



Hogeschool van Amsterdam

GUIDELINES FOR TESTING AND ASSESSMENT

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FOREWORD

The quality of tests and assessments has to be watertight. To achieve this, it is important that we share and continually develop our expertise on testing and assessment within AUAS, also within the scope of the research available in this area.

Within AUAS, a clear educational vision has been developed and, wherever possible, the policy is evidence based, stemming from research conducted by research universities and universities of applied sciences. These guidelines give more detailed explanation and substantiation of AUAS's educational vision and testing policy; their predominant purpose however is to stimulate dialogue regarding the core of the education.

On the Score website (www.score.hva.nl), you can find all relevant AUAS documents in the area of testing and assessment supplemented with internal and external sources and many practical examples. As they are emphatically intended to contribute to the dialogue about testing within AUAS, the guidelines should not be seen as a protocol that is derived from current policy. In addition to explanation and substantiation of the policy, these guidelines contain concrete examples and tips that can be applied to everyday practice. At the AUAS Academy, training activities are offered that provide lecturers the opportunity to update their knowledge and skills.

Using the four 'products' mentioned previously – policy, guidelines, the website and the AUAS Academy – optimal support is provided for lecturers, examiners, members of the Examination Board and parties responsible for the programmes (coordinators and managers) within AUAS. This support enables optimal adjustment of the study programmes' responsibility to ensure quality education.

These guidelines relate to the intrinsic and organisational aspects of testing and assessment. The roles of all parties involved in the testing and assessment process are described in the **Examination Board Guidelines**. The exit level is also described in a separate document: the **Exit Level Guidelines**.

Huib de Jong
Rector of AUAS

SUMMARY OF TESTING AND ASSESSMENT POLICY

AUAS policy in the field of Testing and Assessment consists of:

- AUAS Testing Policy
- Teaching and Examination Regulations (OER) model
- Test Administration Protocols
- Fraud Regulations

1. Summary of AUAS Testing Policy:

A. Structure of testing programme:

Policy

1. A cohesive and balanced testing programme must be in place.
 2. The desired learning results serve as the guiding principle during the construction of tests.
 3. The content of interim examinations and partial interim examinations must be derived from real-life professional practice.
 4. Interim examinations and partial interim examinations must also be a learning experience that motivates and stimulates students.
 5. Students must be individually assessed and provided with feedback.
 6. Optimal usage of ICT resources must be made.
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B. Structure of processes

Policy

7. Testing and assessment is an important subject of discussion within lecturer teams and between lecturers and students.
 8. The content, format, criteria and execution of interim examinations and partial interim examinations must be clear and transparent to all parties.
 9. The testing programme must be academically feasible.
-

C. Quality guarantee:

Policy

10. Interim examinations and partial interim examinations must be of undisputed quality.

11. The dean, the programme manager, the lecturer team and the Examination Board bear collective responsibility for the examinations.

12. Examiners of practical interim examinations must be subject-matter experts with up-to-date knowledge of professional practice.

13. External parties must be involved in the validation of testing programmes, interim examinations, partial interim examinations and exit levels.

For the full document, see

1. AUAS Testing Policy

<https://beleid.mijnhva.nl/nl/Beleidsdocumenten/Toetsbeleid%20HvA.pdf>.

2. Teaching and Examination Regulations (OER) model (including the Fraud Regulations)

<https://beleid.mijnhva.nl/nl/BeleidsdocumentenMWSTU/OER%20%20format%20bachelor%202014%202015.pdf>

3. Test Administration Protocols

https://beleid.mijnhva.nl/nl/Beleidsdocumenten/Toetsafname-protocol-Schriftelijke-toetsen-HvA_mrt-2013.pdf

<https://beleid.mijnhva.nl/nl/Beleidsdocumenten/Toetsafname-protocol-digitale-toetsen.pdf>

<https://beleid.mijnhva.nl/nl/Beleidsdocumenten/Richtlijnen-overige-toetsen-HvA.pdf>

1. TESTING AND CONSTRUCTIVE ALIGNMENT

The core of the AUAS Testing Policy is effective design of a cohesive programme of testing and assessment, which serves as the basis for good education. When lecturer teams have a clear picture of the whats, whys and hows of assessment, they also gain a clear picture of what the students need to learn. It is therefore extremely important that tests are constructed and applied with great care. In order to ensure this, AUAS uses the constructive alignment method. This is a widely applicable method to optimally connect teaching and testing.

Constructive alignment

The principle of constructive alignment (Biggs & Tang, 2011) is based on the insight that study habits can be influenced via the design, scheduling and application of testing within the teaching process. The core question is which study habits do we wish to induce in order to help students attain the exit level?

The exit qualifications (competencies and BoKS¹) at the exit level serve as the point of departure for constructive alignment. The learning objectives of each course component are recognisable and demonstrably derived from the exit qualifications. The type of learning outcomes and their level are decisive in selecting the format and content of the tests (assessment tasks), assessment criteria and standards. They are also decisive in selecting the format and content of the education and therefore shape the teaching and learning activities. In this way, consistency – or alignment – is achieved between teaching and testing, with the exit qualifications playing an indicative role.

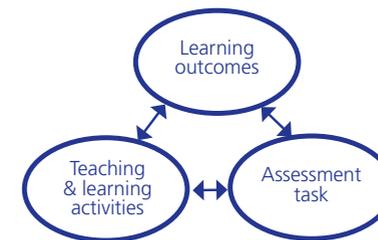


Figure 1 Constructive alignment between learning outcomes, learning and teaching activities and assessment (adapted from Biggs 1999: 27)

¹ Professional and educational profiles at the national level differ with regard to the formulated exit qualifications. More and more national profiles contain not only competencies, but also knowledge bases, core skills and professional attitudes (body of knowledge and skills: BoKS).

By consistently applying constructive alignment, it becomes clear how the teaching and assessment programme works towards realising the exit qualifications. Every learning pathway has a clearly visible structure from entry level to exit level.

Research shows that constructive alignment contributes to academic success, achievement of exit qualifications and improvement of the exit level. This does require there to be practical improvement of the quality of education and testing. An important condition is that the learning climate and the teaching are sufficiently challenging to achieve targeted activation of students to pursue **higher-order learning activities**². Testing and feedback play an important role in this. When constructive alignment is seen merely as a technical operation, then its application can backfire and encourage undesirable, calculated study habits. This makes the learning less meaningful and reduces students' satisfaction with their programme³.

Constructive alignment can be applied for the development of the testing programme, individual interim examinations/partial interim examinations and the test organisation. This concerns both summative and formative testing functions.

Summative and formative

Testing can be conducted in two ways: summative and formative. A testing programme with a balanced combination of summative and formative testing will result in greater academic success and greater learning results for students.

Summative testing evaluates whether the student has realised the learning objectives to a sufficient degree. These interim examinations are related to the programme's exit level and exit qualifications. They have a formal status and are included in the programme's Teaching and Examination Regulations.

The term **testing** refers to the systematic collection of information about somebody's knowledge, skills, attitude and/or competencies. **Assessment** is the assignment of a substantiated valuation expressed by means of a grade. The interim examination is a statutorily required final assessment for a curriculum component (course unit). An interim examination can consist of multiple partial interim examinations.

2 Vermunt, 1992; Kaldewey, 2006; Biggs, 1982. For the sake of readability, we also use the term 'test' to refer to formative assessment.

3 Biggs, 2007; Gibbs, 2007.

Formative tests⁴ give students insight into their learning process and give lecturers insight into the subjects that students are having difficulty with. They take place during the study period and an important aspect of them is the provision of targeted and immediate feedback. This helps boost insight and enables students to adjust their study habits in a timely manner. Examples of formative testing include diagnostic tests, progress tests and initial tests. These tests play an important role in improving the students' learning results. Research shows that regular, timely and suitable feedback is one of the most decisive factors for academic success.

The policy regulations in the AUAS Testing Policy focus on summative testing due to the formal status and the internal and external quality requirements. In these guidelines, we devote attention to formative testing as it plays an important role in learning and contributes to the effectiveness of summative testing.

Requirements for test quality

The quality of interim examinations is determined by a valid and reliable construction, connection with the teaching leading up to the test, unambiguous assessment models, demonstrable expertise of examiners and the quality of the feedback. This information is nothing new, but the requirements relating to these aspects have increased in recent years. We are also required to justify ourselves more and more to external parties.

More attention is now paid to the quality of the testing programme as a whole. The testing programme shows how progress towards the exit level is made within the curriculum and how this progress is tested. The programme approach, in combination with the stricter requirements and external scrutiny, mean that the testing has become more of a team responsibility. In order to clarify the basic principles and the agreements regarding testing and assessments for the programme teams, students, management and external parties, every department within AUAS has a testing plan and a testing programme.

The **testing plan** describes:

- the structure of the testing and assessment (all varieties);
- the organisation of the testing and assessment;
- test development and execution;
- testing expertise;
- monitoring and guaranteeing the quality of testing and assessment.

