



Assessment Policy
Nyenrode Business Universiteit

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Assessment Committee
& Academic Services Center

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Contents

1. Introduction
2. The position of assessment in education
3. Responsibilities
4. Assessment as a process
 - 4.1 Designing a test
 - 4.2 Conducting a test
 - 4.3 Appraising a test and processing the score
 - 4.4 Evaluation and improvement
 - 4.5 Quality Assurance in the assessment process
 - 4.6 Bachelor and master thesis
5. Glossary
6. Literature

Appendices

- | | |
|--------------|--|
| Appendix I | Dublin descriptors |
| Appendix II | Bloom's Taxonomy |
| Appendix III | Principles of good assessment |
| Appendix IV | Template assessment matrix |
| Appendix V | Check-list for compiling, assessing and editing open-ended questions |
| Appendix VI | Tips for organizing oral tests |

1. Introduction

Providing good quality education is a core task of Universiteit Nyenrode B.V.. Henceforth referred to as: Nyenrode. The quality of education and the role played by assessment are therefore a strong focus of attention. Assessment is essential to appraise and rate the learning achievements of students¹. Moreover, assessment provides feedback to students (and their teachers) on the extent to which they have mastered certain components, as well as information on actions needed to achieve described learning outcomes and learning objectives.

New legislation (the Dutch Higher Education and Scientific Research Act, abbreviated in Dutch as “WHW”) and new accreditation requirements of the Accreditation Organization of the Netherlands and Flanders (NVAO) have a strong focus on the quality of assessment, meaning it is necessary to establish a record of assessment activities. This Assessment Policy covers the elaboration and substantiation of the following two standards from the NVAOs accreditation framework in relation to assessment and learning outcomes:

- The program has an appropriate assessment system;
- The program demonstrates that intended learning outcomes have been achieved.

Assessment policy includes frameworks and resources to design and appraise tests. An assessment policy creates clarity on the vision that Nyenrode has towards assessment and the way in which it ensures the quality of tests and the appraisal thereof, but also equips examiners to assess in a professional way.

Definition of a test

The assessment of student’s proficiency is done by means of a test. This document assumes the following definition of a test: any instrument used within a study program when taking decisions on the level of knowledge, understanding and/or skills of a student. A test must be capable of determining whether the student has sufficiently mastered the stated learning objectives. Within Nyenrode, it may be a final test to measure the final level of attainment (summative assessment), or an interim test to be able to provide the student with feedback (formative/diagnostic assessment). The concept of a test includes many forms, such as written exams, oral exams, papers, theses and portfolios.

Structure

The next section describes the position of assessment in education. This is followed by an overview of the specific bodies, within Nyenrode and their tasks and responsibilities in the area of assessment in section 3. Section 4 outlines the principles of good assessment including best practice guidelines and rules to assure good assessment at Nyenrode.

¹ In the Modular Executive MBA programs students are referred to as ‘participants’.

2. The position of assessment in education

Figure 1 shows the relationship between learning outcomes, learning objectives and assessment.

Note: the NNBS does not distinguish between learning outcomes (program level) and learning objectives (course level). Both are referred to as learning outcomes.

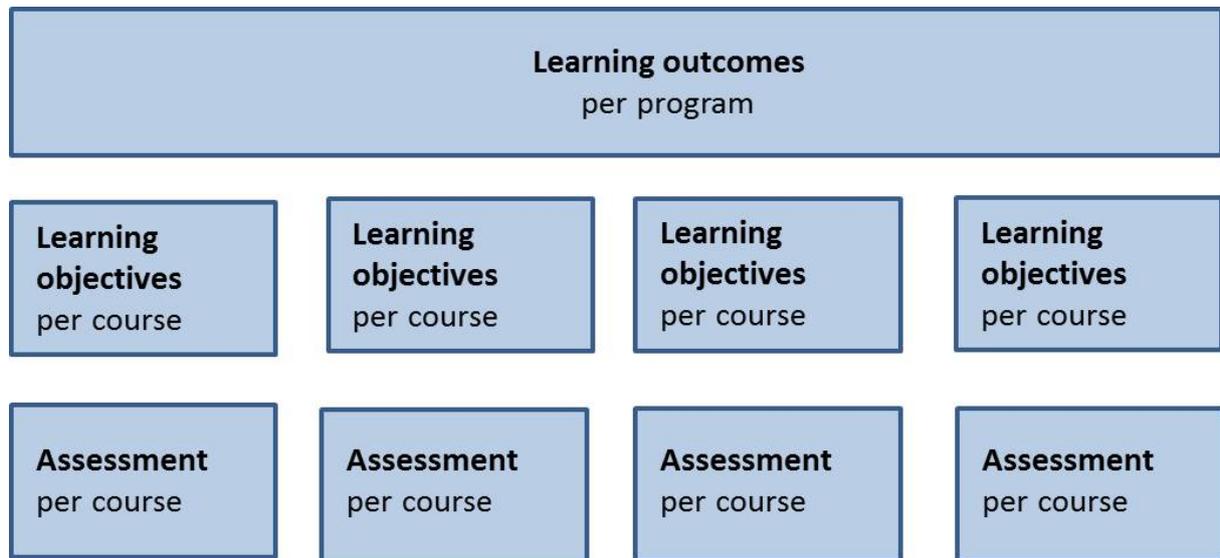


Figure 1: relationship between learning outcomes, learning objectives and assessment

