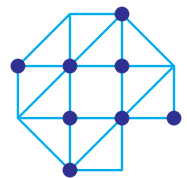
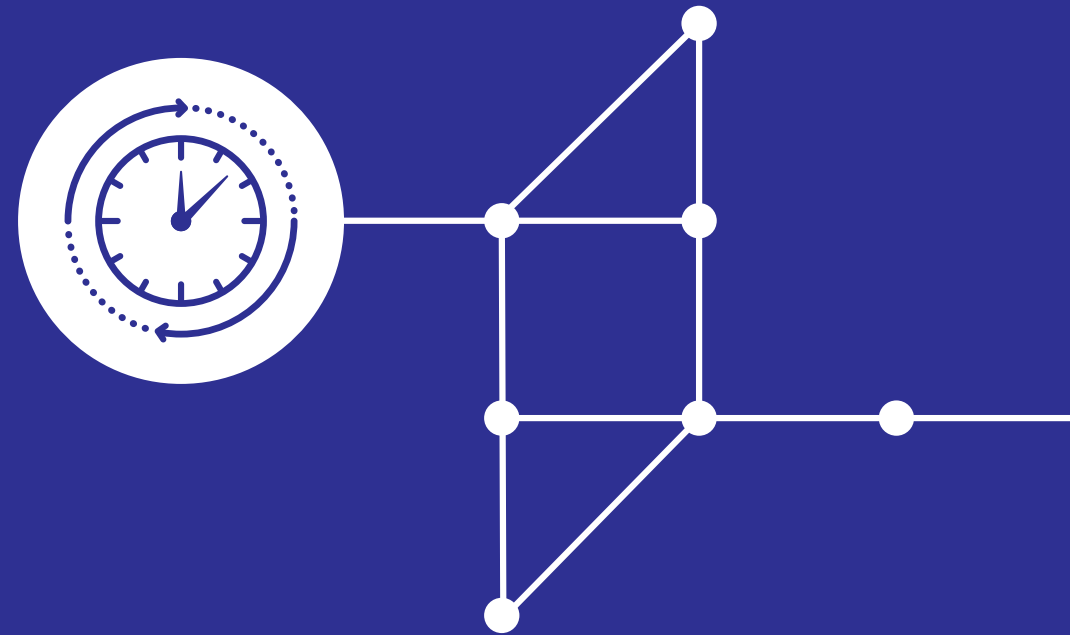


# Building blocks for flexible education with personalised learning paths



**Acceleration plan**  
Educational innovation  
with ICT

 flexibilisation

## Contents

About this publication	2
Flexible education	3
Learning outcomes	9
Assessment	17
Learning activities	23
List of sources	31
Credits	32

# Building blocks for flexible education with personalised learning paths

## About this publication

Do you want to get started with flexible education? Are you ready to develop flexible educational units? This publication provides building blocks to help you do so through a general introduction to flexible education, learning outcomes, assessments and learning activities.

The Making education more flexible zone of the Acceleration Plan for Educational Innovation with IT has developed four student paths within the framework of making higher education more flexible. While the contents of this publication were originally written for the 'Off the beaten track' student path, they can also be used for the 'My diploma' and 'Modular learning' student paths.

**The term 'learner':** Because this publication may also be used in the context of lifelong development, we use the term 'learner' rather than 'student' to indicate the target group for whom flexible education is intended.

### Flexible education

Learning outcomes

Assessment

Learning activities

# Flexible education



## Introduction

1. Where do I begin?
2. How do I design flexible education?  
Which design principles can I use?
3. What requirements must the educational unit satisfy?
4. Who should I involve in the design?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## Introduction

Flexible education. What is meant by this and what interpretation do we apply in this publication?

According to Jonker, März en Voogt (2018) there are four dimensions of flexibility in the curriculum:

1. **What:** the *content* of learning. This relates to both the content of the course, the module, the learning activities and the assessment process.
2. **Where:** the *place* where learning takes place. This can be online, on-site (educational institution or workplace) or a mix of online and on-site.
3. **When:** the *time-related* aspects of learning. This could be related to the times, duration or order of learning and assessment.
4. **How:** the *didactics* of learning. This refers to all aspects of the didactic concept, such as type of learning activities, grouping and lecturer roles.

The design of flexible education in the context of personalised learning paths is based on all these dimensions, not just one. The degree of flexibility applied to each dimension varies from institution to institution, depending on strategy and vision.

## Two design principles

In this publication, we discuss two design principles for flexible education, namely constructive alignment and backward design. In constructive alignment, we look at the *components* that need to be designed. The backward design principle focuses on the *sequence* of the design process. Both principles are generally accepted educational models that are widely used.

# Flexible education



## Introduction

### 1. Where do I begin?

### 2. How do I design flexible education? Which design principles can I use?

### 3. What requirements must the educational unit satisfy?

### 4. Who should I involve in the design?

## FLEXIBLE EDUCATION

## LEARNING OUTCOMES

## ASSESSMENT

## LEARNING ACTIVITIES

## Where do I begin?

You start by identifying a number of important preconditions. Is there awareness in your institution of the **why** of more personalised learning paths in the form of flexible education? Are there answers to questions such as:

- Why do we want this?
- For whom are we doing this and what is the added value?
- What do we understand by flexible education and what is our institution's vision and ambition in this regard?
- Are there any frameworks we need to follow?

It is important to have clarity on a number of aspects concerning the team that will shape the development (and possibly the implementation) of the process. Questions such as who is the client, who is responsible for what, who takes on which role or task and who is responsible for implementation should be discussed and clarified.

## Sufficient time and support

Time is also a prerequisite factor. What is the available time – actual and perceived? Is there enough time to work on the development of flexible education and do the lecturers and support staff involved perceive it this way? Or does it feel like an additional task that has to be dealt with in between other work? The same applies to support in terms of process and expertise – is sufficient support available? Because designing flexible education in educational units is new for many lecturers, it is important to provide the team with the necessary support. Examples include educational support for subject matters such as 'formulating learning outcomes', or more process-oriented support that focuses on collaborative design of education. It is advisable to provide support geared to the wishes of the team that will be developing the educational units.