4 For the sake of readability, we also use the term 'test' to refer to formative assessment.

The **testing programme** is the overview of all interim examinations and partial interim examinations in the degree programme⁵. The outside world pays close attention to the quality of our student assessments. One result of this scrutiny is the report titled 'Vreemde ogen dwingen' (*The Spectator Effect*) by the Netherlands Association of Universities of Applied Sciences (*Vereniging Hogescholen*, previously known as the Council for Higher Professional Education [*HBO-Raad*]). The central proposal is that observation by 'outsiders' helps to increase testing quality. Measures stemming from this report include the appointment of an external member to the Examination Board, accredited external certification of examiners, and the exchange of examiners and test construction with colleagues from different departments. The report makes various recommendations, of which four have been collectively adopted and made mandatory by the universities of applied sciences (see section 6.5). These agreements have been implemented into the policy regulations of the AUAS Testing Policy.

Role of Examination Board and Assessment Committee

In 2010, to improve examinations within higher education, the position of the Examination Board was reinforced and its legal duties⁶ were expanded to include safeguarding the quality of examinations, and setting guidelines/issuing instructions for the assessment and appointment of examiners. The practical implementation of this and the allocation of tasks and responsibilities amongst the Examination Board, the Assessment Committee, examiners, programme managers and other involved parties is set out in the **Examination Board Guidelines**.

Time required:

The stricter requirements that we set both internally and externally regularly draw complaints from lecturers and programme managers. 'It's a lot to ask of us, especially on top of everything we already do.' We all believe that it is necessary, but there's so much to do. The trick is to find areas in which time can be freed up, for example by making greater use of material developed elsewhere (online courses, MOOCs⁷) and nationally developed tests (collaboration within the scope of the 'Vreemde ogen dwingen' report). We could also restructure internal efforts by means of specialisation and distribution of duties.

5 The Score website (www.hva.nl/score-toetsbeleid) offers further explanation and examples of the testing plan and testing programme.

6 WHW, Section 7.12. Examination Board duties and powers

7 Massive Open Online Courses – publicly accessible learning sessions conducted via the Internet, predominantly by universities and at fixed times (in contrast with online courses).

Organisation of the rest of these guidelines

In the rest of the guidelines, the aforementioned information will be further elaborated and concretised. In doing so, we will make use of the available evidence. The evidence provides arguments, ideas and opportunities to further shape testing and assessment within the individual study programmes in compliance with the regulations in the AUAS Testing Policy.

Chapter 2 - **Planning**: How to realise an academically feasible testing programme

Chapter 3 - **Design**: How to design interim examinations and partial interim examinations based on constructive alignment

Chapter 4 - **Feedback**: How to optimise the learning function of interim assessments and partial interim assessments

Chapter 5 - **Assessment**: How to ensure reliable grading of interim assessments and partial interim assessments

Chapter 6 - **Quality control**: How to guarantee the quality of testing and assessment at various levels

Chapter 7 - **Testing and academic success**: Up-to-date discussion points and opportunities for experimentation

2. PLANNING

The testing programme, the curriculum organisation, the resit regulations, the opportunities for compensation and the method for determining the pass mark greatly influence the academic feasibility of programmes. Measures in this area are interconnected and have the greatest effect when they are implemented cohesively (Berkel et al, 2012). In the following sections, these subjects will therefore be addressed as much as possible with due regard for their mutual connections.

This chapter addresses the following regulations in the AUAS Testing Policy:

POLICY	POLICY REGULATIONS
1 A cohesive and balanced testing programme must be in place.	<ul style="list-style-type: none">- The programme manager must ensure that the study programme has formulated clear learning objectives and exit qualifications based on the Dutch higher professional (HBO) standard and the Dublin descriptors.- The programme manager must ensure that the study programme has a testing programme in place covering the entire degree programme. The testing programme (see Appendix 6) must be a cohesive and balanced mix of testing formats that assess all exit qualifications.- The testing programme must be consistent with the teaching concept, the curriculum and the study programme's desired exit level.- A course unit must be a single entity made up of cohesive content within which partial interim examinations are compensated, with no minimum grade.- The interim examinations and partial interim examinations must be optimally spread in line with the requirement for academic feasibility and structure up to the desired exit level.
9 The testing programme must be academically feasible.	<ul style="list-style-type: none">- Each academic year, there must be two opportunities to complete a course unit (in compliance with the Teaching and Examination Regulations).- The testing programme must attempt to optimally incentivise the first testing opportunity.- The scheduling of interim examinations and partial interim examinations is such that competition with other interim examinations, partial interim examinations or teaching modules is prevented and procrastination is discouraged.

2.1 STRUCTURE OF THE TESTING PROGRAMME

Within a particular study period, interim examinations and partial interim examinations can be conducted at various points and in various frequencies. They can count towards the final mark (summative) or simply support the learning process (formative). The following is a number of examples of possible programme structures:

EXAMPLES

A study period of nine teaching weeks featuring one or more formative tests and an interim examination in week 10.

The student works on an assignment throughout the study period and progress is discussed each week. The assignment constitutes the interim examination and is assessed in week 10.

A study period of ten teaching weeks with one assignment per week that counts towards the final mark. The assignments collectively constitute the interim assessment.

A study period of ten teaching weeks featuring regular assignments. The assignments can earn the student bonus points in the interim examination that concludes the period.

A study period of ten weeks with a summative partial interim examination every three weeks covering one-third of the material. All partial interim examinations are equally weighted and collectively constitute the interim examination.

A study period of ten weeks with a summative partial interim examination every three weeks covering all of the material in the preceding period. Weighting of the partial interim examinations is 20-30-50% (for example), and they collectively constitute the interim examination.

Table 1: Possible scheduling of tests within a study period.

2.2 INFLUENCE OF CURRICULUM ORGANISATION AND TESTING PROGRAMME ON ACADEMIC PROGRESS

The number and the spread of interim examinations and partial interim examinations will be determined by the curriculum organisers, as well as by the testing programme. The AUAS academic year is separated into four periods of ten weeks each.

The number of concurrently scheduled course units per study period/semester at AUAS must be **no more than five**. As a result, small course units carrying a low number of credits are integrated into larger units (or unit clusters). These are clearly structured and enable reduction of the number of interim examinations/partial interim examinations and more efficient and effective organisation of testing. Research by Berg & Hofman (2005) shows that organising one or a few course units is better for students' academic progress than parallel organisation of multiple course units in a single study period or semester. The latter results in competition between the tests in the different course units. Parallel course units with interim examinations at the end of the study period results in students doing very little in the first few weeks and having too much to do towards the end of the study period, as they underestimate the time they will need to prepare for the interim examinations. If multiple interim examinations are planned at the same time, then

students will defer some interim examinations until the resits and insufficiently prepare for others. As a result, students unnecessarily attain more failing grades and accrue study delay due to the resits. Organising a small number of large course units with a more evenly spread testing schedule results in an evenly distributed study load throughout the entire period. Research shows that regular, evenly spread testing also has several other positive effects on academic success⁸:

- It enables the student to concentrate on a single interim examination or partial interim examination at a time and maintain a better balance of other activities.
- Regular testing will allow the lecturer to quickly gain insight into the students' knowledge and skills and to gear the teaching towards the students more effectively.
- In the first year, better connection is made with prior studies (usually senior general education [HAVO] or senior secondary vocational education [MBO]), in which students are used to shorter areas of attention and smaller quantities of material.
- Interim testing has a positive effect on the percentage of passing grades.
- By regularly assessing students and giving feedback on the process and results, they learn to better manage their own learning process (metacognition). Basing the assessment of a course component on multiple partial interim examinations results in a more reliable and valid picture of the students' development.
- By integrating the testing into the learning and teaching processes, the negative effect of exam nerves on academic results can be prevented. Exam nerves come into play when interim examinations and partial interim examinations involve serious consequences for the students (high-stakes assessments).
- Lecturers and students should get to know each other well. Setting clear and high expectations and viewing assessment as a development opportunity promotes a positive learning climate.

2.3 RESITS

Wijnen (1992) recommends holding the resit no more than three weeks after the test. However, quick resits result in an increase in the number of students who prepare insufficiently for the first testing opportunity. There are several reasons for this:

- Students see the first testing opportunity as a feedback moment. For example, they will hand in a partially complete project in order to obtain feedback that they will use to improve the product for the resit.
- The student has other courses to follow or has other interim examinations or partial examinations to prepare for and decides to take a gamble on the first testing opportunity.

8 Black & William, 2003; Chickering & Gamson, 1987; Harlen & Crick, 2003; Hattie & Timperley, 2007; Nicols & Macfarlane-Dick, 2006; Roediger, 2006; Segers, 2004; Droop et al., 2013.

- The student is too busy with (academic or) other activities and decides to skip the first testing opportunity in favour of the resit.