Learning outcomes

The Dublin descriptors were adopted in Europe in 2004 to describe the level of a curriculum (see Appendix I) as part of the Bologna Process. The Bologna Process is a series of ministerial meetings and agreements between European countries designed to ensure comparability in the standards and quality of higher education qualifications. Currently 47 countries are participating in the Bologna Process². How descriptors are developed for specific programs should be part of the learning outcomes of the program.

² Source: European Higher Education Area (2010). <http://www.ehea.info/members.aspx>. Romanian Bologna Secretariat. Retrieved 14 May 2014.

Example

Below is an example of the learning outcomes developed for accountancy studies by the Accountancy Studies Learning Outcomes Committee (CEA):

Accountants fulfill an important social function, and this is particularly true of the assurance function that takes a central place in the description of these learning outcomes. (...) To meet this responsibility, graduates should have:

- a thorough knowledge and understanding of the fundamental principles of professional ethics and the application thereof in specific situations;
- an understanding of their own limits and the capacity - in specific situations or in relation to issues of professional ethics - to reflect on the thoughts and actions of themselves and others³.

The content and structure of the curriculum enables students to attain the learning outcomes of the program. The learning outcomes of a program must be developed in specific and assessable learning objectives for each curriculum component.

Learning objectives

Learning objectives set out what students need to attain in a defined period and are in line with the level of the curriculum component. A quality-assured process of assessment begins with a clear articulation of learning objectives, and the assessment must be in line with this. A well-formulated learning objective meets the following requirements:

- Knowledge, understanding or skills that students must acquire are formulated as specifically as possible;
- Behavior that students must be capable of showing is described in observable activities⁴.

Assessment

A test, as a means of assessment, must be able to determine whether students have sufficiently achieved the stated learning objectives. Testing should therefore always have a clear relationship to the learning objectives of a program component. The course/module description and learning objectives provide guidance as to what to learn. The test provides guidance on how to demonstrate the acquired knowledge and/or skills. A good test provides students with feedback on which aspects they have or have not yet mastered. Moreover, tests provide insight into the level of knowledge, skills and competencies of the student to teachers (examiners) and Program Management.

³ Source: Commissie Eindtermen Accountancy (2008). Learning outcomes of theoretical accountancy studies. Version 2008, as updated in 2014/1.6, page 15.

⁴ Assessment policy framework (2012). University of Amsterdam.

3. Responsibilities

This section describes the tasks and responsibilities of specific bodies at Nyenrode. Currently, the structure at the NNBS is under review. The tasks referred to below are limited to the tasks that specifically relate to assessment. Good assessment policy and good assessment will only have an effect if there is engagement at all levels of the organization during the implementation of the assessment policy. This is conditional on the clearly-described tasks and responsibilities and on a well-functioning evaluation system.

The University Board

- Is responsible for appropriate infrastructure for the implementation of assessment;
- Establishes the quality frameworks within which the programs must operate;
- Establishes the graduation handbooks (e.g., thesis guidelines) for the programs;
- Is responsible for the professional development of the potential examiners (teachers) and current examiners: teacher training in the field of assessment;
- Establishes the assessment policy.

The Dean/Associate Dean

- Prepares the Rules & Regulations (Onderwijs- en Examenregeling, OER)⁵ on an annual basis;
- Installs the Exam Committee for each program or group of programs⁶;
- Appoints the members of the Exam Committee⁷;
- Ensures that the independence and expert functioning of the Exam Committee is assured⁸.

The Center Director

- Is responsible for implementing the personnel and training policy for potential examiners (teachers) and current examiners.

The Exam Committee

- Is responsible for the ultimate appraisal of whether a student has attained the learning outcomes of the program⁹;
- Appoints examiners to conduct tests and to confirm test results¹⁰;
- Assures the quality of exams and final examinations¹¹;

⁵ Higher Education and Scientific Research Act (WHW), Section 9.15 (a)

⁶ Higher Education and Scientific Research Act (WHW), Section 9.15 (e)

⁷ Higher Education and Scientific Research Act (WHW), Section 9.15 (e)

⁸ Higher Education and Scientific Research Act (WHW), Section 7.12 (a)

⁹ Higher Education and Scientific Research Act (WHW), Section 7.12 (b)

¹⁰ Higher Education and Scientific Research Act (WHW), Section 7.12 (c)

¹¹ Higher Education and Scientific Research Act (WHW), Section 7.12 (b)

The Assessment Committee

- Advices about quality procedures and policy in relation to assessment;
- Reviews tests and exams via sampled evaluations;
- Assists and supports the centers and programs with assessment;
- Is responsible for promoting and sharing best practices;
- Is responsible for offering training in the field of assessment.