# Flexible education



## Introduction

1. Where do I begin?

2. How do I design flexible education?  
Which design principles can I use?

3. What requirements must the educational  
unit satisfy?

4. Who should I involve in the design?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

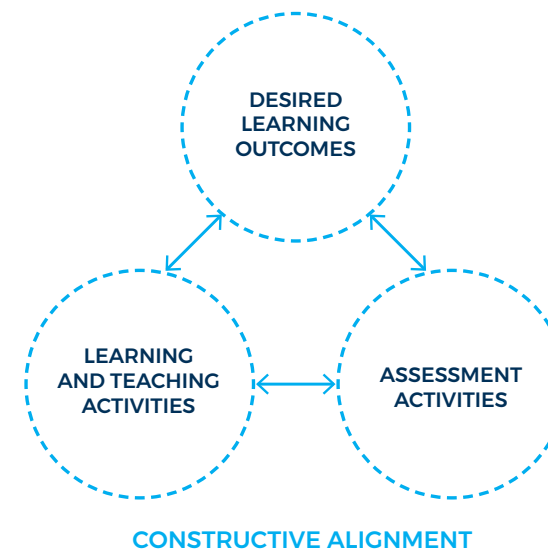
LEARNING ACTIVITIES

## How do I design flexible education? Which design principles can I use?

Two generally accepted design principles are used for the design of flexible education. These principles are *constructive alignment* and *backward design*.

### Constructive alignment

The idea of constructive alignment is derived from a constructivist view of learning. 'Constructive' is taken from the theory of constructivism, which assumes that learners actively construct knowledge themselves and connect it to the knowledge schemata already present in the brain. 'Alignment' refers to a learning environment that supports this constructivist view of learning. In this kind of learning environment, the desired learning outcomes – both in terms of content and level – determine which learning, teaching and assessment activities contribute to achieving the learning outcomes. The application of these three components in the right context creates a qualitatively good learning situation that induces the learner to engage in the right learning activities. →



# Flexible education



## Introduction

1. Where do I begin?
2. How do I design flexible education?  
Which design principles can I use?
3. What requirements must the educational unit satisfy?
4. Who should I involve in the design?

FLEXIBLE EDUCATION

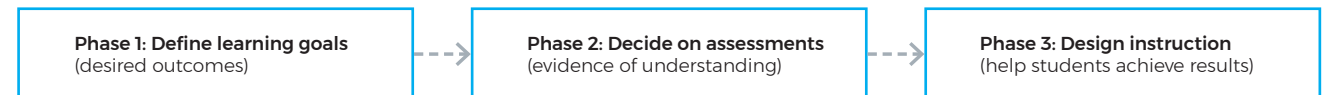
LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## Backward design

Backward design is a widely used design principle in the field of Instructional Design (Wiggins et al., 2005). This design principle prescribes a series of activities to be undertaken in three phases when developing a curriculum or educational unit.



Phase 1 starts with identifying the desired learning outcomes. What is the learner expected to know, understand and be able to apply after following a curriculum or educational unit; in short, the desired output. The corresponding evidence of understanding and assessment form are derived from the desired output (Phase 2). Based on the desired output, evidence of understanding and assessment form, the learning activities are designed in such a way that they prepare for the desired output (Phase 3). In this way, a curriculum or educational unit forms a coherent whole.

# Flexible education



## Introduction

1. Where do I begin?

2. How do I design flexible education?  
Which design principles can I use?

3. What requirements must the educational unit satisfy?

4. Who should I involve in the design?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## What requirements must an educational unit satisfy?

An educational unit that is suitable for flexible education must satisfy the following requirements:

- The desired results (e.g. in terms of learning outcomes), the associated learning arrangement, how and when this is offered and the method of assessment and certification must all be clear.
- Clarity about the scope of the unit in terms of study load and the level of the unit. In the Netherlands, such considerations are guided by the Dutch Qualification Framework (NLQF).
- Are there any specific entrance requirements? Can learners from other study programmes or institutions take part in the educational unit and if so, under what conditions? Consider, for example, specific prior knowledge or work experience as a prerequisite for participation.
- What is the enrolment procedure and is there a selection procedure?
- Is the educational unit part of a specific course, programme or track and is there the possibility of stacking units? Or is it a self-contained educational unit?
- Finally, from a **quality perspective** you can arrange for the organisation of educational evaluations per unit, a participation and complaints procedure and the design of – or affiliation with – a quality assurance system.

# Flexible education



## Introduction

1. Where do I begin?

2. How do I design flexible education?  
Which design principles can I use?

3. What requirements must the educational  
unit satisfy?

4. Who should I involve in the design?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## Who should I involve in the design?

Lecturers are at the core of the team that designs the flexible educational unit. They draw on their knowledge and experience of the relevant theme and field of activity for content input. Together with experts such as educationalists, instructional designers, multimedia coaches and experts, and quality assurance staff, the team works on designing or redesigning the unit. This approach offers a wide range of expertise for the design and by collaborating in such a multidisciplinary team: you learn a lot from each other.

### Teacher Design Teams

A proven method for the professional development of lecturers and the development of education at the same time involves Teacher Design Teams (Voogt et al., 2016). A Teacher Design Team is a group of two or more lecturers who regularly work together with the aim of designing or redesigning educational material (Handelzalts, 2019).

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### Want to know more?

Flexibility and quality assurance: two concepts crucial to our education, and combined, raise complex questions. How do you assess the value of a degree or diploma if the student composes their own curriculum? Who is in charge of monitoring the quality if students follow modules at different institutions? [In the publication, the zone has delved into these kinds of questions and made an inventory of possible answers.](#)



# Learning outcomes



## Introduction

1. What are learning outcomes?
2. Why are learning outcomes necessary?
3. How do you formulate a learning outcome?
4. What are the quality criteria that learning outcomes should, as a whole, satisfy?
5. How do learning outcomes relate to learning goals?
6. How do learning outcomes relate to competences?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## Introduction

When designing education, the first priority is to consider the purpose of that education. In the literature on Instructional Design, this is often referred to as 'learning outcomes', which is the term we will be using in this publication.

There are various definitions of what constitutes a learning outcome. It is basically about describing the expected, visible effects of a learning experience – that which is observable. Learning outcomes describe the behaviour, skills and knowledge a learner needs to be able to demonstrate. There are various ways to get to this point. By describing learning outcomes independently of learning pathways, it is possible to create a diversity of flexible learning pathways while ensuring that learners meet the same requirements in terms of content and level (*Adviescommissie 'Flexibel hoger onderwijs voor werkenden', 2014, p. 20, in Dutch*).