Testing programmes with many parallel course units and interim examinations in particular result in many students failing or not attending the first testing opportunity, which results in resits having to be organised for many (too many) students. This is undesirable from the perspective of academic progress, lecturer workload and educational logistics. In recent years, to encourage students to optimally prepare for the first testing opportunity and to pass their interim examinations at the first attempt, a number of higher education institutions have introduced new resit regulations. Examples of such resit regulations include:

- Prevent competition with other interim examinations and curricula by scheduling the resits outside study periods (e.g. during holidays).
- Offer a limited number of resit opportunities.
- Make students earn resit opportunities by setting a minimum grade of 4.0 or 5.0 for the first testing opportunity.
- Substitute the resit for a remedial examination. As a result, the student does not have to study the entirety of the material again or repeat the whole assignment, but is simply given the chance to improve the areas of concern.
- Set a maximum achievable resit grade of 6.0.
- Allow only students who attend the seminars to take resits.

2.4 COMPENSATION

Compensation means that the student can make up for a failing grade in one partial interim examination with a high grade in another. The idea behind this is that a student's suitability can only be validly and reliably assessed by means of multiple tests. A failing grade in one partial interim examination does not automatically mean that the student has failed the entire interim examination.

The compensation rule is a departure from the notion that students must obtain a passing grade for every single course component. Some lecturers believe that the knowledge and skills they teach are an indispensable aspect for the adequate practice of the profession or that compensation results in lower standards. There are a number of arguments against such opinions:

Compensation is already possible for many interim examinations. The student can compensate for a lack of knowledge of a particular subject with extensive knowledge about another subject. This is the same principle that is also behind organising multiple partial interim examinations within a course unit.

- Students can unjustly receive failing grades due to imperfections in the teaching.
- In the professional field, too, people compensate for specific weaknesses with particular strengths or select a profession within which they can optimally apply their strong points.
- There is no significant correlation between a single module or course component and the student's later level of professional expertise.
- If a student is truly unsuitable for the profession, they will fail multiple interim examinations rather than just one.

In practice, compensation schemes result in faster academic progress⁹. One of the results from research by Cohen-Schotanus¹⁰ is that no standard pattern exists within which 'difficult' modules are compensated by 'easy' modules, but that all interim examinations have to be compensated sometimes and that the modules requiring compensation vary every year. The research by Arnold & Van den Brink shows that the implementation of a compensation scheme in the first year does not result in poorer academic performance in the second year. They conclude that compensation does not lower standards and therefore does not result in undeserved passing grades.

Compensation between course components as described above is particularly effective for smaller course components. Compensation is not advisable for study programmes with larger course units (6 ECTS or more).

PRACTICAL TIPS:

- Discuss the structure of a study period/semester as a team and coordinate the tests and submission dates.
- Make a collective decision regarding implementation of a mix of formative testing and summative testing so that the schedule for the study period/semester comes across to students as a consistent and feasible whole.
- Many experiments are being conducted within research universities and universities of applied sciences with regard to scheduling, resits and compensation (see the Score website for the latest information). Make use of opportunities for experimentation (see Chapter 7) in order to initiate improvements.

⁹ Arnold & Van den Brink, 2009; Cohen-Schotanus, 1996; Jansen, 1996; Van den Berg & Hofman, 2005.

¹⁰ Arnold & Van den Brink, 2009; Cohen-Schotanus, 2012.

3. DESIGN

Testing greatly influences study habits. Great care must therefore be taken during the construction and execution of the tests. As described in Chapter 1, a widely applicable method for optimally gearing teaching and testing towards the learning objectives and the exit level is constructive alignment. Following on from the first chapter, we will now discuss a number of concrete issues relating to test design.

This chapter addresses the following regulations in the AUAS Testing Policy:

POLICY	POLICY REGULATIONS
2 During construction of the tests, the desired learning results are the guiding principle.	<ul style="list-style-type: none">- Based on the desired learning results, the examiners must select a suitable testing format and then determine the relevant content of the course unit.- The criteria for the selection of the testing format must be as follows: compatibility with learning objectives and teaching methods (transparency), workability (in view of the group size), validity (relevant to the desired learning objectives and the desired difficulty level), reliability (unambiguously formulated tasks that are specific to the module, with a sufficient number of tasks to exclude the element of luck).
13 External parties must be involved in the validation of testing programmes, interim examinations, partial interim examinations and exit levels.	<ul style="list-style-type: none">- During the construction of tests, the 'two sets of eyes' principle must be applied.

The test design consists of the following three pillars:

- Basic design: determination of the testing format based on the learning objectives (see 3.1 and 3.2).
- Construction of test matrix (see 3.3).
- Construction of test/standards (see 3.4 for information on rubrics and see Chapter 5 for further information on the development of assessment instruments).

3.1 FORMULATING LEARNING OBJECTIVES

The quality of interim examinations depends on well-formulated learning objectives. Learning objectives are testable and include relevant information for the assessment (SMART).¹¹ They include the following elements:

- a) a specification of the type of learning objective (knowledge, skills, attitude, competency).
- b) an active verb form that indicates how this knowledge/skill is applied.
- c) the scope of the application: the discipline and/or professional context.
- d) the conditions that establish whether the student's behaviour/performance is sufficient.

The level is primarily expressed by the verb, which indicates the **level of thinking**. The level is also expressed by the **level of action** via the degree of independence and the complexity of the context, for example, making use of a particular model or tool under supervision and with instructions. A useful tool for determining the level is a taxonomy: a hierarchical structure of successive levels. Each lower level must first be mastered before the next level can be developed. Bloom's taxonomy for cognitive skills is the most prevalent (see fig. 2). Taxonomies also exist for motor, interactive and regulative skills¹². The desired level of a learning objective and its testing is determined in relation to the levels set by the programme. As new course components always involve new knowledge and skills, the activities are always structured into teaching sessions, assignments and formative testing.

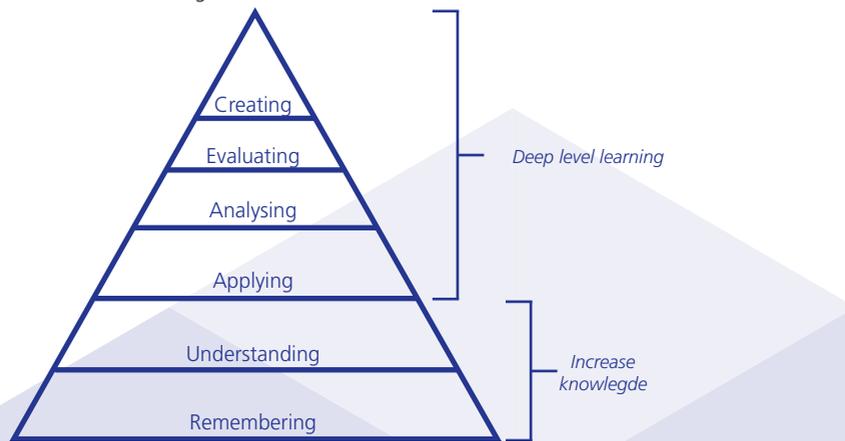


Figure 2: Bloom's Taxonomy (revised version)

11 See the Score website (www.hva.nl/score-toetsontwerpen) for examples of well-formulated/badly formulated learning objectives.

12 <http://www.personal.psu.edu/bxb11/Objectives/ActionVerbsforObjectives.pdf>, O'Neill & Murphy, 2010.

The department determines the relationship between the level taxonomy/taxonomies, the exit level and the interim levels. An example in connection with Bloom's taxonomy: the learning objectives of modules at the main-phase competency level are formulated at the remembering, understanding and applying levels. The internship competency level involves the applying and analysing levels and the exit level involves the analysing, evaluating and creating levels. However, these are rules of thumb. The exit qualifications and the type of learning objective are the normative factors¹³.

3.2 TESTING FORMAT

Effective testing formats are both appropriate and challenging: they call upon the learning objectives and their specific level. In order to ensure that knowledge and skills sink in, regular testing and assessment are conducted (see Chapter 2). Variation of testing formats must be compatible with differences in learning strategies. Attention is also paid to knowledge, skills, attitude and competencies in various professional situations¹⁴.

Students particularly see testing and assessment as a challenge when they relate to practically oriented assignments and assessment types. Research shows that practically oriented assignments that are compatible with profession duties or competencies are more effective in activating meaningful and deep-level learning than interim examinations that exclusively focus on the students' command of the material (Oomens et al., 2009). Furthermore, practically oriented interim examinations result in less calculated study habits and have been shown to be better predictors of success on the job market.

It is advisable to only use multiple-choice interim assessments for testing basic knowledge. There are two arguments for this viewpoint: that recognition is sufficient in order to give the right answer (cueing effect), and that writing good multiple-choice questions at higher levels requires a very high degree of expertise and considerable investment of time (Sluijsmans, 2013).

The Score website offers an explanation of 15 frequently used testing formats from both the student's and lecturer's perspective. The website also includes tips, examples and literature.

13 See the Score website (www.hva.nl/score-toetsontwerpen) for more detailed explanation and examples.

14 Visit the Score website (www.hva.nl/score-toetsvorm) for extensive information about the choice of the correct testing format and an overview of types of learning objective and compatible testing formats.

3.3 TEST MATRIX

Test matrices are frequently used as a tool for guaranteeing validity (see Chapter 6). Course component: A test matrix is a tool for ensuring that the interim examination reflects the level and the relative weighting of the learning objectives.