NOTE: The Assessment Committee members are nominated by the Central Exam Committee. The members of the Assessment Committee are appointed by the Dean. The Assessment Committee reports directly to the Central Exam Committee (chairs of the three sub committees, including General Management, Accountancy & Controlling and Nyenrode New Business School) and is supported by the Advisor Educational Quality of the Academic Services Center as well as by the QA Officer of Nyenrode Business School.

The Program Director

- Is responsible for formulating the learning outcomes of the program and ensuring that these meet the applicable requirements, i.e., that they are in line with the Dublin descriptors and the requirements of professional practice;
- Is responsible for the program content: what subjects, what scope, what period;
- Ensures - in consultation with the teachers and examiners - that the curriculum (subjects, learning objectives) covers the formulated learning outcomes;
- Provides assurance - in consultation with the Exam Committee - of the quality of the tests and examinations through sampled evaluation.

Examiners

- Are responsible for learning objectives, the content, format and quality of the test;
- Ensure that that tests meet the quality standards;
- Ensure that there is clear communication to students about assessment;
- Are responsible for providing feedback to students about their performance.

Examiners are the parties within Nyenrode who conduct summative tests; a test fulfills a summative purpose when it is used to give a (final) appraisal of students. Such a test influences a decision on certification, selection or classification (e.g., final examinations, exams and final subject-specific tests). In practice, this means that an examiner will almost always be a teacher, but not that all teachers will be examiners. Freelance teachers that do not actually teach, but only conduct exams (including oral exams) and/or supervise theses may also be examiners. Examiners are appointed by the Exam Committee.

4. Assessment as a process

In this assessment policy *principles, rules, and best practice guidelines* are provided to assure good assessment. The principles determine the point of departure/the basis of assessment practices. All involved in assessment should abide by these principles. The principles leave room for choices in the practical implementation. For some principles Nyenrode has already established specific rules that are implemented by the programs. These rules are implemented following advice of the Exam Committee. For those principles that leave leeway in implementation, best practice guidelines are provided.

The structure of the sections follow the steps of the assessment process (see figure 3). Per subsection the principle is given and explained. In addition, best practice guidelines for dealing with the principles in practice are described. An overview of the principles of good assessment can be found in appendix III.

An appropriate assessment process begins with the formulation of learning objectives. An appropriate test format must be chosen for each component; when preparing the test, attention must also be devoted to the assessment quality criteria. The test must be conducted in a professional manner; this also applies to the appraisal, processing of the results and the giving of feedback.



Figure 2: the assessment process

4.1. Preparing a test

Principle of good assessment 1

Within the program, there is a clear relationship between the Dublin descriptors, the learning outcomes, learning objectives, and the forms of teaching and assessment.

Principle of good assessment 2

When constructing a test, assessment quality criteria are observed: validity, reliability, transparency and usability.

In section 4.1.1., 4.1.2 and 4.1.3. best practice guidelines and specific rules for dealing with these principles in practice are given.

4.1.1. Choice of test format

When an examiner chooses a test format or combination of test formats (course level), the following criteria are relevant:

- In line with the learning objectives and forms of instruction;
- Validity of a test;
- Reliability of a test;
- Transparency of a test;
- Usability of a test.

Section 2 describes the relationship between learning objectives, forms of instruction and test formats. The sub-section further elaborates the concepts of validity, reliability and usability.

Intermezzo: Bloom's taxonomy

Bloom's taxonomy can be used as a tool to prepare learning objectives at a variety of levels. When preparing the learning objectives, it is advisable to use active, measurable verbs that are appropriate to the intended level in the taxonomy. This ensures that the learning objectives are tested at the correct level. Please find more information about the taxonomy in appendix II.

4.1.2. Test construction

When constructing a test, the assessment quality criteria must be observed: validity, reliability, transparency and usability.

Validity

Validity is the extent to which a test measures what it intends to measure. It includes two aspects:

- **Relevance (concept validity):** do the questions or assignments stand in relation to the learning objectives of the program and the desired level (difficulty)?
- **Balance (content validity):** the extent to which the test is representative of what it is that the test seeks to check. In other words, do the questions and assignments cover the content and the learning objectives?

Intermezzo: the assessment matrix

The assessment matrix is a tool to assure the validity of a test. An example of an assessment matrix is included in appendix IV. In such a table, the content (learning objectives) and the level of attainment are set against each other. The primary functions of an assessment matrix, as a means of assuring the validity of a test are:

- preventing too many assignments that cover the same subject matter or the same competency;
- increasing equality between two tests on the same subject matter (e.g., regular exam and resit exam) by preparing both tests on the basis of a single assessment matrix;
- accounting for the content of the test vis-à-vis other parties, such as colleagues, exam committees or inspection committees;
- providing an overview of the structure of the program (in case of the entire set of assessment matrices alongside each other) in terms of level, complexity and knowledge attainment, making it possible to assess whether the learning outcomes are being achieved.