# Learning outcomes



## Introduction

### 1. What are learning outcomes?

### 2. Why are learning outcomes necessary?

### 3. How do you formulate a learning outcome?

### 4. What are the quality criteria that learning outcomes should, as a whole, satisfy?

### 5. How do learning outcomes relate to learning goals?

### 6. How do learning outcomes relate to competences?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## What are learning outcomes?

The concept of a 'learning outcome' describes what someone knows and can do after successfully completing a learning pathway. Learning outcomes are the outcomes of the learning process, independent of the educational content and the curriculum, the study volume and the study load, the study duration, the organisation of education, the method of instruction and where and how the education is given (Van Delft, 2020, p. 2). Learning outcomes describe what a learner should know, understand and be able to apply on completion of a process of learning (NVAO, 2019).

The more a learning outcome is defined independently of a learning pathway, the more flexible the learning pathway and assessment method can be. The extent to which an educational institution is prepared to take this approach depends, among other things, on its vision and ambitions.

### Bologna Declaration

The concept of learning outcomes has been used in higher education for some time. Within the framework of the Bologna Declaration, learning outcomes were defined as follows in 2010:

*"A learning outcome is a measurable result of a learning experience which allows us to ascertain to which extent / level / standard a competence has been formed or enhanced. Learning outcomes are not properties unique to each student, but statements which allow higher education institutions to measure whether students have developed their competences to the required level.*

*Learning outcomes describe what a learner is expected to know, understand and be able to demonstrate after successful completion of a process of learning. They are statements of concrete and verifiable signs that show how the planned competences, including the required levels of knowledge, are being developed or acquired."*

(Lokhoff et al., 2010, pp. 21-22).

# Learning outcomes



## Introduction

1. What are learning outcomes?

2. Why are learning outcomes necessary?

3. How do you formulate a learning outcome?

4. What are the quality criteria that learning outcomes should, as a whole, satisfy?

5. How do learning outcomes relate to learning goals?

6. How do learning outcomes relate to competences?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## Why are learning outcomes necessary?

Learning outcomes that are independent of the learning pathway allow learners to demonstrate the final level of education with greater control over the route towards it. A learner can choose between following a route advised by the educational institution or working towards demonstrating learning outcomes via a more appropriate route.

**Working with learning outcomes ensures comparability and recognisability for the learner, the educational institution and the relevant professional field.**

This is due to uniformity in the description. Agreements on standardisation can facilitate the exchange between study programmes within an institution, but also between institutions in the Netherlands and abroad.

## Learner-centred learning outcomes

When you work with learning outcomes, the focus is not on the curriculum, the content of the lectures, the teacher's classroom activities and specific literature, but on the learning outcomes of the learner. This working method offers the possibility of recognising the learner's previous experience and knowledge. Because the route to this is not fixed, previously acquired knowledge and experience can be used to demonstrate the learning outcome (validation). Moreover, learning outcomes formulated in a way that is independent of the learning pathway make it possible to design learning pathways in a more demand-oriented way and to tailor them to:

- Previously acquired competences of learners;
- Specific curricular questions as well as profiling and developmental needs of learners;
- Opportunities offered by the learner's work situation;
- Employers' questions and needs.

# Learning outcomes



## Introduction

1. What are learning outcomes?

2. Why are learning outcomes necessary?

3. How do you formulate a learning outcome?

4. What are the quality criteria that learning outcomes should, as a whole, satisfy?

5. How do learning outcomes relate to learning goals?

6. How do learning outcomes relate to competences?

## How do you formulate a learning outcome?

Formulating a learning outcome usually starts with ‘the entry-level professional...’ or ‘the graduate...’ or ‘the (junior) professional...’, followed by an active verb and then a description of what he/she does and what the effect or result of that is (‘so that...’). It describes the observable output after completion of the educational unit.

### Tuning model

A widely used model to formulate learning outcomes is the Tuning model. This model originated as a European methodology used in the development (or re-development), implementation and evaluation of study programmes (*Tuning Educational Structures in Europe - European Higher Education Area and Bologna Process*, 2016).

According to this model, the following elements should be addressed in the order listed:

1. First, choose an active verb describing what the learner should know and be able to do (in terms of behaviour). A taxonomy can be used for this.
2. Then specify the type of competence or type of final qualification to which the learning outcome contributes.
3. You should also define the subject of the learning outcome. This involves the area of expertise to which the learning outcome is applied, a description of the content.
4. Then describe which standard to apply: which guidelines, standards, methodologies, approaches must or may someone use?
5. Finally, describe the context: In what context is someone demonstrating something? These components constitute the structure of a learning outcome: Active verb + Type + Subject + Standard + Context (Van Delft, 2020). →

# Learning outcomes



## Introduction

1. What are learning outcomes?
2. Why are learning outcomes necessary?
3. How do you formulate a learning outcome?
4. What are the quality criteria that learning outcomes should, as a whole, satisfy?
5. How do learning outcomes relate to learning goals?
6. How do learning outcomes relate to competences?

[FLEXIBLE EDUCATION](#)[LEARNING OUTCOMES](#)[ASSESSMENT](#)[LEARNING ACTIVITIES](#)

The learning outcome is formulated as a visible, measurable, tangible professional result or professional behaviour by means of which you can determine to what extent, to what level and according to which standard a certain competence (capacity, skill, quality, ability) has been developed.

### ZelCom-model

Another method used to formulate learning outcomes is the ZelCom model (Bulthuis, 2013). This describes, for each learning outcome, which indicators and which evidence of understanding can prove that a learner has reached a certain level, i.e. achieved the learning outcome. It is also possible to describe the learning outcomes at different levels of independence and complexity, for example.

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### Want to know more?

More in-depth resources on the formulation of learning outcomes (including a manual for formulating learning outcomes) are available [here](#).

For a theoretical approach to the concept and use of learning outcomes, one can turn to two publications of Hussey and Smith (2003, 2008).

# Learning outcomes



## Introduction

1. What are learning outcomes?

2. Why are learning outcomes necessary?

3. How do you formulate a learning outcome?

4. What are the quality criteria that learning outcomes should, as a whole, satisfy?

5. How do learning outcomes relate to learning goals?

6. How do learning outcomes relate to competences?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## What are the quality criteria that learning outcomes should, as a whole, meet?