The types of learning objective and the level structure (e.g. a level taxonomy) of the study programme are recognisable in the test matrix format. The test matrix is constructed during the development of the teaching. Lecturers use the matrix when constructing interim examinations. The Assessment Committee uses it to assess the interim examinations and as a basis for feedback.

Testing programme: the test matrices of the course components within a study period must be consistent. The test matrices of the consecutive components in a learning pathway reflect the increasing difficulty level of the testing. Between them, the test matrices within a learning pathway or study period cover the desired learning results.

3.4 RUBRICS

The testing structure includes the design of the assessment instrument. Rubrics are descriptive assessment scales. What we view as 'unsatisfactory', 'satisfactory', 'good' and 'excellent' is defined in terms of testable behaviour. They can be formulated holistically and analytically¹⁵. The scale points are appropriate to the level, with 'satisfactory' signifying the minimum performance required for a passing grade. Rubrics¹⁶ are mainly used for assessing competencies and complex written assignments (Ambrose, 2010).

Developing quality rubrics requires a significant time investment, but they save a great deal of time during the assessment and feedback process¹⁷. Using them for self-assessment and peer assessment can help students gain greater insight into the level requirements. Using them consistently for the teaching process and both formative and summative testing can help improve the quality of the tests and the academic success rate¹⁸. Furthermore, if lecturers develop and apply rubrics together, this helps to create a collective picture of the level and the quality of the assessment (see Chapter 5 for further information).

15 See the Score website (www.hva.nl/score-toetsontwerpen) for examples of rubrics.

16 Synonyms include assessment rubrics or assessment scales.

17 Jensen, 2008, Willis, 2010.

18 See www.marzanoresearch.com/research/strategy20_trackingprogress.aspx.

Steps to follow when constructing rubrics for a test:

- a) Decide whether to use a three, four, or five-point scale. Determine the layout of the rubrics in accordance with the selected scale.
- b) Determine the critical elements of the learning objective.
- c) Formulate these into measurable degrees of performance. Formulate the 'satisfactory' level first. This is the minimum performance for this level. You can use the level taxonomy for reference.
- d) Describe the required performance as concisely as possible, preferably in a single sentence.
- e) Check that the definitions of 'excellent', 'good' etc. are consistent and not too extensive.
- f) For each rubric, determine the weighting in the final mark.
- g) Present the rubric to colleagues and the Assessment Committee.

PRACTICAL TIPS:

- For each course component, formulate a maximum of five complex learning outcomes at a higher cognitive level.
 - Use a taxonomy to describe learning objectives at an appropriate level.
 - In the test plan, elaborate the relationship between the taxonomy/taxonomies used and the programme's exit level and intermediate levels.
 - When developing/adjusting a course component, determine the test matrix and the tests first.
 - Make clear when the test matrix will be created and put in place ('two sets of eyes' principle), who is responsible for doing this and what the status is.
 - Give students good examples of previously assessed complex assignments and portfolios. This will give them insight into the required level and the assessment criteria.
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4. FEEDBACK

Regular, usable and timely feedback is the most decisive factor for academic success. Students stay motivated when they are given regular and timely feedback about their academic progress and adjust their study habits in accordance with the feedback. The relationship between feedback and academic success has been demonstrated in higher-education settings in both the Netherlands and abroad¹⁹. Formative testing plays an important role in this process.

This chapter addresses the following regulations in the AUAS Testing Policy:

POLICY	POLICY REGULATIONS
4 Interim examinations and partial interim examinations must also be a learning experience that motivates and stimulates the students.	- During assessment, in addition to verbal feedback, the student must also receive written feedback based on the test assessment model (model answer). The test assessment model must clarify the criteria that signify the difference between a pass and a fail.

Timely and usable

One critical success factor is that the student must receive feedback that directly relates to their performance. Students make optimal use of feedback when they are regularly assessed (formatively). This motivates them to use the feedback for the final test. This motivation can be intensified by including the degree to which the student has used the feedback as a criterion during assessment of the interim examination.

Students do not always feel that feedback is usable. This can be due to a limited interpretation of feedback as 'correction of mistakes'. Usable feedback gives students insight into how their performance relates to the assessment criteria and standards. It gives them the information they need to adjust their learning process and improve their academic performance. It is therefore important that the students know in advance who will give them feedback, as well as how and when it will be provided.

¹⁹ Joosten-ten Brinke & Sluijsmans, 2012; Boud, 2009; Hattie & Timperley, 2007; Nicol & MacFarlane-Dick, 2006; Gibbs & Simpson, 2004; Hattie, 2009; Black & William, 2003.

Regular feedback is part of the student-activating teaching appropriate to constructive alignment. During the teaching, continual and critical dialogue takes place between lecturer and student and between fellow students²⁰. This dialogue will consistently address the learning objectives that will be tested, the assessment criteria and the standards. In this context, there are three types of feedback²¹:

- feed up – where am I heading, how will I be assessed?
- feedback – how have I performed, what progress have I made?
- feed forward – how should I continue, what strategy should I adopt for my further development?

This includes attention to the interpretation of assignments, selection of a suitable learning strategy and interpretations based on the student's own prior knowledge, strengths/weaknesses and motivation. As the penny often doesn't drop straight away, it is important that students are given regular feedback that encourages them to actively process it. Regular and consistent feedback encourages the student to gain insight and competence. The lecturer can manage the student's learning in every phase of the learning process: orientation, planning, execution and evaluation.

Feedback can be given in a variety of ways. To ensure that feedback truly fulfils a teaching function, it is important²² that feedback:

- focuses on the performance of the student and not on their personality or characteristics;
- challenges the recipient to reflect on their learning process and academic results in relation to clearly defined goals (self-assessment);
- is compact, concrete and sufficiently detailed (not too much, not too little); is differentiated and focuses both on future learning and on the receipt of further support;
- corrects misconceptions in a timely manner and contributes to the student's degree of insight and self-management;
- encourages rather than instructs, and focuses on learning and aspects within the student's control;
- is provided at key moments in the student's academic career;
- is always followed up with opportunities to practice and improve performance. Feedback can encourage both brushing up of knowledge and deep-level or expansive testing/assignments;
- is given as part of a dialogue rather than a monologue;
- will be recorded in writing so the student can review and recheck it;

20 Laurillard, 1993; Sluijsmans, 2013.

21 Sluijsmans, 2008; Joosten-ten Brinke, 2011.

22 Hattie & Timperley, 2007, Ambrose, 2010, Reedijk & Huisman, 2012.

- helps students to feel more in control²³. If an initial formative test is conducted for every subject in the first year in addition to regular testing and feedback, students quickly gain insight into the requirements set by the study programme and what action they can take in order to meet those requirements.

Feedback also has a teaching function for the lecturer, as it gives them insight into which aspects they get across well to the student and which aspects require greater attention (Hattie, 2009).

Feedback and assessment criteria

The assessment criteria are formulated in such a way that it is clear to students what constitutes a satisfactory and an unsatisfactory performance. Students frequently do not understand the assessment criteria as well as they think. Clear formulation can therefore prevent students from believing that, for example, essays or written professional products are being assessed with regard to lower level objectives such as style and presentation, while in reality they are being assessed on higher levels, such as analytical ability or conceptual insight. Feed up during the teaching and feedback following interim tests can help steer students in the right direction. Formative testing in which students assess themselves or fellow students results in greater insight into the meaning of the assessment criteria. Also, good examples of assessed work, including feedback, can help students gain insight into and internalise the practical significance of the assessment criteria.

Digitisation and feedback

Digital testing can play a role in the provision of timely, targeted and extensive feedback. Examples include standardised feedback regarding academic progress, or remedial feedback if wrong answers are given. By conducting formative interim tests digitally and providing immediate feedback, you can help to improve academic success in both regular and problematic subjects (Droop et al., 2013). Smart use of digital testing with built-in and tailored feedback can improve the quality of peer feedback and reduce marking time. With adaptive digital testing, a form of feedback is included in the test itself. Based on the answers given, the difficulty level of the questions is adjusted.

One way to promote regular feedback on learning outcomes and criteria is to make use of classroom assessment: test-related activities during contact hours. Which student-activating activities are practicable depends on the teaching method used. For example, statements

23 This refers to Bandura's self-efficacy theory (1997). In the context of testing, it is about the confidence the student has that they will achieve a passing grade. The sense of self-efficacy is related to academic integrity and academic success.

or questions can be presented during lectures, with answers provided by means of votes, smartphones, raising of hands, Twitter etc. The results will be discussed by 'buzzing' in pairs. The lecturer uses the results to provide plenary feedback. Self-study assignments are a type of interim testing that is often not perceived as such by students, provided that the assignments are assessed and feedback is provided. A time-efficient way of doing this is peer assessment in combination with random sampling.

The initial experiences with the digital testing tools Turnitin and Annotation System are promising (Van de Berg et al., 2010). Feedback is generated automatically. Both programmes have proved effective for the formative use of peer assessment. The online assessment process runs in a more structured manner and is visible to lecturers and other students. This limits the pitfalls of peer assessment²⁴.