Based on: Assessment Policy Framework (2012). University of Amsterdam.

Reliability

A test is reliable if it produces the same result in the same circumstances following repeated use. To be reliable, a test must meet at least the following criteria:

- **Objectivity:** the questions are unambiguously formulated and the response options are sufficiently clear so that consistency in the appraisal is possible (regardless of the time of the appraisal and the examiner);
- **Specificity:** the questions are asked in such a way that only students who have mastered the content can answer them well. Different questions should also be as non-interdependent as possible;
- **Differentiation:** both on the basis of individual questions as well as the entire test, a distinction may be made between students who have mastered the subject matter well and those who have mastered it less well (the test cannot be performed on common sense alone);
- **Test length:** the number of questions is high enough or the assignment is big enough to exclude lucky guesses.

Transparency

Students must know in advance what will be expected of them and what is being assessed. The following aspects are important in this respect:

- The learning objectives of the course are clearly stated in the course outline;
- The assessment rules (including the OER) must be easy for students to locate;
- Students must be informed in a timely and clear way of the test format, the scoring system and the time allowed for the test;
- Students must be informed in a timely and clear way of the materials that may be used during a test;
- The test includes clear instructions on how to complete it and has a clear layout;
- It is recommended to make sample tests available in advance to ensure that students are familiar with the subject matter or competencies.

Usability

The test is performable and efficient;

- The test can be completed by students within the available time;
- The test can be reviewed by examiners within the available time;
- The review procedures are organized in such a way that all students have an equal opportunity to demonstrate their abilities;

4.1.3. Verifying the test questions

When creating a test, preferably a picture of the quality of individual questions and the test as a whole needs to be obtained prior to the test being conducted to form an opinion of the validity, reliability, transparency and usability of the test. Therefore at Nyenrode, the four-eyes principle has been adopted in 2013. The following aspects are important in this respect:

Nyenrode Rule: the four-eyes principle

The four-eyes principle means that every test (and every response model) resulting in a score is seen by at least two examiners. An examiner is a teacher who has been appointed by the Exam Committee to conduct and appraise tests. Preferably, the second examiner who reviews (checks) the tests will be active in the same discipline, but this is not a strict requirement. The default cover page of written exams will bear the name of the second examiner (the second pair of eyes). If written exams are not used and so there is no cover page, it is recommended that the four-eyes principle is noted in the course outline. For instance, by including a text on how the assignments are prepared and that they must always be reviewed by a second examiner.

Appendix V includes a check-list that can be used when reviewing an open-ended questions exam.

4.2. Conducting a test

Principle of good assessment 3

The conditions under which a test is conducted need to be such that there is minimal disruption.

In section 4.2.1. and 4.2.2 best practice guidelines for dealing with these principles in practice are given.

This section is of particular importance for programs that use written and oral tests, but is not as relevant to papers, for example. The conditions under which a test is conducted may have a significant effect on the outcome. Consequently, the appropriate infrastructure is important. Various test forms require differing facilities, for instance, the presence of computers, or even just a space with tables and chairs. To ensure appropriate execution of a test, the facilities must be present and available in sufficient numbers. The program director ensures that appropriate facilities are available for the test to be held.

4.2.1. Proctors

Proctors play an important role in the process of conducting a test. They ensure that the test space is orderly, that the students can take the test in a calm environment and that no fraud takes place during the test. They are also the first point of contact for students during a test. It is therefore important that proctors are well prepared for their task. The Exam Committee is responsible for organizing and establishing procedures for the holding of exams and final examinations (Higher Education and Scientific Research Act, Article 7.12.3). The Exam Committee has established a proctor protocol outlining the essential conditions (including the number of proctors per hall or per students, requirements and tasks, powers and responsibilities of the proctors).

4.2.2. Oral exams

Compared to other test forms, there is greater ambiguity in the appraisal of oral exams. Conducting an oral exam therefore requires special expertise from the examiner. For programs where oral tests are regularly conducted, guidelines are needed that examiners must comply with when conducting oral exams. Two examiners are to be present during an oral exam. Only in the rare circumstances that it is impossible to have two examiners present, the exam will be recorded. In addition, it is important that a specification model is used, that students are clear on what they will be tested on, what types of questions will be asked, what is expected of students in relation to their level of knowledge and competencies, how the result is calculated, and what opportunities are available to re-sit the exam. An overview of tips for conducting oral exams is included in Appendix VI. *During the*

4.3. Appraising a test and processing the score

Principle of good assessment 4

Communication about the appraisal of a test is clear and transparent.

Principle of good assessment 5

The privacy legislation and Rules & Regulations (Onderwijs- en Examenregeling, OER) are taken into account when processing the test results.