In the flexible education pilots, NVAO ([The Accreditation Organization of The Netherlands and Flanders](#)) sets the following quality requirements for learning outcomes (NVAO, 2019):

- **Independent of learning pathway:** they allow for variation in learning activities of (groups of) learners.
- **Representative** for the final qualifications of the programme.
- **Recognisable** for the professional field.
- **Specific and measurable:** they provide an unambiguous assessment framework for pathway-independent assessment (PIA).
- **Transparent:** the relationship between final qualifications, units of learning outcomes, learning activities and assessment is clear.
- **Coherent:** each unit is a coherent unit of learning outcomes distinguishable from other units of learning outcomes; together and in cohesion, the units enable the learner to achieve the final qualifications.
- **Future-proof:** the learning outcomes are formulated in such that they can be applied for a number of years.

However, these quality requirements would appear to apply to the entire set of pathway-independent learning outcomes of a study programme rather than to one or more learning outcomes of a 'separate' educational unit.

# Learning outcomes



## Introduction

1. What are learning outcomes?
2. Why are learning outcomes necessary?
3. How do you formulate a learning outcome?
4. What are the quality criteria that learning outcomes should, as a whole, satisfy?
- 5. How do learning outcomes relate to learning goals?**
6. How do learning outcomes relate to competences?

[FLEXIBLE EDUCATION](#)
[LEARNING OUTCOMES](#)
[ASSESSMENT](#)
[LEARNING ACTIVITIES](#)

## How do learning outcomes relate to learning goals?

Learning goals indicate what the learner is expected to know or be able to do after completing an educational unit. In other words, the goals of an educational unit. Although working on learning goals contributes to achieving a learning outcome, there are a number of pertinent differences (Peeters, 2021).

Learning goals	Learning outcomes
Desired results	Demonstrated results
Linked to lessons	Linked to assessments
Specific	Bigger picture

Some subjects and educational units are less suitable for learning outcomes and the choice of working with them partly depends on the target group and the type of education (Peeters, 2021). However, working with learning outcomes can provide the oft-desired learning space and integration of subject areas, leading to greater flexibility and independence of learning pathway.

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### Want to know more?

Harden (2002) offers a useful source for an in-depth comparison between learning outcomes and goals, also known as instructional objectives.

# Learning outcomes



## Introduction

1. What are learning outcomes?
2. Why are learning outcomes necessary?
3. How do you formulate a learning outcome?
4. What are the quality criteria that learning outcomes should, as a whole, satisfy?
5. How do learning outcomes relate to learning goals?
6. How do learning outcomes relate to competences?

## How do learning outcomes relate to competences?

In the Tuning model (2000), the term ‘competence’ is used to describe a combination of knowledge, skills, responsibilities and attitudes that a person may or may not possess (European Centre for the Development of Vocational Training, 2016; Kennedy et al., 2007). Competences, or sets of competences, are used in formulating learning outcomes that reflect the skills a learner should have (European Centre for the Development of Vocational Training, 2016; Keevy & Chakroun, 2015). The term competence in this context refers to the learning outcomes that have actually been achieved. In Dutch, the term ‘competence’ differs from the definition given above. In the Dutch context, a competence is considered to be a quality, ability, capacity or skill developed by a learner (Van Delft, 2020).

The difference between working with competences and working with learning outcomes is that learning outcomes provide more information. In addition to being able to demonstrate the competences, the learner also applies them in practice as a measurable result.



# Assessment



## Introduction

1. How do we conduct assessments in flexible education?
2. What are the design criteria of assessments in general?
3. What are the quality criteria of assessments in general?
4. What are the quality criteria, specifically for PIA?



**Tip:** before you start designing assessments, it is important to know what vision and policy your institution or programme has on assessment.

[FLEXIBLE EDUCATION](#)[LEARNING OUTCOMES](#)[ASSESSMENT](#)[LEARNING ACTIVITIES](#)

## Introduction

If formulated in a way that is independent of the learning pathway, working with learning outcomes is an ideal way of applying more flexibility to both the learning pathway and the assessment process. This is referred to as pathway-independent assessment (PIA). A PIA process entails the assessment of learning outcomes irrespective of the learning pathway (or type of learning pathway) in which these learning outcomes were developed.

In PIA, the use of professional products (free format) is a flexible way of enabling the learner to demonstrate the learning outcomes. A learner can also validate a learning outcome with knowledge, skills and experience acquired previously or elsewhere. In principle, any form of assessment can be used for PIA of the learning outcomes, as long as it is appropriate to the learning outcome. The form of the assessment should nevertheless correspond as closely as possible to the relevant professional performance. And in developing assessment methods in flexible education, the quality cycle of assessment design must be followed, just as in existing curriculum-dependent assessment. Quality criteria for design and evaluation form the basis of this quality cycle.

## Quality criteria

In order to demonstrate that an assessment is part of a quality assurance system which is larger than the assessment alone, it must be possible to demonstrate that quality criteria are being used in the field of assessment policy, assessment competence and assessment organisation. Furthermore, a system must be in place whereby the examination committee or assessment committee validates the quality of an assessment.

It has already been mentioned in the chapter on flexible education that clarity about tasks and responsibilities is important in the design process. This also applies to designing assessments. Questions you could ask to help you in this process are: How are the tasks and responsibilities of the assessment developer and an assessment committee, if any, organised with regard to the quality of the assessment? How are the tasks and responsibilities of the examination board arranged when it comes to flexible education and the use of flexible education by other institutions? The answers to these questions can serve as preconditions for the design of assessments in flexible education.

# Assessment



## Introduction

1. How do we conduct assessments in flexible education?
2. What are the design criteria of assessments in general?
3. What are the quality criteria of assessments in general?
4. What are the quality criteria, specifically for PIA?

[FLEXIBLE EDUCATION](#)[LEARNING OUTCOMES](#)[ASSESSMENT](#)[LEARNING ACTIVITIES](#)

## How do we conduct assessments in flexible education?

PIA is the assessment of learning outcomes irrespective of the learning pathway leading to these learning outcomes and/or how the learning outcomes have been acquired. The PIA is developed on the basis of the learning outcome and not on the basis of the education provided. In the case of PIA, the learning outcomes are fixed and the route towards them, the learning pathway, may vary (Klarus et al., 2017).

This is in contrast to the previously applied pathway-dependent assessment process: determining the results of a learning pathway on the basis of the goals of that learning pathway or, in other words, on the basis of the subject matter treated in the course (Klarus, 1998).

