function and time-independent digital assessments.
In order to (learn to) assess as authentically as possible, we always aim for the highest possible level in the Miller pyramid (figure 3.2). This means that the assessment organisation is not only equipped with assessments with questions, but also with assignments. A digital return box for assignments is an example of this. Because assessment is the responsibility of a team of lecturers and professionals from professional practice, both the access to the return box and the protection thereof should be well arranged.

The desired development of the processes and systems for digital assessment has been elaborated by the Digital Assessment Project Group (Education Innovation Program) in the *Visie op digitaal leerwegonafhankelijk toetsen binnen de HU (Vision on digital independent study & assessment (LOT) within the HU)* (2015). An important aspect of digital assessment is setting up examination depositories and assignment magazines that must be accessible to the lecturer teams, fellow lecturers from other universities of applied sciences in the context of cross-institutional (progress) assessments, and external professionals from professional practice in the context of co-creation. The examination depositories and assignment magazines need to be and remain well-protected against fraud.
Taking assessments digitally requires specific technical facilities such as computers, *Chromebooks* or other *(bring your own) devices,* rooms with sufficient power supplies, and a stable and shielded network. Technical support is also required when setting up digital assessments, as well as *hands-on* support while taking such digital assessments.

The processes for *communicating* and *registering* assessments are:
- Giving and discussing feedback (see section 3.4);
- Publishing grades and results (see section 3.6);
- Processing results and the registration of grades;
- Archiving assessment results;

- Invoicing administered assessments.

For assessments with a summative function, the processes for result processing, grade registration and archiving have been described and laid down in *van Cijfer tot Diploma.*
With personalised learning, students are given (increasing) control over their own learning process, with the supervision of teachers. In order to make it possible to control the individual learning process of a student, a digital development portfolio is needed in which the student can record (interim) products, (interim) results and results of, for example, assessments with a formative function, including feedback. The digital development portfolio is managed by the student and is accessible to lecturers who supervise the student.

Quality of the organisation of assessments
The quality of the organisation of assessments is determined by[41]
- Jointly positioning and establishing the fixed roles of the different actors,
- and through process thinking and process actions.

The positioning of the various actors and their roles, tasks and responsibilities is elaborated in chapter 4 on organisational embedding.
Process thinking and process actions lead to an increase in effectiveness and efficiency, higher transferability, and better controllability and learning ability. In *Kwaliteit van toetsing onder de loep* (2015), four quality criteria are identified that satisfy a well-organised process:
- The process is focused on achieving goals.
- The process fits within the whole of activities.
- The (previously) determined quality standards can be achieved at any time. Examples of quality standards are: completeness and accuracy, timeliness, regularity and efficiency.
- The risks are sufficiently covered.

Every process within the assessment organisation has a process owner. The quality criteria are operationalised by the process owner.

3.6 Setting up quality assurance of assessment

HU framework for assessment

Indicators for setting up quality assurance of assessment
- The quality assurance of assessment has been translated into procedures for all steps of the assessment cycle.
- In the assessment policy for each degree programme, the signalling standards for the possible adjustment of the threshold grade have been worked out.
- The responsibility for reporting, detecting and preventing irregularities (fraud) lies with the degree programme and the examination committee. The Examination Board ensures that the policy is maintained and can, in the event of a reasonable suspicion of irregularities, institute a supplementary investigation (Article 38 OER).
- In the assessment policy, the role of the team of lecturers, the programme manager and the Examination Board for each degree programme is elaborated in the *Evaluation and Improvement* step in the examination cycle.
- All HU examiners will be BKE qualified by 2020 at the latest. In addition, we aim for qualification at the SKE level for a significant portion of the HU examiners by 2020 (around 20%).

Explanation
Setting up the quality assurance for assessments relates to all steps in the examination cycle (figure 3.3). This section primarily discusses the *Evaluating and Improving* step. The publication of examination results in the *Communication and Registration* step will also be discussed.

[41] Sluijsmans, Joosten-ten Brinke and Van Schilt-Mol (2015). *Kwaliteit van toetsing onder de loep, Kwaliteit van toetsing geoperationaliseerd.*

The quality assurance around assessments is pertinent during the following procedures:
- The development of assessments (see section 3.3);
- Assessment (see section 3.4);
- Supervising the quality of assessments by the Examination Board (see section 4.3);
- Organisation of assessments (see section 3.5);
- Publication of examination results and grades;
- Providing information about assessments (see sections 3.5 and 4.5);
- Reporting, detecting and preventing irregularities;
- Improving assessments and education;
- Professionalisation of examiners and members of examinations boards.

Some of these procedures have been discussed elsewhere in this memorandum. The remaining procedures will be discussed here.

Announcement of examination results and grades
Before the examination results and grades of assessments with questions are made known to students, the success rate and the item analysis will be evaluated by the relevant team of lecturers staff (analysing and interpreting analysis data). For extremely high or low scores, it must be determined whether there is reason to adjust the threshold grade and/or whether to remove certain examination questions from the examination or to recalculate them (decision based on interpretation of analysis data). In the assessment policy, the standards for signalling have been worked out for each degree programme.
If an adjustment of the threshold grade is required, the Examination Board must allow permission to actually implement this. If the signalling standards have been exceeded, yet no adjustment of the threshold grade is desired, the team of lecturers must provide justification hereof to the Examination Board.