PRACTICAL TIPS:

- At the start of each course component, help students to estimate their initial level.
- Do not give feedback only on assessment criteria, but also on formal or format requirements.
- Make use of the rubrics for feed up, feedback and feed forward (see Chapter 5).
- The feedback is recorded in the assessment form (see Chapter 5).
During the teaching, give students sufficient opportunity to perform and to make suggestions regarding improvements.
- Upon completion of a course component or phase, give students the opportunity to reflect on what they have learned and what they have yet to learn.
- Discuss the key points of the digital/written feedback during meetings, paying attention to misconceptions and showcase examples.

24 See the Score website (www.hva.nl/score-digitaaltoetsen) for more detailed explanation and examples.

5. ASSESSMENT

Assessment is the provision of substantiated valuations of a student's performance. Assessment includes many different aspects. In the following sections, we will discuss a number of essential components. Assessment of the exit level is described in the **Exit Level Guidelines**.

This chapter addresses the following regulations in the AUAS Testing Policy:

POLICY	POLICY REGULATIONS
4 Interim examinations and partial interim examinations must also be a learning experience that motivates and stimulates the students.	<ul style="list-style-type: none"> - Students must be informed of the assessments of interim examinations and partial interim examinations within a maximum of three weeks following the test date (in compliance with the Teaching and Assessment Regulations). Students must be informed of the publication procedure prior to the test. - During assessment, in addition to verbal feedback, the student must also receive written feedback based on the test assessment model (model answer). The test assessment model must clarify the criteria that make the difference between a pass and a fail (the pass mark).
5 Students must be individually assessed and provided with feedback.	<ul style="list-style-type: none"> - Assessments must be conducted individually (in compliance with the Teaching and Examination Regulations). - Assessment must be expressed by a numerical grade (in compliance with the Teaching and Examination Regulations).
13 External parties must be involved in the validation of testing programmes, tests, interim examinations and exit levels.	<ul style="list-style-type: none"> - During the construction of tests, the 'two sets of eyes' principle must be applied.

5.1 ANALYTICAL AND HOLISTIC ASSESSMENT

In addition to the testing format, the assessment method must also be compatible with the learning objectives and the level at which they must be tested. Assessment can be done in one of two ways: analytically or holistically.

Analytical assessment means that all assessment aspects for a particular skill or professional task are assessed separately and independently. Analytical assessment is appropriate when meticulous determination is required of whether students possess critical knowledge or partial skills or in

instances when there is a single correct approach or solution. In this case, discrete and clearly defined learning objectives and straightforward answer models or assessment models are used.

Holistic assessment is based on the premise that adequate performance cannot simply be reduced to a passing or failing grade based on separate assessment aspects, as the whole is greater than the sum of its parts. Holistic assessment is appropriate when the learning objectives are complex and performance is measured in relation to a particular standard. This is the case during assessment of competencies, complex processes, products or teaching methods for which more than one solution is possible and/or when the application contexts differ. The number of assessment aspects also plays a role. The more complex the assignment, the more aspects will have to be assessed. Holistic and analytical assessment are conflicting principles.

Analytical assessment – or ‘checking off’ – is not suitable for establishing the exit level as it gives a superficial verdict, although a complete picture is suggested. Due to the nature and complexity of final theses, it is desirable to examine the entire performance during the assessment.

5.2 ASSESSMENT INSTRUMENT

A good assessment instrument (model, format, form for completion) contributes to the objectification of subjective quality assessments and therefore increases the reliability of the final assessment. The content and design contribute to the quality of the assessment and feedback, as well as to transparency from the students’ perspective. It includes the assessment aspects, which are incorporated in the assessment criteria. It is clear how all assessment aspects and criteria are weighted in the determination of the final assessment. The standards and the pass mark must be transparent. For this purpose, the minimum and maximum scores for each assessment aspect can be specified. Any format requirements must also be made clear, as well as how they are applied and what weighting they carry in the final assessment. The instrument must include room for feedback/substantiation in relation to the requirements set. Feedback is always given on the entire performance and, as desired, for individual assessment aspects/criteria.

Extensive assessment forms in which a large number of assessment criteria are formulated must have a (preferably uniform) front cover bearing all relevant details about the student, test, admissibility criteria (such as plagiarism checks), pass mark and final assessment. The calculation of the final mark based on the applicable standards can also be added to the front cover. In the event of complex assessment instruments, a handbook or instruction manual is provided for the examiner(s). If two assessors are involved, then the roles of the first and second assessor are determined (‘two sets of eyes’ principle). The assessment procedure and the assessment

instrument are made clear to students and included in the handbook to ensure awareness of how the final assessment is made ²⁵.

The assessment criteria are derived from the learning objectives and contain the critical elements of those objectives (see Chapter 3: Formulating Learning Objectives). An assessment criterion is an aspect of the desired thought and action that will be assessed by the test. The level will be reflected by the conditions with which the student must comply in order to demonstrate the desired behaviour in the testing situation, for example, in a particular professional situation or role, independently or in teams, with or without tools etc. The assessment criteria are formulated into an assessment scale (see 3.4). These standards make clear when the assignment is deemed satisfactory, unsatisfactory, good or excellent. The number of criteria must be manageable in the interests of transparency for students, lecturers and examiners. Supplementary formal or format requirements can be set. These relate to generic matters such as minimum/maximum lengths, the use of a particular format, source references in accordance with APA requirements, plagiarism monitoring and other such matters. Depending on the level, this could be either an assessment criterion or an admissibility criterion.

5.3 TWO SETS OF EYES

During assessment of components of the final thesis, at least two examiners must be involved. These can be either internal or external assessors²⁶. It is also advisable to work with two examiners for the assessment of internships, large course units (15 ECTS or more) and oral interim examinations. It is important that the examiners come to as unanimous a verdict as possible (interexaminer reliability). There is a variety of ways to guarantee this:

- education and training of examiners with regard to specific aspects (observation, criterion-oriented assessment, interviews, discussion techniques and such like);
 - clear and unambiguous assessment scales (rubrics), assessment instructions and assessment forms; clarity regarding pass marks and standards;
 - practice assessments;
 - regular discussion with colleagues on the application of assessment instructions, pass marks and standards;
 - random checks of assessments by third parties.
- Research by Sanders & Eggen (1993) shows that working with two assessors is the optimal approach. When more than two assessors are involved, the likelihood of a unanimous assessment generally decreases.

25 See the Score website (www.hva.nl/score-toetsbeoordelen) for examples of assessment instruments.

26 See the Score website (www.hva.nl/score-examinatoren) for profiles of internal and external examiners.

5.4 DETERMINING PASS MARKS

The question of where the boundary between a pass and a fail is found can be approached from a variety of perspectives²⁷.

Absolute	<ul style="list-style-type: none">- The degree of realisation of the learning objectives.- Standards can be set to various levels: achievement of 100%, 70%, 60% or, as is frequently done, 55% of the learning objectives. In qualitative assessments, this relates to one or more standards in the criteria used to assess the student.
Relative	<ul style="list-style-type: none">- A pass mark set based on the test results.- The pass mark depends on the students' performances. There are various methods for setting this type of pass mark (e.g. the Wijnen method).
Combination	<ul style="list-style-type: none">- A combination of both approaches.- A well-known method was devised by Cohen-Schotanus (1996), in which the average score of the best 5% of students is taken to be the highest possible score, based on which the pass mark for the absolute method is determined.

Table 1. Methods of determining pass marks

One argument for using relative pass marks is that this method protects students from receiving unjust failing grades caused by altered circumstances or inconsistent quality of the test/teaching. One disadvantage of this method is that the pass mark is influenced by students who prepare for the interim examination insufficiently or not at all. Using the combination method devised by Cohen-Schotanus (1996), this influence can be prevented whilst still taking into account non-student-related factors.

The method of determining the pass mark significantly influences academic progress, as shown by research by Cohen-Schotanus (2010). Students of the Medicine programme in Groningen, where the absolute method was used, took one year extra to complete their studies than students of the Medicine programme in Maastricht, which used the relative method. However, the knowledge levels of students from both programmes were measured by means of a progress test and were found to be the same.

27 Cohen-Schotanus, 1996; Lankveld & Draaijer, 2010; Sluijsmans, 2008; Van Berkel & Bax, 2002; Van Berkel, Jansen & Bax, 2012

Pass rates

Students with a senior general education (*HAVO*) diploma, a university preparatory education (*VWO*) diploma or a senior secondary vocational education level 4 (*MBO-4*) diploma can be admitted to a degree programme at a university of applied sciences. Therefore, in principle, every incoming student should be able to pass the first-year examination. In the performance agreements with the Ministry of Education, Culture and Science, AUAS has agreed a target academic success rate of 60% for the first year and the main phase. Achieving these academic success rates for AUAS as a whole is a major challenge. In addition to choosing the wrong programme or personal circumstances, failing interim examinations is also a major reason for dropout rates.

Regarding the pass rates for interim examinations, it is advisable to set 60% as the target rate for the first year based on the following considerations:

- The first year fulfils a selective function: although students possess the required prior education, the level may still be too high for some.
- If more than 40% of students fail at the first testing opportunity, then this will be partly have been caused by the quality of the test, the teaching or other circumstances.