It therefore makes no difference to PIA which learning pathway the participant takes. The learner's preparation may consist of online learning, on-campus (face-to-face) learning, workplace learning or a combination of these. A learner demonstrates mastery of the learning outcome by means of PIA and acquires credits in this way.

When designing the assessment, make sure that it is aligned with the learning outcome. In other words, constructive alignment.

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### Want to know more?

Antoinette van Berkel's article (Van Berkel, 2017) is a good starting point for getting to grips with assessments in flexible education and provides useful examples (In Dutch).

Two recent empirical papers, by Wanner et al. (2021) and Rideout (2018) provide spot-on insights on the effects of empowering learners to choose timing, format and criteria to be assessed.

# Assessment



## Introduction

1. How do we conduct assessments in flexible education?
2. What are the design criteria of assessments in general?
3. What are the quality criteria of assessments in general?
4. What are the quality criteria, specifically for PIA?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## What are the design criteria of assessments in general?

When setting up the assessment process, almost every educational institution uses the model of the assessment cycle (Bijkerk, 2015) or a variant of it. Adhering to these phases enables all persons involved to fulfil their tasks and roles effectively. The assessment cycle consists of the following phases:

- Phase 1: Creating the basic design;
- Phase 2: Constructing an assessment matrix;
- Phase 3: Constructing an assessment with standards;
- Phase 4: Administering and evaluating the assessment;
- Phase 5: Processing and analysing the assessment;
- Phase 6: Recording and communicating the outcome;
- Phase 7: Evaluating and improving the assessment.

Perhaps your institution has documentation that describes the institution's assessment cycle. Alternatively, you can use the assessment cycle described in Lia Bijkerk's publication.

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### Want to know more?

Some examples from institutions are provided below:

[Designing test 1, Amsterdam University of Applied Sciences](#)

[Designing test 2, Amsterdam University of Applied Sciences](#)

[Assessment and Appraisal, Radboud University](#)

# Assessment



## Introduction

1. How do we conduct assessments in flexible education?
2. What are the design criteria of assessments in general?
3. What are the quality criteria of assessments in general?
4. What are the quality criteria, specifically for PIA?

[FLEXIBLE EDUCATION](#)[LEARNING OUTCOMES](#)[ASSESSMENT](#)[LEARNING ACTIVITIES](#)

## What are the quality criteria of assessments in general?

PIA, just like pathway-dependent assessment, must be valid, reliable, suitable and transparent. The following quality criteria are of relevance:

- **Validity:** a valid assessment measures what the assessment is supposed to measure. The assessment is tailored to the purpose;
- **Reliability:** an assessment is considered reliable if it shows the same result after repeated administration under the same conditions;
- **Suitability:** the suitability of an assessment is about its practicality in terms of location, people and time;
- **Transparency:** this is the extent to which the assessment provides clear and unambiguous information to learners so that they can prepare for and take the assessment properly.

The assessment fosters the learner's learning process and the assessment provides them with information on their strengths and areas for improvement, often in relation to the vision on assessment at institutions.

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### Want to know more?

[HBO Kennisbank \(hbo-kennisbank.nl\)](https://www.hbo-kennisbank.nl)

# Assessment



## Introduction

1. How do we conduct assessments in flexible education?
2. What are the design criteria of assessments in general?
3. What are the quality criteria of assessments in general?
4. What are the quality criteria, specifically for PIA?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## What are the quality criteria, specifically for PIA?

In the report of the 'Flexible higher education for people in employment' Advisory Committee led by Rinnooy Kan (Adviescommissie 'Flexibel hoger onderwijs voor werkenden', 2014), working with assessment and evaluation based on learning outcomes that are independent of the learning pathway is seen as a success factor and a beneficial precondition for flexible education. During the development of PIA, Avans University of Applied Sciences (Onderwijsmodel Avans University of Applied Sciences, 2022) formulated a set of questions that can be used to verify the quality of the assessments.

1. Does the assessment comply with the frameworks set out in the Dutch Teaching and Examination Regulations (OER)?
2. Is the assessment linked to the corresponding learning outcome through constructive alignment?
3. Does the assessment consist of a maximum of one integrated assessment for each learning outcome/module component?
4. Does the assessment meet the quality requirements for assessment: validity, reliability, suitability and transparency?
5. Can the learner successfully complete the assessment through formal/informal and non-formal learning? Are there multiple learning pathways possible for the learner to successfully complete the assessment?
6. Does the level of the assessment match the level of competence described in the learning outcome?
7. Are the assessment criteria derived from the learning outcome?
8. Is PIA separate from specific content only offered in classical education? In other words, can a learner pass the assessment if they have chosen a different learning pathway than that of the curriculum?
9. Are the learning outcomes, assessment method, assessment form and the assessment criteria they contain in line with the learning outcomes and the described assessment criteria?
10. Are students familiar with PIA and the corresponding assessment criteria in advance (before the start of the module) so that they are not faced with surprises? →

# Assessment



## Introduction

1. How do we conduct assessments in flexible education?
2. What are the design criteria of assessments in general?
3. What are the quality criteria of assessments in general?
4. What are the quality criteria, specifically for PIA?

[FLEXIBLE EDUCATION](#)[LEARNING OUTCOMES](#)[ASSESSMENT](#)[LEARNING ACTIVITIES](#)

11. Does the PIA take place at a single point in time without any intermediate consultations or products that are conditional for the PIA?
12. Can the PIA be offered several times during the academic year so that students can take the assessment at a time of their choosing within the organisational and legal framework of the academy?
13. Can the learning outcome be validated through professional experience or work experience or be established with an appropriate PIA?
14. Are the appointed PIA examiners competent to develop, implement, assess and evaluate the PIA for which they have been appointed?

# Learning activities



## Introduction

1. How are learners guided and/or coached in choosing their pathway and the corresponding learning activities?
2. How are learners supported in determining the appropriate learning activities for a particular learning outcome?
3. What does the optimal combination of learning activities look like?
4. What are the wishes and needs of the target group in relation to the flexible education offered?
5. What does the learner's learning environment look like?
6. What specific attention is needed for IT-didactic support?

[FLEXIBLE EDUCATION](#)[LEARNING OUTCOMES](#)[ASSESSMENT](#)[LEARNING ACTIVITIES](#)

## Introduction

Learning activities are intended to induce a learning process in the learner. These learning activities are linked to learning outcomes (or units of learning outcomes) and help the learner in attaining the desired outcomes. Learning activities can take different forms, and mainly involve a focused selection by the educational designer of existing and/or self-developed forms and materials to shape education.