Reporting, detecting and preventing irregularities
The responsibility for reporting, detecting and preventing irregularities (fraud) lies with the degree programme, but the Examination Board also plays a role herein. The Examination Board ensures that the policy is maintained and can, in the event of reasonable suspicion of irregularities, initiate a supplementary investigation (Article 38 OER). The assessment policy for each degree programme stipulates how irregularities can be reported in writing to the Examination Board (fraud protocol). Plagiarism is detected with previously developed software (e.g. Ephorus).
The rules of conduct during the administering of assessments are laid down in the examination regulations and the invigilation protocol.

Improving assessments and education
Information about the quality of assessments and education is available by various means: Through assessment itself, the evaluative function of assessments (section 2.2) and through student evaluations, for example. In a more focused manner, this can be achieved through a validation process by professionals from professional practice, peer-review and by allowing stranger's eyes to take part in the different steps in the examination cycle, as well as by conducting practice-based research into examination practice. There are also many fairly simple possibilities for analysing digital assessments, examination questions and examination results. With digital assessments with a formative function, *learning analytics* can be used to collect specific information about student learning.
During the *Evaluating and Improving* step in the examination cycle (Figure 3.3), the different steps in the examination cycle are evaluated on the basis of the available information. Proposals for improvement are made on the basis of this evaluation. The assessment policy for each degree programme further describes the role of the team of lecturers, the programme manager and the examination committee (who advises, who informs and who decides?). Also see section 4.5.

Professionalisation of examiners and members of Examination Boards
In paragraph 3.4, the importance of assessment competence of examiners in assessing professional competence has already been pointed out. However, the assessment ability of examiners is also a requirement for the other levels in the quality pyramid of contemporary

assessments and evaluation (Figure 2.3). Within higher professional education, the Basic and Senior Examiner Qualification (BKE/SKE) is the standard for the qualification of examiners.[42] The Basic Examiner Qualification focuses on passing the examination cycle for one or more assessments of a study unit (levels of examination questions, examination assignments and assessments). The Senior Examiner Qualification focuses on the assessment of the learning outcomes across the various study units at the level of the degree programme, or part of it (levels of programme assessment and assessment policy). All HU examiners will be BKE qualified by 2020 at the latest.[43] In addition, we aim for qualification at the SKE level for a significant portion of the HU examiners by 2020 (around 20%).
The Expertisecentrum docent HBO provides the training and certification programmes BKE and SKE for HU lecturers. The Expertisecentrum docent HBO also provides specific training courses for members of the Examination Board.

[42] Expertgroep BKE/SKE (2013). *Verantwoord toetsen en beslissen in het hoger beroepsonderwijs. Een voorstel voor een programma van eisen voor een basis- en seniorkwalificatie examinering (BKE/SKE).* Vereniging Hogescholen.
[43] HU Services, Education, Research & Student Affairs (2014). *HU kader BKE.*