Students that pass their first-year examination are deemed suitable for the main phase of the programme. They can therefore be expected to pass the tests provided they make sufficient effort. For this reason, a pass rate of 80% or above in the main phase is normal.

However, it needs to be said that the target pass rates vary between different schools and study programmes. It is more effective to compare specific study programmes with the same programmes at other universities of applied sciences.

PRACTICAL TIPS:

- Limit the number of assessment criteria to include only the critical aspects.
- The weighting of formal requirements, such as language proficiency, completeness, structure, size, source reference, authenticity etc. should be appropriate to the level. When designing the assessment instruments, ensure consistency of these requirements within and between learning pathways.
- Coordinate the layout with the agreements made regarding feedback and substantiation of the final assessment. This can be done for each assessment aspect and/or at the end.
- Ensure a uniform layout of the assessment instruments within a learning pathway.
- For each assessment aspect and/or in the final assessment, substantiate both the assessment and the feedback.
- Observe the 'two sets of eyes' principle when constructing the test and the assessment instrument.
- Use rubrics for consistent feed up, feedback and feed forward regarding complex learning objectives.
- Ensure that the assessment instruments within a particular learning pathway are a suitable reflection of the increasing complexity.
- Employ a combination of absolute and relative pass marks.
- Explicitly state the pass mark and the standards on the assessment form.
- Agree within the team which pass rates will be set and coordinate this with the Examination Board.

6. QUALITY CONTROL

The quality of the testing must be guaranteed at all levels (testing policy, testing programme and individual interim examinations). The individual interim examinations and partial interim examinations must be valid, reliable and transparent. In this chapter, we will explain these issues in detail.

This chapter addresses the following regulations in the AUAS Testing Policy:

POLICY	POLICY REGULATIONS
10 Interim examinations and partial interim examinations must be of undisputed quality.	<ul style="list-style-type: none">- Components of final theses must be assessed by two examiners: the supervisor can fulfil the role of second examiner.- The interim examinations and partial interim examinations must comply with the requirements of validity, reliability, transparency, the learning function and the feedback function (see Appendix 7).- Further investigation must be conducted into interim examinations and partial interim examinations with unduly high or low pass rates (to be determined by the Examination Boards).- The quality of the assessment of the final assignments must be monitored structurally and systematically.- The programme manager must ensure evaluation of the testing and assessment with regard to five different aspects: the test items, the test itself (content, structure, execution), the testing programme (structure, variety of testing formats, relationship to exit qualifications), the testing plan and employees' testing expertise.- Systematic feedback of evaluation results must be provided to examiners and the dean, and any necessary changes must be made.
12 Examiners of practical interim examinations must be subject-matter experts with up-to-date knowledge of professional practice.	<ul style="list-style-type: none">- All lecturers must possess a teaching endorsement.- All examiners must hold a UEQ (University Examination Qualification) or an SEQ (Senior Examination Qualification) certificate that is valid until at least 2017²⁸.

28 The UEQ/SEQ profiles were developed by a task force set up by the Netherlands Association of Universities of Applied Sciences.
See [https://score.hva.nl/Bronnen/voorstel_PVE_BKE_SKE_VerenigingHogescholen_oktober2013\[1\].pdf](https://score.hva.nl/Bronnen/voorstel_PVE_BKE_SKE_VerenigingHogescholen_oktober2013[1].pdf).

POLICY

13 External parties must be involved in the validation of testing programmes, interim examinations, partial interim examinations and exit levels.

POLICY REGULATIONS

- The Examination Board must include at least one external member²⁹.
- During the construction of tests, the 'two sets of eyes' principle must be applied.
- For components of final theses, the national protocol for final assignments must be complied with.
- The final-thesis programme (the components of the final thesis for which the exit qualifications are assessed) must be externally validated³⁰.

6.1 GUARANTEEING TESTING QUALITY AT ALL LEVELS

We use the term 'quality assurance' to refer to conserving everything that goes right and improving everything that goes wrong. It relates to the entire set of measures for implementing and improving test quality. This requires a **quality culture** in which all parties involved are in agreement about the key aspects of test quality and how it is manifest in practice³¹. On a regular basis, lecturers collectively coordinate testing issues and critically assess themselves and others. The Examination Board and the Assessment Committee fulfil their monitoring duties.

The cohesion between all matters that influence testing quality is visualised in a quality pyramid for testing and assessment³² (see fig. 1). The highest level of the pyramid is that of the testing policy (known within AUAS as AUAS Testing Policy and programme testing plans). Below this are the levels of the testing programme and the quality of individual testing and assessment instruments. The base of the pyramid comprises the quality of tasks, assignments and/or items.

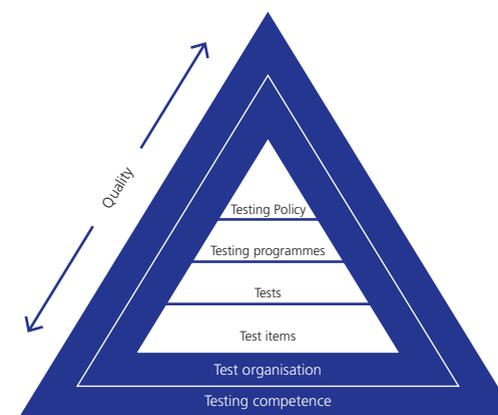


Fig. 1: Testing pyramid for testing and assessment (Sluijsmans et al, 2012).

Adequate quality assurance requires constant attention from everybody in order to monitor and improve testing quality at all levels. In order to organise this, management and constant mutual communication and coordination is necessary between the Examination Board, Assessment Committee, examiners, supervisors and other parties involved. Guaranteeing quality is not just about quality control: it is also about **improvement and conservation** (completing the PDCA cycle). Experience has shown that good testing practices too must be constantly updated and refined.

Test organisation

The lecturer team plays a decisive role in the quality of the testing. The lecturers have to communicate the high expectations, construct interim examinations, perform assessments, process the tests and give feedback. They coordinate all quality aspects as a team. The test organisation creates the conditions under which they can realise quality. A common distinction is made between 'minor' and 'major' quality. 'Minor quality' relates to avoidable mishaps and irritations for students and lecturers, such as insufficient interim examination forms/computers/ testing locations, test timetables or grades not being published on time. 'Major quality' concerns the agreed quality requirements relating to the content and the level of the testing.

The **testing cycle** is a model for structuring the test organisation in such a way that an effective and streamlined working process is realised within which everybody involved with a particular test is able to do their work effectively from start to finish. In order to streamline the working process,

29 The external member must work within one of the following: a different study programme at AUAS, a similar study programme at a different university of applied sciences, the professional field or an associated Master's programme.

30 This protocol was developed by a task force set up by the Netherlands Association of Universities of Applied Sciences. See <https://score.hva.nl/Bronnen/Vereniging%20Hogscholen%20-%20Eindrapport%20expertgroep%20Protocol.pdf>.

31 Baartman, 2008.

32 Joosten-ten Brinke & Sluijsmans, 2010, 2012, Sluijsmans, 2012.

a list of activities, tasks and responsibilities of all parties and committees involved will be made for every individual phase. The quality requirements will be elaborated into job descriptions and quality assurance guidelines in all phases of the testing cycle. These include guidelines on the use of test matrices and level taxonomies for test construction, guidelines for administering tests³³, assessment, determining test quality following execution of the tests, and administrative processing.

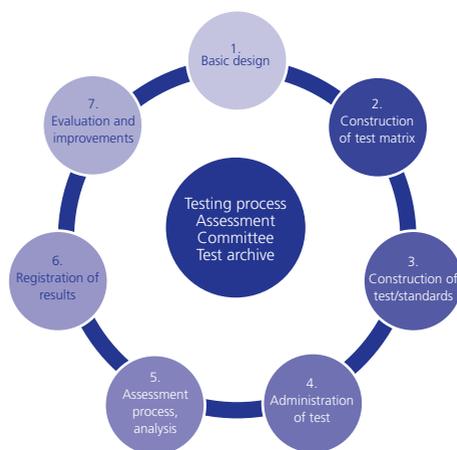


Fig. 2: Testing cycle (source: Hanze University of Applied Sciences, 2013).

Depending on the nature of the testing programme and the testing formats employed (analogue or digital), as well as the scale of the programme, it could be effective to create tasks and/or functions specialising in content-related, organisational and/or testing expertise. Examples include item developer, test constructor, test coordinator, digital test coordinator, item database administrator or test quality officer. The whole infrastructure for digital testing can be consolidated into a testing agency.

Support for lecturers

As lecturer teams play a decisive role in testing quality and therefore also influence the exit level, their actions are central to the quality assurance measures. They are familiar with the testing policy and are capable of working with it. Communication, professionalisation, organisation and process design can optimise professional practice. The summary below gives examples of professional practice, processes and organisation.

33 For the administration of tests, study programmes make use of the AUAS-wide Test Administration Protocols. See AUAS Intranet>AUAS Policy.