Principle of good assessment 6

Every student has the right to receive feedback on their test outcomes.

In section 4.3.1., 4.3.2, 4.3.3. best practice guidelines for dealing with these principles in practice are given.

4.3.1. Grading a test

Grading a closed-answer tests takes little time when a score sheet is used. Nyenrode, however, makes widespread use of exams with open-ended questions. In tests that ask open-ended questions, but also in other test formats such as papers, a response model or score card is essential. These do not need to be fully elaborated answers. Instead, elements that should be included in the answer may be described in keywords along with the corresponding score. Moreover, a response model can also be used as an instrument to provide students with feedback.

Caesura

In assessment, caesura refers to the score that forms the cut-off point between a pass and a fail. The way this cut-off point is determined is to be found in the Rules & Regulations (Onderwijs- en Examenregeling, OER) of the various programs. This could include a provision to the effect that the cut-off point may be subject to change if, for instance, a given question is found to be open to interpretation.

The grading scales used at Nyenrode Business Universiteit (Breukelen) are:

- A score from 0 to 10
- A score from 1 to 10
- International letter scale A to F (with + and -)

A translation grade-per-grade of the grading scales can be found in the Rules & Regulations (Onderwijs- en Examenregeling, OER) of the various programs.

The grading scales used at Nyenrode New Business School are:

- A score from 0 to 100

4.3.2. Feedback to students

Any test that a student does not learn from is a missed opportunity. After every test, students are given the opportunity to discuss and/or review it (in Dutch: de inzage). At this point, the student should also be provided with the response model. The feedback moment and method are not fixed.

4.3.3. Processing the score

Responsibility for publishing the official final outcomes of a test lies with the program management. The period of validity of the scores is established for each program in the Rules and Regulations of the program (Onderwijs- en Examenregeling, OER).

4.4. Evaluation and improvement

Principle of good assessment 7

Systematic evaluation will take place at the course and program level.

4.4.1. Education evaluations

Education evaluations (course evaluations) examine the assessment of a subject. The test results and evaluation results on the test should be a recurring agenda item during the evaluation discussion (or final meeting) with the examiner and program management. Although the processing of the evaluations is, in the first instance, a task of the Program Managers and the Program Committee, the Exam Committee may use the information from the evaluation as input to further investigate the assessment of a subject.

To keep track of the assessment process, it is important to regularly discuss the complete process and collect feedback about this process through (student) evaluations. This is done at the level of the programs, the courses, and the examiners.

4.5. Quality Assurance in the assessment process

In the previous sections all steps including principles, best-practice and rules of the assessment process are described. All measures together lead to quality assurance of assessing at Nyenrode. In the sections below the way quality assurance is guaranteed.

4.5.1. Exam Committee

One of the tasks of the Exam Committee, as set out in the Higher Education and Scientific Research Act (WHW), is to monitor the quality of assessment. Since the introduction of the Governance Strengthening Act (Wet versterking besturing)¹², this task has been given more emphasis. The Exam Committee establishes the rules on good process during exams and measures to be taken in the event of fraud.

4.5.2. Expertise of the examiners

The quality of assessment largely depends on the skills of the examiners in designing and appraising tests. The Exam Committee appoints the examiners and may, if necessary, terminate their appointment. If requested, examiners must be able to provide the Assessment Committee (as part of the Exam Committee) with materials which the Assessment Committee can use to assess the quality of the test and the appraisal method and outcomes. This covers matters such as: learning objectives, assessment matrix, testing plan, a response model, appraisal scheme, appraisal criteria for assignments, the examination and/or the assignment(s), the test results and an analysis thereof. There should be an annual discussion within the Exam Committee of the functioning of the examiners, and the annual plan should include a section on the appointment of the examiners.

4.6. Bachelor's and Master's Thesis

The Bachelor and Master's Thesis represent the completion of an academic program. The thesis is a final product that has the character of 'a proof of scientific competence'. Given the importance of the thesis in the curriculum, there is special attention given to it in this policy document.

Many factors play a role in the thesis process. It should be clear to both students, supervisors and reviewers (e.g., second readers) what the requirements and expectations are. The most obvious way is to capture this in a graduation manual (e.g., thesis guidelines, 'afstudeerhandleiding').

The thesis is a judging tool to assess whether a student meets the learning outcomes of the program. Therefore, reliability and transparency are necessary. Also the NVAO focuses explicitly on these two points:

- Presence of a graduation manual (e.g., thesis guidelines) and an appraisal scheme (scorecard). The latter should contain assessment criteria that are directly related to the learning objectives of the Bachelor's or Master's Thesis;
- The appraisal of the end product (Bachelor's or Master's Thesis) by more than one examiner and the way this is done.

To increase the reliability of the final judgment the thesis should always be reviewed by the supervisor and a second reviewer (always an examiner).