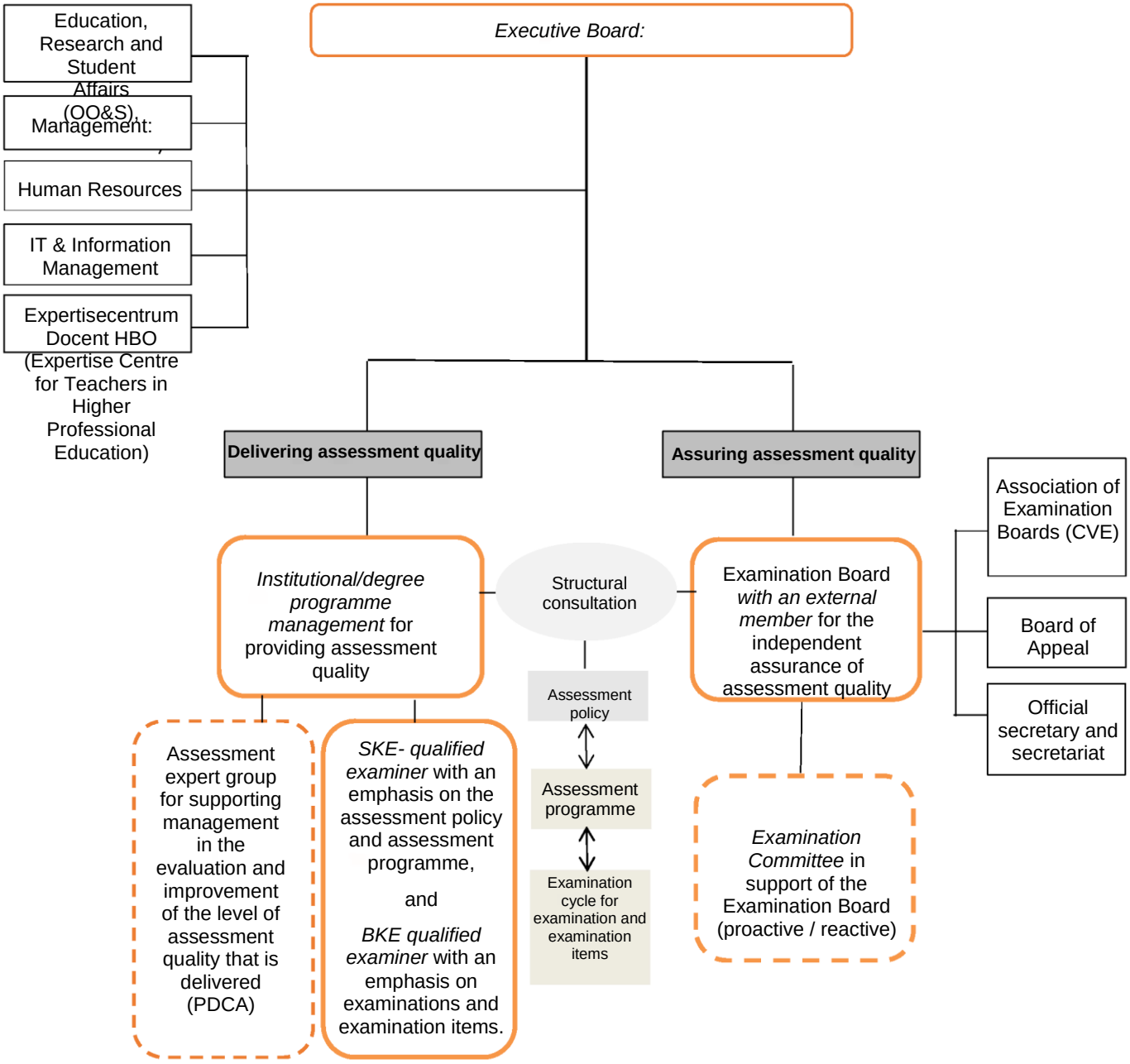
4 Organisational embedding

In this chapter we will discuss the quality of the assessment organisation for delivering and assuring assessment quality. We view optimal assessment organisation as a precondition for achieving optimum assessment quality. By describing the tasks and responsibilities of the various actors in the organisation of assessments, role-stability can be created which enables optimal collaboration; all parties know what is expected of them and no ongoing discussion is needed.
The organisation chart (see next page) shows how the organisation of assessments within the HU is/will be structured with internal actors.[44] The foundation of the organisation chart is the distinction between *delivering* and *assuring* assessment quality.[45]
The distinction between delivering and ensuring assessment quality is intended to clarify that two different responsibilities are involved, namely that of the degree programme management (delivery) and the Examination Board (guarantors). This distinction makes it possible to optimally coordinate activities between the degree programme management and the Examination Board. This strengthens the efficient and effective collaboration regarding the assessment policy, assessment programme and assessments with examination questions or examination assignments, each based on a joint focus on assessment quality and individual responsibility. The training manager ensures that assessment quality is and will remain in place within the complex and dynamic environment of education. This is confirmed by an independent Examination Board, which can then issue the diploma without reservation. This is the joint responsibility of the degree programme management and the Examination Board, with support from the other actors. The distinction between delivering and assuring assessment quality therefore ensures that a stronger connection can be established between the tasks and responsibilities of the programme management and those of the Examination Board.

The organisation of assuring assessment quality by examination boards is largely laid down in legislation and official regulations (WHW, NVAO) and HU policy. The descriptions of the responsibilities with regard to assuring assessment quality are based as much as possible on this legislation and regulations. This means that (this part of) this chapter contains formal texts, based as they are on existing frameworks.
Regarding the delivery of assessment quality by the programme management, less has been laid down in legislation and regulations, which creates a certain amount of space within the various organisational levels. We describe the optimal working method, taking into account the fact that the pace at which organisational embedding takes place or can be realised may differ per educational organisation unit.

In the following sections we outline the most important frameworks, describe the responsibilities of the various parties involved with delivering and assuring quality, based on the organisation chart. We also discuss possibilities for cooperation and draw attention to other parties involved. All this is intended to to give as clear a picture as possible of what has already been determined and where there is still space for personal interpretation.

[44] During the writing of this memorandum, the Association of Examination Boards was not (yet) operational.
[45] Van Deursen, P. and E. van Zijl, (2012). *Kwaliteit van de toetsorganisatie.* In: Sluijsmans, et al, (2012). *Kwaliteit van toetsing onder de loep.* Garant publishers NV: Antwerp-Apeldoorn, 113-132.



4.1 The frameworks

The description of organisational embedding has been based on the following legal guidelines and HU policy documents or external documents adopted by the Executive Board.

- WHW 2015
- HU Werkgroep nieuwe WHW en examencommissies (2010), Spoorboekje Implementatie Nieuwe WHW, deelproject Vb: examencommissies en kwaliteit van toetsing en beoordeling.
- HU memo 'Kaderstelling toetscommissie en toetsexpertgroepen' (HUP, August 2013)
- HU Infosheet 'Aanwijzen examinatoren'(2012), VCtD
- HU Infosheet 'Toezichthoudende rol van de examencommissie' (2012), VCtD
- HU Juridische Zaken (2014), Reglement Examencommissies HU 2015-2016, amended in November 2016.
- Rapport van de expertgroep 'Basiskwalificatie examineren (BKE) en senior kwalificatie examineren (SKE)'van de Vereniging Hogescholen (2013)
- De Onderwijs en Examenregeling HU (OER-HU) bachelor en master, amended in November 2016.
- Governancedocument CvE, HU 2015

4.2 Delivering assessment quality

Responsibilities for degree programme management
The degree programme management is ultimately responsible for delivering assessment quality. Based on the pyramid for assessment quality (figure 2.3), this concerns actions of the degree programme management that are aimed at a coherent development, evaluation and improvement of the quality of the assessment policy (1), the assessment programme (2), the examination cycle for the quality of the examination (3) and examination questions and examination assignments (4). Also included are the required assessment competence of the examiners and the quality of the assessment organisation as preconditions, via the PDCA cycle.