PROFESSIONAL PRACTICE	PROCESSES	ORGANISATION
<ul style="list-style-type: none"> - mutual information exchange and coordination - development of expertise via education - on-the-job coaching/training/support - fixed point of contact - feedback on progress plans and results (individual/group) - metacommunication about problem areas, practicalities and opinions 	<ul style="list-style-type: none"> - functional and extensive procedures, guidelines, instruments - guaranteeing testing quality via the quality control system - regular evaluation - appropriate monitoring 	<p>The following aspects must be appropriate to the testing policy and testing cycle:</p> <ul style="list-style-type: none"> - test organisation - expertise profiles - comprehensive distribution of tasks and responsibilities among committees, lecturers and other parties involved - facilitation regarding time/scheduling and other facilitation - integration into policy and planning/scheduling - information provision - decision-making structure - collaborative ventures - physical/digital learning environment - quality culture - positioning of the Examination Board and/or the Assessment Committee within the study programme, relationship with examiners and programme manager

Table 1: Summary of professional practice, processes and organisation.

6.2 QUALITY OF TESTING PROGRAMME

From the perspective of constructive alignment, it is desirable that lecturers, students and other parties involved have insight into the relationship between (a) the module's learning objectives and the exit qualifications and exit level, and (b) the structure and cohesion of the curriculum and the testing programme. In order to guarantee this:

- a schedule is created that clearly shows when the exit qualifications (competencies and body of knowledge) are tested and at what level (competency matrix, specified competency levels);
- communication and regular coordination are organised to ensure all lecturers know at what points in the programme the exit qualifications will be assessed at the exit level and how;
- lecturers are provided with information about the initial level of students and know how they can contribute to the development and testing of the students' body of knowledge, their

competencies and the exit level;

- the quality of the testing programme is regularly evaluated among students, lecturers and external parties. For this purpose, instruments will be used that are compatible with the vision of testing quality and the testing programme and provide relevant and usable information.

6.3 QUALITY REQUIREMENTS FOR TESTS³⁴

Interim examinations and partial interim examinations must comply with the quality requirements for validity, reliability, transparency and the learning/feedback function.

CRITERION	DESCRIPTION
Validity	- The interim examination measures the aspects that need to be measured.
Reliability	- Under the same circumstances, the interim examination delivers the same results.
Transparency	- There is clarity regarding the content and process.
Learning function and feedback function	- The interim examination gives insight into academic progress and motivates students to move on to the next stage of the learning process.

For analytic assessment, the quality of the interim examination and the assessment instrument is decisive. Conversely, for holistic assessment, the quality of the examiners is critical. For this reason, experienced examiners or certified assessors should preferably be appointed for final theses, competency assessments and other critical interim assessments.

There can be various reasons why a student unjustly receives a failing grade. It could be due to the student, the quality of the teaching or interim examinations, or other circumstances.

- The content of the interim examination may be insufficiently compatible with the teaching that precedes it.
- The material may be too extensive.
- The student may be unclear about what is expected of them (lack of transparency).
- Questions, assignments or case studies may not be clearly and unambiguously formulated.
- The assessment may be too strict.
- The testing conditions may have had a negative influence on performance.
- The student may have exam nerves.
- The student may have spent too little time preparing.

³⁴ See the Score website (www.hva.nl/score-toetskwaliteit) for analysis of test results.

Validity

Validity means that the interim examination supplies the information necessary to assess whether the learning outcomes have been achieved. The issue of validity includes a number of aspects, the most important of which are:

- Validity of comprehension: is the interim examination/assignment representative of the competency or skill? In the case of knowledge tests: does the interim examination measure the desired proficiency level? (knowledge of facts, insight or applications; ability to think critically and solve problems using the knowledge gained)?
- Validity of content: are all aspects of the competency or skill addressed and are the conclusions applicable to other professional situations and contexts? With regard to knowledge: is the content of the programme sufficiently covered?

Characteristics of a valid interim examination:

- There are adequately formulated learning objectives that are testable/demonstrable at the appropriate level.
- The examination format is compatible with the nature of the learning outcomes (knowledge, skills, competencies).
- The interim examination is geared towards the cognitive level of the learning outcomes.
- The interim examination measures the learning outcomes in the right proportions.
- The number of questions or assignments per learning objective corresponds to the significance of the learning objective.
- The weighting/number of assigned credits for each learning objective corresponds to the significance of the learning objective.
- The interim examination is in line with the learning activities and the formative test.

Reliability

Reliability relates to the degree to which the interim examination and assessment instrument deliver the same final verdict under identical conditions. Reliability relates to:

- The quality of the interim examination: exercises, assignments and instructions must be clearly and unambiguously formulated and there must be no doubt about the type of answer or performance expected. The assessment must distinguish between 'good' performance and 'poor' performance. This applies both to the test as a whole and the individual questions or subassignments. Reliability is partly influenced by the scale of the interim examination.
- The circumstances under which the interim examination is administered: standardisation and objectivity is important in this regard. These circumstances can relate to a number of issues, such as conditions during administration of the test, the use of tools, the available testing time etc.

- The way the results are assessed: during assessment of the results, standardisation and objectivity play an important role. For example, research has shown that assessors can be influenced by earlier assessments and by their relationship with the student. Possible solutions include making the assessment as standardised or as objective as possible. Examples of how this could be done include uniform working formats/correction guidelines and by engaging two assessors, to ensure that 'two sets of eyes' examine the students' performance (see also Chapter 4). Regular mutual coordination regarding collective standards is desirable to ensure as unanimous a verdict as possible (interassessor reliability).

Characteristics of a reliable interim examination:

- The questions and/or assignment(s) are formulated in such a way that only students who are proficient in the learning outcomes could answer them correctly.
- The questions are not interrelated.
- The questions and assignments have been formulated unambiguously and can only be interpreted in one way.
- The level of difficulty of the questions and assignments matches the student's level.
- The number of questions is large enough to eliminate the element of luck.
- The interim examination as a whole distinguishes between good performers and poor performers.

Transparency

Transparency relates to comprehensive and timely provision of information to students regarding testing and assessment, enabling them to optimally prepare. They must have insight into and be informed in a timely manner of the testing format, how the learning objectives will be tested, the assessment criteria, the standards and the pass mark. They must also be aware of the conditions for participation in the interim examination and agreements regarding the administration and procedures of the test (fraud, students with disabilities, appeals etc.) The information in the course catalogue and the diagnostic tests will play a role in this aspect. Interim feedback and feedback after formative tests give students insight into their performance relative to the standards and what they can do better. It must be clear whether weightings apply to partial interim examinations in relation to the final assessment, and if so, what these weightings are.

Transparency also relates to the administration of the test: students must have experience with the testing format and all students understand the assignment or exercises set.

Characteristics of transparent interim examinations:

- Prior to the examination:
 - The programme syllabi contain all relevant information about the interim examination in a consistent fashion.
 - The structure of the interim examination is clearly arranged.
 - The introduction is clearly separated from the questions/assignments.
 - The formulation of the questions or assignments cannot be misunderstood.
 - Questions include no double negatives or unnecessary information.
 - No trick questions are included.
 - The assessment criteria are clear.
- The distribution of marks, the standards and the pass mark are clear. After the examination:
 - There is a model answer, rubric or feedback form, or the feedback is included in the assessment form.
 - It is clear when, how and to whom appeals must be made against the results.

PRACTICAL TIPS:

Validity:

- Use a taxonomy – including for the higher-order skills – in order to formulate learning outcomes and assessment criteria that are appropriate to the desired cognitive level. If applicable, use taxonomies for other skills.
- Ensure that the test matrices within and between continued learning pathways are consistent with the desired structure and cohesion.
- Use detailed competency levels (see rubrics).

Reliability:

- Use checklists for the formation of both open and closed questions to ensure that all students understand the question and therefore have equal opportunity to answer it correctly.
- Use the 'two sets of eyes' principle during construction of the tests and, whenever possible, during the assessment.

Transparency:

- Make agreements regarding the description of the learning outcomes.
- Use a programme syllabus format and agree on the content.
- Use checklists to formulate clear and unambiguous test questions and assignments.

Test dossier

The above information clearly shows that an interim examination consists of more than just questions or assignments. A good interim examination consists of what is known as a test dossier, which contains the following:

- learning objectives
- a matrix
- questions/assignments
- assessment criteria
- assessment form
- standard answers (if applicable)
- information about the standards
- information about the pass mark

After the tests, the analysis results will be added to the test dossier. This test dossier will then be archived.

6.4 EXTERNAL VALIDATION

Higher professional education (*HBO*) examinations have been under scrutiny in recent years, with calls from the world of politics to establish national *HBO* examinations. As a result, the Netherlands Association of Universities of Applied Sciences set up a committee to investigate how *HBO* institutions could boost the external validation of examinations.

In April 2012, the Association published a report titled 'Vreemde ogen dwingen' (*The Spectator Effect*). In the autumn of 2012, the Association's general meeting adopted four recommendations from this report as binding agreements:

1. Every university of applied sciences will participate in at least one pilot with two other universities of applied sciences, within which collective tests will be developed.
2. The University Examination Qualification (UEQ) will be mandatory for all examiners (developed by the Netherlands Association of Universities of Applied Sciences, completed in August 2013).
3. The national protocol for final assignments will be implemented (developed by the Netherlands Association of Universities of Applied Sciences, completed in the second half of 2013).
4. Examination boards will include at least one external member.