¹² Source: https://www.eerstekamer.nl/wetsvoorstel/31821_versterking_besturing_bij

5. Glossary

<u>English</u>	<u>Dutch</u>
Appraisal	de beoordeling
Appraisal criteria	beoordelingscriteria
Appraisal scheme	beoordelingsmodel
Assessment	het toetsen
Assessing	toetsing
Assessment committee	toetscommissie
Assessment matrix	toetsmatrix
Assignment	opdracht
Evaluation	evaluatie
Exam	tentamen
Exam Committee	examencommissie
Examination	tentamen
Examiner	examinator
Final examination	examen
Learning objective	leerdoel
Learning outcome	eindterm
Proctor	surveillant
Program Committee	opleidingscommissie
Response model	antwoordmodel
Rules & Regulations	Onderwijs- en Examenregeling
Test	toets
Test results	toetsresultaten (cijfers)
To appraise	het beoordelen
Teacher	docent
Testing plan	toetsplan

6. Literature

NIVRA Nyenrode School of Accountancy & Controlling (2006). *Toetsing: beleid, processen en organisatie*. Breukelen: Nyenrode Business Universiteit.

Teelen Kennismanagement (2012). *Toetsontwikkeling in de praktijk*. Twello: Teelen B.V..

Universiteit van Amsterdam (2013). *Kader Toetsbeleid. Universitaire beleidsnotities*. Amsterdam: Universiteit van Amsterdam.

Van Berkel, H., Bax, A. & Joosten-ten Brinke, D. (2014). *Toetsen in het hoger onderwijs*. Houten: Bohn Stafleu van Loghum.

Van Berkel, H. (1999). *Toetsconstructie in het hoger onderwijs*. Assen: Van Gorcum.

Appendix I Dublin descriptors

The Dublin descriptors were adopted in Europe in 2004 to describe the level of a curriculum. The idea behind the adoption of these descriptors was the desire to align the levels of study programs across the countries of Europe. These descriptors give a broad description of the level of attainment that students must achieve in five areas for the bachelor's and master's phases.

	Qualifications of Bachelors	Qualifications of Masters
Knowledge and understanding	Have demonstrated knowledge and understanding in a field of study that builds upon and supersedes their general secondary education, and are typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study.	Have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with Bachelor's level, and that provides a basis or opportunity for originality in developing and or applying ideas, often within a research context.
Applying knowledge and understanding	Can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study.	Can apply their knowledge and understanding and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study; have the ability to integrate knowledge and handle complexity.
Making judgments	Have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, academic or ethical issues.	Can formulate judgments with incomplete or limited information, that rather include reflection on social and ethical responsibilities linked to the application of their knowledge and judgments.
Communication	Can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.	Can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously.
Learning skills	Have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.	Have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.

Source: http://www.nvao.net/page/downloads/Dublin_Descriptoren.pdf

Appendix II Bloom's Taxonomy

Bloom identifies six behavioral levels which can be used to categorize a learning objective. The order of the behavioral levels represents a ranking. The ranking indicates that a candidate can only *apply* knowledge if they *comprehend* it, and this is why it is essential that the candidate has the *knowledge*. A candidate can therefore only progress to a higher level if they have mastered the behavior of the lower level.

Bloom's taxonomy can be used as a tool to prepare learning objectives at a variety of levels. When preparing the learning objectives, it is advisable to use active, measurable verbs that are appropriate to the intended level in the taxonomy. This ensures that the learning objectives are tested at the correct level.

Level		Verbs
Knowledge	Able to remember and reproduce information.	Summarize, label, name
Comprehension	Able to summarize, explain information.	Conclude, summarize, select, estimate, explain
Application	Use information to solve a problem.	Implement, illustrate, solve, relate, determine
Analysis	Investigate information systematically and make connections.	Compare
Evaluation	Able to assess information and formulate a viewpoint.	Criticize, appraise
Create	Compile information to create a new whole.	Change, design

Below is a simple example of Bloom's taxonomy.

Knowledge	Name the rules for spelling verb conjugations.
Comprehension	Explain why a verb is conjugated in a certain way.
Application	Spell the verb conjugations correctly.
Analysis	In a text, check which verb conjugations have been spelled correctly and which have not.
Evaluation	Give a reasoned opinion on the quality of the spelling of verb conjugations in a text.
Create	Devise an exercise to spell verb conjugations correctly.

Source: Teelen Kennismanagement (2012). Toetsontwikkeling in de praktijk ('*Developing tests in practice*'), Section 3: Een taxonomie gebruiken ('*Using a taxonomy*').

Appendix III Principles of good assessment

Below the principles of good assessment are described. Section 4 further elaborates these principles and offers practical guidance (best-practices) and rules.