This means that the degree programme management is ultimately responsible for:
a. The organisation of an appropriate assessment organisation and ensuring that examiners are qualified (BKE and SKE qualification);
b. The quality of the assessment policy of the degree programme, the assessment programme and the examination cycles for assessments with examination questions or assignments;
c. Evaluating and improving the assessment quality delivered (PDCA cycle);
d. The management and facilitation of examiners and the examination expert group

In carrying out these responsibilities and tasks, the degree programme management cooperates with examiners (see *Responsibilities of examiners).*

The degree programme management can also be supported by an examination expert group. With this group, the degree programme management has access to an advisory body that plays an important role in determining the right focus with regard to assessment quality. The examination expert group advises management by providing information from a wide array of sources, in the form of evaluations, audits, satisfaction surveys, complaints, advice from the Examination Board, etc. Together, this can be used to prioritise (improvement) measures toward quality assurance (PDCA).

The examination expert group can support management by:
a. Conducting research into the assessment quality delivered, for example by analysing the examination evaluations carried out by examiners;
b. Drawing up improvement plans for assessment and evaluation (quality assurance on all four layers of the pyramid for assessment quality (figure 2.3)) and setting preconditions;
c. Working on the competence of examiners through providing systematic professional development training;
d. Advising management on the policy aspects regarding the delivery of assessment quality.

In the organisation chart, the examination expert group is shown as an option. Whether, and in what way, an examination expert group is deployed is at the discretion of the relevant educational organisation unit.

Responsibilities of examiners
Within the HU, a distinction is made between BKE- and SKE-qualified examiners, following the report of the expert group 'Basic Examiner Qualification (BKE) and Senior Examiner Qualification (SKE)' of the Vereniging Hogescholen (Netherlands Association of Universities of Applied Sciences) (2013).

SKE-qualified examiners are responsible for:
a. The (co-)development and translation of assessment policy at the tactical and operational level (also see introduction chapter 3, section 3.1);
b. The development of an assessment programme that corresponds with the assessment policy of the programme;
c. Supervising BKE-qualified examiners in making assessments, examination questions and examination assignments on the basis of the assessment programme and according to the examination cycle;
d. Carrying out the same work as the BKE-qualified examiners.

BKE-qualified examiners are responsible for:
a. The development of assessments, examination questions and examination assignments;
b. Evaluating assessments, examination questions and examination assignments and improving these in collaboration with SKE-qualified examiners.

Examiners and/or the examination expert group can approach the Programme Committee (OC) of the degree programme, as the chosen representation of students, or as a source of information for gaining an insight into, for example, the weighting of the assessment programme or a particular examination, or the suitability of an examination with regard to the educational curriculum, etc.

4.3 Ensuring assessment quality

Responsibilities of the Examination Board
The Examination Board is responsible for ensuring assessment quality. As a 'watchful eye', it has to check that the degree programme management provides the desired assessment quality, so that the diploma can be awarded to each student on this basis.

The duties of the Examination Board herein are:[46]
a. Giving advice on the development of the assessment policy;
b. Safeguarding the assessment policy, along with the assessment programme, the assessments, examination questions and examination assignments, as well as the preconditions of assessment organisation and the assessment competence of examiners;
c. Establishing guidelines and instructions within the framework of the Education and Examination Regulations, and to assess and determine the results of (final) examinations;
d. Monitoring the correct implementation of the assessment policy and identifying bottlenecks in

[46] According to the WHW (2015) and HU memo kaderstelling toetscommissies en toetsexpertgroepen (2013).

this area;
e. Reporting annually on its own work to the institutional administration and institute management;
f. Appointing examiners who have been nominated by the degree programme management;
g. Monitor the quality of administering assessments.

Responsibilities of the institutional administration and institute management[47]
a. Final responsibility for the independent and expert functioning of the Examination Board lies with institutional administration and institute management;
b. The development, availability and adoption of the assessment policy: institute management;
c. Responsibility for facilitating the implementation of the assessment policy: institute management;
d. Responsibility for the independent performance of the examination committee: institutional administration and institute management;
e. Appointment of the chair and members of the Examination Board: institutional administration on the appointment by institute management;
f. Appointing members of a (possible) examination committee: institute management.

Setting up an Examination Committee
An educational organisation unit can choose to set up an Examination Committee, but this is not a requirement. Setting up an Examination Committee follows the rules laid down in the HU Assessment Framework for Examination Committees and examination expert groups (2013). However, it is important for the cooperation between the Examination Board and any Examination Committee that the Examination Board remains responsible for the quality of its entire statutory task performance and does not delegate it to the Examination Committee. The Examination Committee has an advisory role.

In ensuring assessment quality, the Examination Board can also appoint the Programme Committee (OC) to function as the representative of students, and to provide information and advice about, for example, the availability of information about the assessment programme and each individual examination.

4.4 Other actors

Within the HU, the following actors are important because they facilitate, support, monitor and/or offer advice on delivering and assuring assessment quality.