### Learning outcomes and assessment are worked out

Before you can start developing learning activities, the learning outcomes should be formulated and the assessment should be worked out. Only then you can design learning activities that are offered as fixed or suggested routes. Depending on the degree of independence of the learning pathway, you – as designer – can make that choice. The learning activities should be conducive to the learner acquiring the desired learning outcomes. This involves a harmonious blend of activities with variation in place (on-campus, online/workplace), time (synchronous/asynchronous) and composition (individual/group).

# Learning activities



## Introduction

1. How are learners guided and/or coached in choosing their pathway and the corresponding learning activities?
2. How are learners supported in determining the appropriate learning activities for a particular learning outcome?
3. What does the optimal combination of learning activities look like?
4. What are the wishes and needs of the target group in relation to the flexible education offered?
5. What does the learner's learning environment look like?
6. What specific attention is needed for IT-didactic support?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## How are learners guided and/or coached in choosing their pathway and the corresponding learning activities?

In contrast to traditional models with a fixed form, content and pace of study, flexible educational models presuppose that learners need to make many more choices in their academic career. Schwarts (2016) however, cautions that the large number of options may have negative effects. This is in contrast to the positive effects based on the Self Determination Theory of Deci and Ryan (2002). Schwarts claims that more options and choices actually lead to less satisfaction with the choices made.

Moreover, learners are beginners, as it were, and educational developers often overestimate their knowledge and skills (Bergsen et al., 2020). This means there is a risk that developers of flexible education could wrongly assume that those moments when a choice must be made are very clear and significant for learners, when in fact 'beginners' can only partly (or not at all) foresee the consequences of their decisions and therefore cannot cope with the consequences of their decisions (Gijbertse, 2020). So it is important that learners receive guidance in making their choices.

Consider for instance:

- Advice on the correlation of the chosen learning activities to the learning outcomes;
- The sequence of learning activities to be undertaken;
- Matching choices to the individual's wishes and needs.

### Student coach

With flexible education, it is therefore advisable to pay explicit attention to coaching, for instance by linking each learner to a student coach from the study programme. This student coach can guide the learner in making choices within the study programme and in determining or adjusting a study plan. Because student coaches focus on the learning content, they should have broad content expertise. Theirs is a different role from that of a classic student counsellor.



# Learning activities



## Introduction

1. How are learners guided and/or coached in choosing their pathway and the corresponding learning activities?
2. How are learners supported in determining the appropriate learning activities for a particular learning outcome?
3. What does the optimal combination of learning activities look like?
4. What are the wishes and needs of the target group in relation to the flexible education offered?
5. What does the learner's learning environment look like?
6. What specific attention is needed for IT-didactic support?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## How are learners supported in determining the appropriate learning activities for a particular learning outcome?

The student coach assists learners in writing a study plan. In this study plan they state, among other things, what their personal and professional ambitions and goals are. A learner also sets out the following in their study plan:

- How they intend to achieve their ambitions and goals;
- How and when the associated learning outcomes will be demonstrated;
- How they will be supported in this.

In addition to the learner's personal ambitions, the perspective of the professional field is also explored when preparing a study plan. What are the needs of the professional field? How does the learner's plan fit into this? The study plan is updated at least twice a year.

### Learning to take charge of your own development

In addition, the student coach teaches learners how to take charge of their development. The student coach and the learner reflect together on the learner's progress. Student coaches also help learners to gain insight into the programme and institution's offerings so that learners can choose their development route in relation to one or more learning outcomes. On this last point, good support facilities within the institution are essential. For example, a portal where learners can find a broad orientation and then enrol for the units of their choice.

# Learning activities



## Introduction

1. How are learners guided and/or coached in choosing their pathway and the corresponding learning activities?
2. How are learners supported in determining the appropriate learning activities for a particular learning outcome?
- 3. What does the optimal combination of learning activities look like?**
4. What are the wishes and needs of the target group in relation to the flexible education offered?
5. What does the learner's learning environment look like?
6. What specific attention is needed for IT-didactic support?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## What does the optimal combination of learning activities look like?

When choosing a personalised learning pathway with relevant learning activities, education according to the principles of blended learning can play an important role. One of the reasons for this is the possibility of learning that is more independent of time and place. Much has already been published about what blended learning is, the various design models that exist and the effects of the optimal combination of learning activities on student success and academic achievement. In the context of this publication, we have therefore limited ourselves to explicitly discussing the question of what the optimum combination of learning activities looks like and have provided suggestions for inspiration and a more in-depth analysis of this question from a number of reliable sources.

### A good match

Incidentally, what the optimum blend of learning activities looks like also depends on the educational choices made by each institution and the knowledge and systems available to put these choices into practice. The ultimate goal is a good match between learning outcomes, assessment and learning activities.

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### Want to know more?

[The education field lab of the Acceleration Plan](#)

[SIG Blended Learning, SURF Community \(In Dutch and English\)](#)

[EMBED, the tool for the maturity level of blended education](#)

# Learning activities



## Introduction

1. How are learners guided and/or coached in choosing their pathway and the corresponding learning activities?
2. How are learners supported in determining the appropriate learning activities for a particular learning outcome?
3. What does the optimal combination of learning activities look like?
4. What are the wishes and needs of the target group in relation to the flexible education offered?
5. What does the learner's learning environment look like?
6. What specific attention is needed for IT-didactic support?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## What are the wishes and needs of the target group in relation to the flexible education offered?

Knowing the learners' wishes and needs is essential for the design of flexible education (Huizinga et al., 2022). This tells us that there is great variation in the needs, and degree of those needs, in relation to all four dimensions of flexibilisation. Looking specifically at an educational unit, it may be helpful to answer questions related to the following topics (Sh!ft, 2018) to find out the learner's wishes and needs in relation to the offer.