1. Within the program, there is a clear relationship between the Dublin descriptors, the learning outcomes, learning objectives, and the forms of teaching and assessment.
2. When constructing a test, the assessment quality criteria are observed: validity, reliability, transparency and usability.
3. The conditions under which a test is conducted need to be such that there is minimal disruption.
4. Communication about the appraisal of a test is clear and transparent.
5. The privacy legislation and Rules & Regulations (Onderwijs- en Examenregeling, OER) are taken into account when processing the test results.
6. Every student has the right to receive feedback on their test outcomes.
7. Systematic evaluation on assessment will take place at the course and program level.

Appendix IV Template assessment matrix

	Number of questions	Knowledge	Comprehension	Application	Analysis	Evaluation	Create	Total
Learning objective 1:								
Learning objective 2:								
Learning objective 3:								
Learning objective 4:								
Total								

A standard template for an assessment matrix can be downloaded from the Nyenrode Intranet Teaching Workspace (my.nyenrode.nl) in Word or Excel format.

Appendix V Check-list for compiling, assessing and editing open-ended questions

Language use

- Is the question grammatically correct?
- Does the question include complicated sentence structures?
- Does the question contain a double negative?
- Does the question include unnecessary insertions?
- Is the question unnecessarily negative?
- Could the way the question is formulated lead to misinterpretation?
- Could the question be assigned a different meaning with a change of emphasis?

Information

- Does the question provide sufficient information for the answer?
- Does the question provide enough information on the desired length and form of the answer?
- Is it clear that an answer has to be annotated/explained?
- Are the information and the formulation of the problem clearly segregated?

Relevance

- Is it apparent from the question what knowledge is being tested?
- Can the question be answered by using knowledge other than the intended knowledge?
- Does the question suggest a problem that is not relevant? (trick question)
- Does the question offer unintended hints at the answer?
- Is the level of difficulty of the question or the entire test acceptable?
- Is the level of difficulty of the question unnecessarily increased by irrelevant information?
- Is the test representative of the objectives?

Context

- Is the use of context (drawings, graphics, text, pictures) functional?
- Is the context portrayed clearly and accurately?
- Does the context include irrelevant information?

Presentation

- Are the questions and sub-questions clearly segregated?
- Is the numbering of the questions logical and clear?
- Have conventions of spelling, symbol use, punctuation, etc. been adhered to?
- Are the references in the question to texts, drawings, etc. correct?

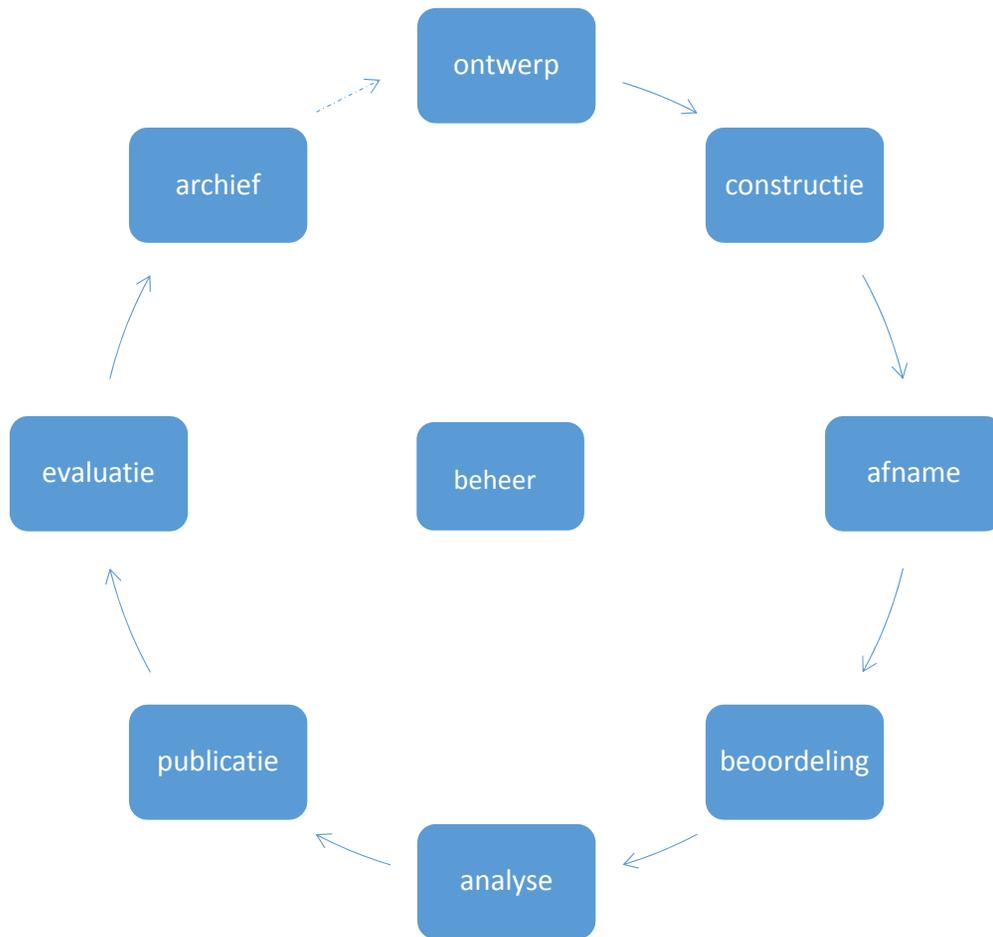
Source: Berkel and Bax (2014). Toetsen in het Hoger Onderwijs ('*Tests in Higher Education*'), Section 7: Toetsen met open vragen ('*Tests with open-ended questions*').