- *Education, Research & Student Affairs (OO&S)*
  OO&S is a HU-wide service that supports the educational organisation units and the Executive Board in the development and implementation of policy in the area of education, research and student affairs. For degree programme management and Examination Boards, it provides policy frameworks and guidelines for delivering and assuring assessment quality. The present HU Assessment Framework is an example of this. OO&S is responsible for supporting Examination Boards, amongst other things. This responsibility lies with the Certification team.
  The Legal Affairs department has an advisory and assessment role, both towards the Executive Board and towards the educational departments, with regard to the legal aspects of assessment and the realisation of the HU Education and Examination Regulations.

- *HU Facilities, Operations and Logistics*
  Facilities, Operations and Logistics is responsible for optimum operational management. It consists of, among others, the department of Educational Logistics. Educational Logistics is responsible for the logistical side of the organisation of assessments. The examination bureaus within the educational organisation units fall under Educational Logistics, and the

[47] According to: Werkgroep Nieuwe WHW en examencommissies (2010). *Spoorboekje implementatie WHW 2010, HU Reglement Examencommissies 2015-2016, gewijzigd november 2016.*

invigilators are also deployed and managed by this department.

- *HU Human Resources*
  This service takes care of personnel and salary administration, advises managers in the field of personnel matters and proactively supports the development, inflow and outflow of HU staff. The personnel policy of the HU is aimed at ensuring that every lecturer, regardless of their income grade, must be able to perform examinations and evaluations. Assessment and evaluation are therefore important aspects of the recruitment policy, as well as for the RGW cycle. The systematic promotion of the assessment competence of examiners within the degree programmes (in cooperation with, among others, the Expertisecentrum docent HBO) is one of the responsibilities of the *Human Resources department* with regard to assessment organisation.

- *HU Information Management & ICT*
  This service is responsible for facilitating the organisation of assessments in the field of ICT and information provision. One of the areas of focus is the security of information by the *Security and privacy officer.* In relation to assessment, this concerns shielding OSIRIS, examination depositories of degree programmes, etc. At an operational level, the line management together with the *Security and Privacy Officer is* responsible for working according to (information security) policy frameworks (Informatie beveiligingsbeleid (Information Security Policy), 2013).

- *Expertisecentrum Docent HBO (Expertise Centre for Teachers in Higher Professional Education)*
  The Expertisecentrum docent HBO has the task of supporting staff members of the HU in their teaching duties, so that they can provide the quality of education and assessment that the HU advocates. It offers learning arrangements for examiners (such as the Basic Examiner Qualification) and members of Examination Boards (such as basic and advanced courses).

- *Association of Examination Boards (CvE)*
  The CvE was not operational during the realisation of this memorandum. A description of the roles, tasks and responsibilities of the CvE was not available during the writing of this memo.

- *Board of Appeal concerning examinations (CBE)*
  The CBE is an independent complaint handler that conducts research into the suitability of decisions taken by examiners or the Examination Board, with which a student disagrees. The Higher Education and Scientific Research Act stipulates that every higher education institution must have a CBE.
  An Examination Board may be confronted with the Appeals Board if a student lodges an appeal against a decision by the Examination Board on the student's initial notice of objection (OER 2015/2016 article 45, paragraph 14). The decision of the Board of Appeal is binding, for both the Examination Board and the student.

- *Official secretary and secretariat*
  The official secretary is appointed to support the Examination Board in its work. This involves secretarial tasks, but also matters such as process monitoring, policy support and policy-making. Together with the official secretariat, the official secretary contributes to the authoritative and efficient operation of Examination Boards.

4.5 Collaboration in delivering and ensuring assessment quality

By distinguishing between delivering and ensuring assessment quality, a structure is created that allows for mutual support between the PDCA cycle of assessment and monitoring the (final) level.

Structural consultation between the delivering and the ensuring actors - a joint responsibility of the programme manager and the chair of the Examination Board - is important in this regard. By talking to each other about shortcomings that have been identified, or about how to optimise processes, etc., the interaction between delivering and ensuring assessment quality can be strengthened and the organisation of assessments is brought to a higher level.

The manner of cooperation between programme management and the Examination Board is at the discretion of the various educational organisation units. It is important that the following matters have a structural character:

a. *Developing a joint focus on quality*
   The degree programme management and the Examination Board benefit from merging together in thinking about assessment quality. For example, the Examination Board annually chooses the focal points that need to be examined to safeguard assessment quality. In determining these focal points, the degree programme management can actively seek cooperation. It can use the expertise and services of an examination expert group which can provide insight into the state of affairs regarding the assessment quality that is delivered. It is true, however, that the Examination Board, as an independent body, ultimately chooses its own focal points.

b. *Information exchange*
   Both the degree programme management and the Examination Board need information from each other in order to be able to perform their duties properly. Information exchange about the assessment policy, assessment programme, assessments, examination questions, examination assignments and examiners helps both actors to fulfil their tasks and responsibilities, whilst not losing sight of their specific responsibility herein.

c. *The assessment competence of examiners*
   The personnel policy of the HU is aimed at ensuring that every lecturer, regardless of their income grade, must be able to perform examinations and evaluations. For this reason, the 'assessment and evaluation' results area has been included in the job description for teacher positions (also see HU Infosheet 'Aanwijzen examinatoren (Appointing examiners)', 2012). Assessment and evaluation are therefore important points of attention in the recruitment policy, as well as in the RGW cycle. By explicitly paying attention to the core area 'assessing and evaluating' when appointing examiners as training management in the RGW cycle, the Examination Board - in cooperation with the degree programme management - can better evaluate and safeguard the assessment competence of HU examiners. A distinction is made between the competence of BKE and SKE-qualified examiners.
   The formal appointment of assessment competent examiners takes place annually by the Examination Board, on the recommendation of the degree programme management. The nomination of examiners is clustered per study unit or group of study units. The basic principle here is that, when working on assessments, examination questions and examination assignments according to the examination cycle, each study unit or group of study units has *at least* two examiners, so as to create the preconditions for peer consultation and peer review. The degree programme management and the Examination Board make agreements together about which information is required to proceed with the appointment of examiners.