### Checklist of wishes and needs

- a. Background characteristics: e.g. age, native language, profession, current job and/or educational background. If applicable, it may be relevant to understand the current career level (e.g. junior, senior, mid-management, executive) and working conditions.
- b. Contextual characteristics: what does a learner's day look like? How and when does the learner have time to devote to education? What are the learner's routines, schedules, obstacles and challenges?
- c. Expectations: why does the learner want to engage in these learning activities; is it compulsory or a choice? For what purpose does the learner believe to need the activities offered and why? What does the learner expect to know and be able to do afterwards? What are the expectations for the impact in the professional setting on achievement of the desired learning outcomes?
- d. Prior knowledge: what prior knowledge does the learner have? What knowledge and skills should the learner already have? And, if applicable, is the learner aware of any gaps in knowledge and skills?
- e. Attitude to learning: what questions does the learner have? Do learners believe that the learning activities will help them achieve their personal ambitions?
- f. Preferences in relation to learning: what preferences are there for learning materials? What motivates the learner? How much time is there to learn, in what form, at what time and in what composition would the learner like to make use of the offer?
- g. Technical skills and access to systems: how digitally literate is the learner? Does the learner have reliable hardware and software?

# Learning activities



## Introduction

1. How are learners guided and/or coached in choosing their pathway and the corresponding learning activities?
2. How are learners supported in determining the appropriate learning activities for a particular learning outcome?
3. What does the optimal combination of learning activities look like?
4. What are the wishes and needs of the target group in relation to the flexible education offered?
5. What does the learner's learning environment look like?
6. What specific attention is needed for IT-didactic support?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## What does the learner's learning environment look like?

Kallenberg et al. (2005) define the learning environment as follows: 'the measures and conditions taken to elicit or maintain the required learning processes and motivation in order for the student to achieve the desired learning outcomes'.

### Dimensions of a stimulating learning environment

In creating a stimulating learning environment, we distinguish a number of dimensions: The **learning content** should focus on the acquisition of specific knowledge elements and skills, as well as on the application of what has been learned (knowledge and experience) in other or new situations (also referred to as transfer). The **teaching methods** for each educational situation are specified and ensure that the learner reaches the stage of self-regulated learning. Consider, for example, techniques like coaching and reflection, explication, modelling and scaffolding. The **sequence of learning tasks** within an educational unit is ordered according to their complexity and diversity, and is consistent with the institution's broader educational vision.

### Commitment

The **social context** is as compatible and representative as possible of the various contexts in which the learner will ultimately have to apply the acquired knowledge, skills and approach. The social context can also be considered in terms of the importance of socialisation. Belonging to a group of learners creates commitment to an institution and to each other. In the context of flexible education, this dimension of the learning environment introduces complexity due to the varying composition of groups of learners. This can provide a rich learning experience from highly diverse peers, but at the same time it can result in a lack of fellow students to turn to for help (Ten Berge & Lam, 2019). This point of focus requires designers of flexible education to consider learners' socialisation processes. In other words, they have to look for new forms of group formation. →

# Learning activities



## Introduction

1. How are learners guided and/or coached in choosing their pathway and the corresponding learning activities?
2. How are learners supported in determining the appropriate learning activities for a particular learning outcome?
3. What does the optimal combination of learning activities look like?
4. What are the wishes and needs of the target group in relation to the flexible education offered?
5. What does the learner's learning environment look like?
6. What specific attention is needed for IT-didactic support?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

An additional aspect is the dimension of an **appropriate organisation of education** that meets the professional's needs and wishes. Think of contact moments, location of contact moments, access to learning materials and other facilities that support the learning process. The impact analysis of flexible student routes on educational logistics (Scheers & Pinchetti, 2020) provides a valuable tool to oversee the consequences of flexible education on educational logistics processes.

## Digitalisation

The **digitalisation of the learning environment** is the final dimension of the learner's learning environment. Bos (2022) defines this dimension as the connector of learning processes, calling attention to the implementation of technology to achieve the desired effect on learning as envisaged in the design of the curriculum.

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## Want to know more?

For more information on the practical challenges and experiences in designing the digital learning environment to meet the needs of learners and lecturers, see: [www.surf.nl/en/digital-learning-environment](http://www.surf.nl/en/digital-learning-environment)  
[Guide and Prompting Board: Social Connectedness in Online and Blended Learning Communities](#)

# Learning activities



## Introduction

1. How are learners guided and/or coached in choosing their pathway and the corresponding learning activities?
2. How are learners supported in determining the appropriate learning activities for a particular learning outcome?
3. What does the optimal combination of learning activities look like?
4. What are the wishes and needs of the target group in relation to the flexible education offered?
5. What does the learner's learning environment look like?
6. What specific attention is needed for IT-didactic support?

FLEXIBLE EDUCATION

LEARNING OUTCOMES

ASSESSMENT

LEARNING ACTIVITIES

## What specific attention is needed for IT-didactic support?

Designing and facilitating an optimal blend of learning activities requires a digitally proficient, design-oriented lecturer. To what extent a lecturer should meet these requirements depends on the choice of tools and equipment that support learning. Research shows that IT competence of lecturers is a basic condition for the use of IT in education (Onderwijskennis | Blended learning en onderwijsontwerp, n.d.), which should then be integrated with subject-specific and didactic knowledge. This does not appear to be easy for everyone, however (Rizvi et al., 2017). That is why a lot of attention is paid to the professional development and support of lecturers in the field of IT by educational IT professionals.

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### Want to know more?

The [Facilitating professional development for lecturers zone](#) of the Acceleration Plan provides a rich environment for lecturers, management and HR to use products, projects and publications aimed at enhancing IT-didactic skills. Most institutions also offer support through educational IT professionals at the operational, tactical and strategic level. A fact-finding report (Vennix et al., 2021) on roles within institutions describes five possible roles: change agent, coach, advisor, networker and inspirer. It is advisable to find out what support is available at your institution, and how or in what role it is offered, so that you can choose the support that best suits your needs.



## List of sources

Adviescommissie 'Flexibel hoger onderwijs voor werkenden.' (2014). *Flexibel hoger onderwijs voor volwassenen. Adviesrapport*. rijksoverheid. [sitearchief.nl/#archive](https://sitearchief.nl/#archive)

Bergsen, S., Meester, E., Kirschner, P., & Bosman, A. (2020, June 3). Constructivism is not a pedagogy. *David Didau*. [learningspy.co.uk/literacy/constructivism-is-not-a-pedagogy/](https://learningspy.co.uk/literacy/constructivism-is-not-a-pedagogy/)

Biggs, J.B. (1996). Enhancing teaching through constructive alignment. *Higher Education*, 32, 347-364.