Appendix VI Tips for organizing oral exams

1. Inform students in advance and in writing of general matters (e.g. in the form of an exam kit) with information on the duration, the desired type of answer, the procedure and scoring.
2. Standardize the test situation by taking measures to eradicate as far as possible any factors that may have the unintended effect of reducing scores.
3. Always conduct the oral exam with two examiners that both determine the grade of the exam. Vary the couples of examiners over time. Only in cases in which it is truly impossible to have two examiners present and no substitute examiner can be found, the oral exam has to be recorded on tape.
4. Prior to the test, put the questions or subjects on paper and ensure that there is a sufficient spread across the curriculum, or have students draw questions at random.
5. Devote more time to important issues.
6. Put students at ease at the start of the test by asking them easier questions first; allow students to contribute subjects themselves.
7. Do not press students if they do not know the answer, but turn to another subject.
8. Press a student if answers are unclear or if the answer given is not at the intended level of difficulty.
9. At the end, before the score is decided, provide a summary of the test and ask the student whether they agree.
10. Alternatively, make brief notes of the answer given and have students sign them at the end of the test before they are given a score.
11. Begin each oral test with a blank canvas; be unprejudiced.
12. Decide when a sufficient answer has been given and rate it before moving on to the next question.
13. Only rate the statements made by the student during the test and that are relevant to the objectives of the study component.
14. Ask questions clearly and explain as necessary.
15. Ensure that students answer the question and do not 'waffle' or skirt around the issue.

Sources used: Berkel and Bax (2014). Toetsen in het Hoger Onderwijs ('Tests in Higher Education'), Section 10: Toetsen met een mondelinge toets ('Oral tests').

Toetsproces Nyenrode Business Universiteit



beheer: organisatie en continue evaluatie van het volledige toetsproces.

ontwerp: bij het ontwerp van de toets wordt de aansluiting van de leerdoelen zoals omschreven in de course outline/ onderwijsprogramma vastgelegd. In het ontwerpproces wordt bepaald welke toetssoorten- en vormen gebruikt gaan worden. Hierbij kan gebruik gemaakt worden van gearcheeerd toetsmateriaal.

constructie: het maken van de toetsen/ antwoordmodellen staat hierbij centraal, evenals het 4-ogen principe. In het constructieproces wordt ook duidelijk welke hulpmiddelen gebruikt mogen worden.

afname: bij het afnameproces wordt de geconstrueerde toets daadwerkelijk aangeboden en afgenomen. De feitelijke afnamecondities en “veilige” infrastructuur zijn onderdeel van het afnameproces. Het werkproces bij digitaal afnemen van toetsen is heel anders dan op papier gebruikelijk is, maar afname op papier is hierbij nog steeds mogelijk ook als het ontwerp en constructie in een digitale omgeving tot stand zijn gekomen.

beoordeling: bij het beoordelingsproces is het van belang dat de toetsen voor een (of verschillende) examinator(en) “veilig” beschikbaar zijn. Toetsen digitaal voorzien van feedback draagt bij aan borging van kwaliteit.

analyse: het analyseren van de toets is van groot belang voor de kwaliteitsborging van de toetsvragen. Het geeft inzicht in de moeilijkheidsgraad, betrouwbaarheid en validiteit van de toets(vragen). Mogelijk leidt dit tot het herzien van de scores.
→ Voor de publicatie vindt de procedure ‘cijfer standaard’ (Grading Standard Procedure) plaats.

publicatie: het inzichtelijk maken van de resultaten voor studenten (na voltooiing van de procedure ‘cijfer standaard’). Onderdeel van het publicatieproces is het voorzien van feedback en/of inzage in het antwoordmodel (met eventuele wijzigingen in de toetsresultaten na de inzage- en/of bezwaarprocedure als gevolg).

evaluatie: het evalueren van een verzameling toetsen door te beoordelen op kwaliteit in onderlinge samenhang (o.a. moeilijkheidsgraad, betrouwbaarheid en validiteit). Evaluaties van de toetsing en de analyses van de toetsresultaten zelf kunnen leiden tot verbetering en nieuwe ideeën.

archieef: het voldoen aan de wettelijke verplichting om alle toetsen (incl. opdrachten) die leiden tot het eindcijfer van de student 7 jaar te bewaren. Tevens moet dit archiveringsproces toetsen, opdrachten etc. ten alle tijden inzichtelijk kunnen maken voor accreditatiepanels.