   The appointment of an examiner can also be withdrawn. A programme manager may conclude, during the RGW cycle, that a particular examiner does not have the essential competences to ensure that the assessment quality will be delivered, and therefore decides not to nominate the examiner. The Examination Board, responsible for assuring assessment quality, also has the authority to withdraw instructions if the examinations do not proceed properly (see the Richtlijn aanwijzing en intrekking examinatoren (Directive on the appointment and withdrawal of examiners), VCtD).

5 Formal frameworks

This chapter provides an overview of the formal frameworks surrounding assessment. Because the frameworks have been described elsewhere, reference is made to existing documents as much as possible.
The overview outlines the relationship between the formal frameworks and the HU Assessment Framework.

5.1 WHW framework, NVAO and Vereniging Hogescholen (The Netherlands Association of Universities of Applied Sciences)

In the Higher Education and Research Act (WHW), the Examination Board has a clear role in *ensuring* the quality of assessments and examinations. In order to be able to fulfil this role properly, the WHW emphasises the importance of the independent, expert and transparent functioning of the Examination Board. In the *Spoorboekje Implementatie Nieuwe WHW, deelproject Vb: examencommissies en kwaliteit van toetsing en beoordeling* (May 2010) this has been translated into HU-wide frameworks.
The role of programme management and the examiners in *delivering* the quality of assessments and examinations has been elaborated in section 4.2 of this HU Assessment Framework.

To qualify for accreditation, degree programmes are assessed according to the NVAO framework. For the limited programme assessment (PDO), the framework consists of four standards. For the HU Assessment Framework, standards 3 and 4 are relevant.
Standard 3 is about assessment: *The degree programme has an adequate system of assessment.* The explanation to standard 3 states that 'The assessments and evaluation are valid, reliable and transparent for students. The Examination Board of the degree programme guarantees the quality of the examinations and assessments'.
Chapter 3 of the HU Assessment Framework describes the frameworks for the examination system, including the quality requirements that have been set. For degree programmes, it is important to organise at the various levels of the quality pyramid of contemporary assessment and evaluation (Figure 2.3) and to proceed systematically through the steps of the examination cycle (Figure 3.3).
The frameworks for the supervisory role of the Examination Board are described elsewhere. Section 4.3 provides an overview of this.
Standard 4 deals with the realised learning outcomes: *The programme shows that the intended learning outcomes are being realised*.
The explanation to standard 4 states that 'The level achieved is shown by the results of interim and final assessments, the final projects and the way in which graduates function in practice or in a follow-up programme'.
The assessment and evaluation of professional competence is elaborated in section 2.3, 2.4 and 3.4 of the HU Assessment Framework. Figure 2.2, on the translation of the learning outcomes to assessments, shows how degree programmes can demonstrate that the intended learning outcomes of the programme are being realised by way the assessments, the assessment programme and the graduation programme.
Standards 3 and 4 count heavily in the final assessment, because the minimal scores of both must be achieved. Assessment therefore plays an important role in the accreditation.

The Vereniging Hogescholen (formerly HBO-raad; Netherlands Association of Universities of Applied Sciences) also sets the frameworks for assessments and Examination Boards. For example, in 2011 it was agreed in a binding decision, that no persons should be part of an Examination Board who also have financial responsibilities regarding the functioning of the

organisation.[48]

In 2012 the Vereniging Hogescholen (Netherlands Association of Universities of Applied Sciences) adopted the recommendations of the Bruijn Commission (the report 'Vreemde ogen dwingen'[49]). The Bruijn Commission made seven recommendations:

1. External validation of assessments (cross-institutional independent study & (progress) assessments)
2. External validation of final projects
3. External validation through legal recording of the obligation to implement the assessment policy
4. External validation via certification of examiners and training of lecturers
5. External validation via visitation committees
6. External validation via other examination methods
7. External validation via assessment quality

On behalf of the Vereniging Hogescholen (Netherlands Association of Universities of Applied Sciences), the following frameworks have been developed with regard to the external validation of the examination:

- *Protocol for the Improvement and Justification of Graduation in Higher Professional Education*[50] (elaboration of recommendation 2).
- A *programme of requirements for the Basic and Senior Examiner Qualification exam* (BKE / SKE)[51] (elaboration of recommendation 4).

The recommendations from the report *Vreemde ogen dwingen,* the Graduation protocol and the Basic and Senior Examiner Qualification are discussed in terms of indicators and/or quality requirements in various sections of chapter 3 of the HU Assessment Framework.