The committee considered it unrealistic and undesirable to devise national exams for the entire higher professional education sector. It recommended **cross-institutional testing**, with

departments collectively developing tests and interim examinations in collaboration with at least two other similar departments at other universities of applied sciences.

In addition to cross-institutional testing, the committee is also in favour of national requirements regarding the testing expertise of lecturers, examiners and members of examination boards and assessment committees in order to further boost testing quality. This resulted in the **University Examination Qualification (UEQ)** for examiner certification. In addition to the UEQ, the committee also recommended developing a Senior Examination Qualification (SEQ). For the external validation of components of final theses (final assignments), a **national protocol for final assignments** was developed.

As a result, it was established in the AUAS Examination Regulations that the **Examination Board must include at least one external member**, with further explanation of this requirement in the Examination Board Guidelines.

These four measures all aim to increase the quality of testing and assessment by inviting independent observers and agreeing national standards. On the one hand, implementing the above measures – such as collective development of tests, a national protocol and an external Examination Board member – can save time. On the other hand, measures such as collective test development require extra effort to arrive at mutual agreements. The challenge is therefore to implement the above agreements into the lecturer teams' job descriptions as effectively as possible. As a result, specialisation may be required.

Another way to save time is to use ICT. Automated assessment and feedback for written assignments can result in time savings of up to 30%³⁵. The development of an item database – following the initial time investment required for its development – can save a great deal of the time required to administer and assess tests.

In addition to shifting the amount of time spent on testing and assessment, we could consider shifting the amount of time spent on other aspects of the teaching process. Digital tools are now available for these purposes that enable:

- the use of teaching material developed elsewhere, e.g. OpenCourseWare or MOOCs (Massive Open Online Courses);
- digitisation of the programmes' own teaching activities, e.g. filming short lectures;
- optimal use of social media, enabling students to help each other by means of questions and

35 See the Score website (www.hva.nl/score-digitaaltoetsen).

- answers;
- optimal use of peer assessment for formative testing.

PRACTICAL TIPS:

- Programme teams should seek other programmes – both within and outside AUAS – with which they can collectively develop tests.
 - The AUAS Academy offers a wide range of continued education and refresher training courses in the field of testing and assessment (see <https://academie.hva.nl>).
-

7. TESTING AND ACADEMIC SUCCESS

Testing has a major impact on students' learning processes. The content, timing and method of the testing has a major influence on how the students go about their work. In recent years, an increasing amount of evidence has become available regarding what does and does not work in higher education. This can be summarised by two perspectives, both of which are aimed at increasing students' performance.

1 The role of testing and assessment in academic success rates. The basic premise is that to a great extent, students' study habits are determined by the design of the testing programme. By taking cohesive measures with regard to scheduling, the number of resits, compensation etc., we can influence study habits (test-driven learning).

2 Increasing the learning outcomes of individual students. The basic premise here is that effective design of the testing programme can help increase the students' learning outcomes. It is about increasing the students' learning skills and their degree of self-management. The learning function of tests is particularly boosted by interim tests, progress tests and immediate, targeted feedback. Within AUAS, both perspectives are of great importance. In our vision of education and testing, the emphasis is on encouraging the students to learn and develop as professionals. In the performance agreements, we have set out clear ambitions with regard to academic success rates.

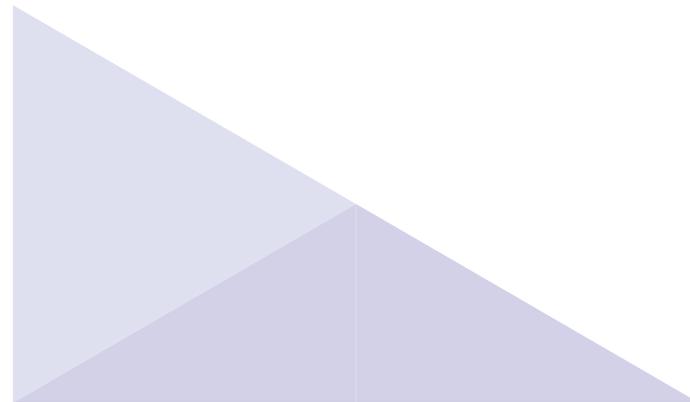
A number of subjects in these guidelines invite further discussion, such as:

- resits
- compensation
- determining pass marks
- feedback
- test scheduling
- digital testing/assessment/feedback
- interventions with regard to testing and its effect on academic success

Teaching and Examination Regulations and experimentation

In the Teaching and Examination Regulations (OER), we have made a number of decisions about the design and execution of testing and assessment within AUAS. These guidelines include up-to-date evidence regarding the effect of testing on study habits and academic success. This invites further consideration and will, if desired, result in changes being made to the Teaching and Examination Regulations. Furthermore, the AUAS Testing Policy offers the opportunity to experiment in this area.

Schools and departments can initiate experiments with regard to testing and assessment methods. These are experiments that are not possible under the current Teaching and Examination Regulations or are not in compliance with the policy regulations, such as scheduling tests and interim examinations, compensation opportunities, resits etc. The dean must submit a substantiated request to the Executive Board for experiments such as these. Upon approval, the school or study programme concerned will be permitted to implement the desired changes in the form of a pilot. The application form for such experimentation can be found in the appendices to the AUAS Testing Policy.



APPENDIX 1: TERMINOLOGY AND JOINT DEFINITIONS

The following definitions, which are derived from the Dutch Higher Education and Research Act (*Wet op het hoger onderwijs en wetenschappelijk onderzoek*, WHW) and included in the Teaching and Examination Regulations model, apply to the AUAS Testing Policy.

WHW/OER DEFINITIONS

Assessment	- The assessment by an examiner of the extent to which a student or external student has met the requirements set for a particular unit of study or part thereof.
Examination Board	- The board as referred to in Section 7.12 of the WHW.
Examiner	- The person as referred to in Section 7.12c of the WHW, not being a student or external student.
Examination	- Final element of a study programme as referred to in Section 7.3 of the WHW or OF the first year as referred to in Section 7.8 of the WHW.
Fraud	- Fraud and plagiarism as referred to in the Fraud Regulations of Amsterdam University of Applied Sciences.
Course unit	- A course unit as referred to in Section 7.3 of the WHW that – together with other educational units – forms the study programme curriculum, to which an interim examination is linked. A course unit can relate to a practical assignment.
Interim examination	- A test of knowledge, insight and skills as referred to in Sections 7.3 and 7.10 of the WHW, of which the result is expressed in an assessment, concluding a course unit (the interim examination can consist of one or more tests).
Partial interim examination	- Part of an interim examination that is linked to an assessment by an examiner.

For the definitions not covered by the WHW/OER, the following AUAS definitions apply:

Assurance Agenda	- Plan of activities to be conducted by the Examination Board, Assessment Committee and Test Assessment Committee with regard to test quality.
Test Administration Protocol	- A factual description of how the submission, execution and processing of a particular testing format is conducted.
Testing Policy	- The AUAS Testing Policy, consisting of the vision of testing, assessment, policy and policy regulations.
Assessment Committee	- The committee that supervises the quality of tests and assessments on the instructions of the Examination Board.
Test Assessment Protocol	- Instructions for examiners regarding assessment of a specific test or interim examination, including the standards and pass mark.
Testing plan	- Formulation of the AUAS Testing Policy for a specific school or study programme, connecting the desired exit level specified by the AUAS Testing Policy, the teaching concept and the curriculum of the study programme(s) in question.
Testing schedule	- Schedule of testing throughout the academic year, displaying the dates in which the planned tests and interim examinations will take place in that academic year.
Testing programme	- Summary of all course units in the first year and in the main phase (including specialisations and minors) and the related learning objectives, testing formats, number of ECTS and references to the source for further information. The testing programme is an appendix of the Teaching and Examination Regulations.

The Score website includes an extensive list of definitions.

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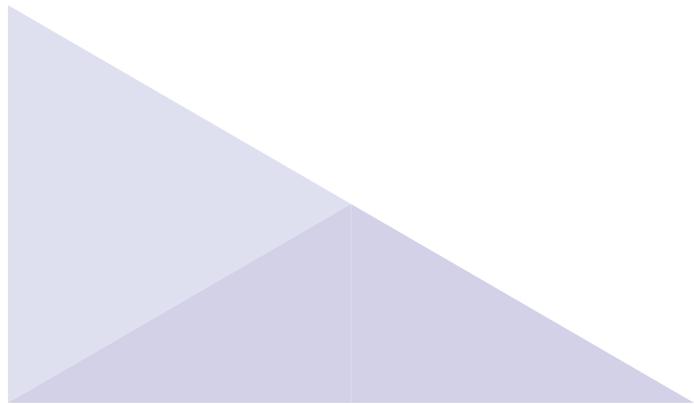
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