5.2 OER, from Grade to Diploma and other regulations

The HU Education and Examination Regulations (OER) lay down the rights and obligations in the field of education, assessment and related matters (also see section 4.1). This also includes the rules regarding the organisation of tests and examinations. The OER is further elaborated in the study guide. For example, the course of events during examinations is outlined in the study guide. However, it is possible that the HU Assessment Framework has consequences for the OER. If during the implementation of the HU Assessment Framework it appears that this is the case, then Education, Research & Student Affairs will take the initiative to make amendments to the OER.
In order to improve and safeguard the quality of the process following the assessment - which runs from the entering grades to issuing diplomas and certificates - the HU initiated the programme 'van Cijfer tot Diploma (from Grade to Diploma)' in 2011. This programme sets out the rules, tasks and responsibilities within (and partly outside) this process. The Handbook on Study Progress[52] describes all procedures governing the areas mentioned above.

[48] HBO-raad (2011). *Geslaagd! Handreiking examencommissies.*

[49] Commissie externe validering examenkwaliteit (2012). *Vreemde ogen dwingen: Eindrapport Commissie externe validering examenkwaliteit hoger beroepsonderwijs.* Vereniging Hogescholen.
[50] Expert Group Protocol (2014). *Beoordelen is mensenwerk, bevindingen over de wenselijkheid en mogelijkheid van een gezamenlijk protocol voor het beoordelen van (kern)werkstukken.* Vereniging Hogescholen.
[51] Expertgroep BKE/SKE (2013). *Verantwoord toetsen en beslissen in het hoger beroepsonderwijs. Een voorstel voor een programma van eisen voor een basis- en seniorkwalificatie examinering (BKE/SKE).* Vereniging Hogescholen.
[52] Van Cijfer tot Diploma. *Handboek Studievoortgang, Onderwijslogistieke processen.* versie 4.0.

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7 Appendices

7.1 Guide to the organisation of the assessment policy

The assessment policy gives further details about the tactical *(how)* and operational *(who, what* (at detail level), *where* and *when)* policy level (see Figure 3.1).
The format of the assessment policy can look like this:

1. *Vision on assessment*
   Here, reference can be made to the principles when formulating the assessment policy (chapter 2). If there is sufficient reason, the vision on assessment can be further elaborated for the specific domain or educational context.

2. *Quality requirements for assessment*
   The assessment policy lays down and operationalises the quality requirements for assessment. In other words: with which measures and processes (how?) do the programmes ensure that the agreed upon quality requirements for assessments will be realised?

3. *Elaboration of the vision and the quality requirements in assessment policy*
   This stipulates the agreements and choices that are made concerning how assessment contributes to the realisation of the vision on education and on assessment, and about delivering and assuring assessment quality.
   The paragraph layout of chapter 3 can be used here.

4. *Execution*
   Based on the examination cycle (Figure 3.3), the agreements and processes around assessment are elaborated, including describing and choosing examination methods, the steps and methods by which the learning outcomes are translated into the assessment programme, assessment matrixes, the assessments and the examination questions and assignments (figure 2.2), the determination of the threshold grade, the evaluation of the examination and the examination cycle, quality assurance and professionalisation.
   The chapter on implementation may have the character of a handbook for teachers.

5. *Organisational embedding*
   Chapter 4 of the HU Assessment Framework describes the *organisation*, otherwise referred to as the tactical policy level. In the assessment policy, the *performance* or the operational policy level is further elaborated: who, what (at detail level), where and when?
   To ensure assessment quality (supervisory role), predetermined and operationalised quality requirements for assessments can be used (see point 2 above).

6. *Formal and financial frameworks*
   Reference can be made to the description of the formal frameworks in the HU Assessment Framework (chapter 5). If applicable, this can be supplemented with specific formal frameworks for the domain or degree programme.
   The choices and agreements regarding cost control can be laid down here, as well as the facilitation of assessment in terms of time, resources and money.

7.2 Quality criteria and standards

Successively, quality criteria and standards have been included for:
A. Assessment programmes
B. Graduating

C. Examination
D. Assessment tasks (questions and assignments)

A. Quality categories and quality criteria for assessment programmes[53]

Quality category	Quality criteria
Validity	Operationalisation: The assessment programme is derived in a clear and correct manner from the degree programme qualifications. The degree programme qualifications are elaborated in more specific intended learning outcomes per course, and in assessment criteria or correction models (answer keys) of the assessments associated with these courses.
	Scope: The content of the assessment programme is a good reflection of the content of the degree programme qualifications and aspects thereof. The knowledge base, professional skills and the execution of complex professional assignments are sufficiently tested.
	Complexity: The assessment programme is of the right level, appropriate to the phase of the programme, and has a structure in terms of increasing complexity.
	Method: The combination of examination methods during the entire assessment programme suits the content to be assessed.
Reliability	Comparability: Wherever possible, the content and circumstances of the assessment are set (assessment criteria, correction models and standards) and differences between assessors are minimised by ensuring shared understanding.
	Triangulation: The assessment programme provides sufficient richness of information to provide a reliable (integral) assessment. Decisions are not based on the (subjective) judgement of one assessor or on the (accidental) judgement in one situation or professional assignment. Rather, information is shared and triangulated between various assessors and assessment moments.
Function	Selection: On the basis of the assessment programme, good and weaker students can be distinguished and selected (for suitability for further study, employment in a certain profession). This selection must take place in a timely manner during the degree programme, so that students have the opportunity to transfer to another degree programme or terminate their studies.
	Learning effect : The assessment programme has a desirable effect on the learning process of the students. The various assessments together stimulate the desired learning processes and provide sufficient and worthy feedback.
	Education effect : The assessment programme provides a wealth of information about the associated education, so that teachers can evaluate and improve the given education.
Condition	Transparency : Students receive clear information about all assessments, criteria, standards and results of the assessment, so that they know what is expected of them.
	Evaluation competence: The examiners/assessors have sufficient knowledge and skills about the content of the examination, the method of assessment and giving feedback. They may, for example, receive training in this respect.
	Organisation: The assessment programme is organised efficiently and effectively and assessors have sufficient time to arrive at a reliable assessment. Examples are: examination schedules are ready on time, invigilators have been arranged, examination results are made known on time, feedback meetings are organised.

[53] Baartman, L.K.J., Kloppenburg, R., Prins, F.J. (2013). *Kwaliteit van toetsprogramma's.* In: H. van Berkel, A. Bax, D. Joosten-ten Brinke (Ed.) (2013). *Toetsen in het Hoger Onderwijs.* Bohn, Stafleu van Loghum, Houten, 51-62.

B. Protocol verbeteren en verantwoorden van afstuderen in het HBO (Protocol for Improving and Justifying Graduation in Higher Professional Education)[54]

A new version of the graduation protocol has become available between the writing of this memorandum and its final adoption: Protocol Verbeteren en Verantwoorden van Afstuderen in het hbo 2.0 (2017). Instead of '12 questions', as is indicated below, the protocol has been elaborated as a conceptual model with 8 supporting questions.

Learning outcomes

1. Do the learning outcomes of the programme reflect both the requirements from the professional practice and the requirements at the higher professional education level?
2. Has the degree programme described the required level of research competence in the learning outcomes?
3. Does the programme assess all learning outcomes in the graduation programme and, if it concerns several graduation components, is it clear where what is being assessed?

Professional tasks

4. Are the professional tasks that students carry out in the graduation programme suitable for demonstrating the intended learning outcomes?
5. Does the programme monitor that the complexity of the professional tasks is the same for all students and that a comparable degree of independence is expected from them in the implementation thereof?

Evaluation

6. Does the degree programme guarantee that each examiner is competent to make a well-founded evaluation of the performance of the students?
7. Do the evaluation models used offer sufficient guarantees for a valid, reliable and transparent evaluation and are they simultaneously workable for examiners?
8. Does the programme guarantee a common interpretation of the evaluation models by the examiners?
9. Is the evaluation procedure transparent and workable for all those involved and does it promote the most reliable assessment possible?

Preconditions

10. Does the degree programme ensure that the graduation programme can be carried out by all parties involved within the available time and opportunities?

Accountability and quality development

11. Does the degree programme employ the 'stranger's eyes' principle to demonstrably promote the quality of the graduation programme?
12. Does the degree programme provide evidence, during an audit or visitation, that provides a transparent and representative picture of the graduation programme and the final level achieved by the students?

C. Quality criteria of assessment[55]

Quality criteria	Description of the quality criteria
Validity	The assessment measures what it is intended to measure. The assessment is meaningful and useful and the conclusions drawn from the grades are justified.
Reliability	There is accuracy and consistency of standards, criteria and decisions over time and between assessors.

[54] Protocol Expert Group (2014). *Beoordelen is mensenwerk.* Vereniging Hogescholen.

[55] Sluijsmans, Joosten-ten Brinke, Van Schilt-Mol (2015). *Kwaliteit van toetsing onder de loep.* Garant, Antwerp-Apeldoorn.

Usability	The assessments are easy to manage.
Objectivity	The assessor exercises no influence on the level of the grades and the final evaluation.
Consequences	The interpretation of the grades takes into account positive and negative consequences that the assessments may have on education.
Motivational content	The examination content and the results of an assessment are substantiated and justifiable to the student.
Transparency	The assessments and associated procedures are clear and understandable for all participants involved.
Feedback	The assessments give the student personal feedback on their strengths and points for improvement.
Support	The student will receive an answer to substantive and procedural questions about assessments in a timely manner.
Formulation	Texts in the assessments have been carefully formulated.
Feasibility	The goals and criteria of an examination are feasible for qualified students at the relevant level of competence.

D. Quality criteria of assessment assignments[56]

Quality criteria	Description of the quality criteria
Relevance	Relevance refers to the extent to which an assessment assignment measures what it aims to measure. Does it have a direct relationship with the learning objective and the expected cognitive, affective or motor level?
Objectivity	Objectivity is achieved if the grade for the assessment assignment is independent of the person who performs the grading or who has set up the assessment assignment.
Efficiency	The efficiency of an assessment assignment concerns the formulation of the assignment, the structure of an assignment and the manner of administering the assignment.
Difficulty	The level of difficulty of an assessment assignment must be acceptable, given the (expected) level of the students.
Ability to distinguish	An assessment assignment must be able to distinguish between students with high and low final grades.
Acceptance	In the eyes of students, the assessment assignments are 'good': the assignments are in line with the given education, they arouse the students' interest, are regarded by students as relevant and meaningful, they are professionally and socially relevant, and they build a sense of trust and generate a sense of satisfaction.

[56] Toetsvragen en toetsopdrachten, Sluijsmans, Joosten-ten Brinke, Van Schilt-Mol (2015). *Kwaliteit van toetsing onder de loep.* Garant, Antwerp-Apeldoorn.