Bijkerk, L. (2015). *Basis Kwalificatie Examinering in het hoger beroepsonderwijs*. Bohn Stafleu van Loghum. [doi.org/10.1007/978-90-368-0933-7](https://doi.org/10.1007/978-90-368-0933-7)

Bos, N. (2022). *Vloeiend over grenzen heen. Technologie als verbinder van leerprocessen. Lectorale rede*. Hogeschool Inholland Domein Onderwijs & Innovatie. [www.inholland.nl/onderzoek/onderzoeklijnen/teaching-learning-technology/lectorale-rede-nynke-bos/](https://www.inholland.nl/onderzoek/onderzoeklijnen/teaching-learning-technology/lectorale-rede-nynke-bos/)

Bulthuis, P. (2013). *Het ZelCommodel, grip op competentieniveaus*. 2. [docplayer.nl/20605546-Het-zelcommodel-grip-op-competentieniveaus.html](https://docplayer.nl/20605546-Het-zelcommodel-grip-op-competentieniveaus.html)

European Centre for the Development of Vocational Training. (2016). *Application of learning outcomes approaches across Europe: A comparative study*. Publications Office. [data.europa.eu/doi/10.2801/735711](https://data.europa.eu/doi/10.2801/735711)

Gijsbertse, D. (2020). Hoofdstuk 22 De opkomst van alternatieve onderwijsmodellen, Flexibilisering en modularisering van het hoger onderwijs. In *Hoger beroepsonderwijs in 2030, Toekomstverkenningen en scenario's vanuit Hogeschool Rotterdam* (pp. 564-596). Hogeschool Rotterdam Uitgeverij. [www.hr.nl/hbo2030](https://www.hr.nl/hbo2030)

Handelzalts, A. (2019). Chapter 9 Collaborative Curriculum Development in Teacher Design Teams. In *Collaborative Curriculum Design for Sustainable Innovation and Teacher Learning* (pp. 159-173). Springer International Publishing. [library.oapen.org/bitstream/handle/20.500.12657/22872/1007289.pdf?sequence=1#page=166](https://library.oapen.org/bitstream/handle/20.500.12657/22872/1007289.pdf?sequence=1#page=166)

Harden, R. M. (2002). Learning outcomes and instructional objectives: Is there a difference? *Medical Teacher*, 24(2), 151-155. [doi.org/10.1080/0142159022020687](https://doi.org/10.1080/0142159022020687)

Huizinga, T., De Vries, S., De Vos, M., Te Lintelo, L., & Stuijver, S. (2022). *Flexibilisering in het hoger onderwijs: Studentbehoefte*. Versnellingsplan Onderwijsinnovatie met ICT. [www.versnellingsplan.nl/wp-content/uploads/2022/03/Flexibilisering-in-het-hoger-onderwijs-studentbehoefte-1.pdf](https://www.versnellingsplan.nl/wp-content/uploads/2022/03/Flexibilisering-in-het-hoger-onderwijs-studentbehoefte-1.pdf)

Hussey, T., & Smith, P. (2003). The Uses of Learning Outcomes. *Teaching in Higher Education*, 8(3), 357-368. [doi.org/10.1080/13562510309399](https://doi.org/10.1080/13562510309399)

Hussey, T., & Smith, P. (2008). Learning outcomes: A conceptual analysis. *Teaching in Higher Education*, 13(1), 107-115. [doi.org/10.1080/13562510701794159](https://doi.org/10.1080/13562510701794159)

Jonker, H., März, V., & Voogt, J. (2018). Teacher educators' professional identity under construction: The transition from teaching face-to-face to a blended curriculum. *Teaching and Teacher Education*, 71, 120-133. [doi.org/10.1016/j.tate.2017.12.016](https://doi.org/10.1016/j.tate.2017.12.016)

Kallenberg, A. J., van der Grijpspaarde, L., ter Braak, A., & van Horzen, C. J. (2005). *Leren en doceren in het hoger onderwijs*. Uitgeverij Lemma BV.

Keavy, J., & Chakroun, B. (2015). *Level-setting and recognition of learning outcomes: The use of level descriptors in the twenty-first century*. UNESCO Digital Library. [unesdoc.unesco.org/ark:/48223/pf0000242887](https://unesdoc.unesco.org/ark:/48223/pf0000242887)

Kennedy, D., Hyland, Á., & Ryan, N. (2007). *Writing and Using Learning Outcomes: A Practical Guide*.

Klarus, R. (1998). *Competenties Erkennen: Een studie naar modellen en procedures voor leerwegaafhankelijke beoordeling van beroepscompetenties*. repository.ubn.ru.nl/bitstream/handle/2066/18642/18642\_comper.pdf?sequence=1

Klarus, R., Peeters, A., & Brinke, D. J. (2017). Toetsen en valideren van leeruitkomsten in flexibel onderwijs. In H. van Berkel, A. Bax, & D. Joosten-ten Brinke (Eds.), *Toetsen in het hoger onderwijs* (pp. 95-107). Bohn Stafleu van Loghum. [doi.org/10.1007/978-90-368-1679-3\\_9](https://doi.org/10.1007/978-90-368-1679-3_9)

Lokhoff, J., Wegewijs, B., Durkin, K., Wagenaar, R., Gonzalez, J., Isaacs, A. K., Dona dalle Rose, L. F., & Gobbi (Eds.). (2010). *A tuning guide to formulating degree programme profiles: Including programme competences and programme learning outcomes*. Univ. of Deusto. [tuningacademy.org/wp-content/uploads/2014/02/A-Guide-to-Formulating-DPP\\_EN.pdf](https://tuningacademy.org/wp-content/uploads/2014/02/A-Guide-to-Formulating-DPP_EN.pdf)

NVAO (2019). *Beoordeling bestaande experimenten leeruitkomsten*, Protocol. NVAO Nederland. [www.nvaonet.nl/files/attachments/459/Beoordeling-bestaande-experimenten-leeruitkomsten.pdf](https://www.nvaonet.nl/files/attachments/459/Beoordeling-bestaande-experimenten-leeruitkomsten.pdf)

*Onderwijskennis | Blended learning en onderwijsontwerp*. (n.d.). Retrieved June 28, 2022, from [www.onderwijskennis.nl/artikelen/blended-learning-en-onderwijsontwerp](https://www.onderwijskennis.nl/artikelen/blended-learning-en-onderwijsontwerp)

Onderwijsmodel Avans University of Applied Sciences. (2022, June 22). *B. Blauwdruk ontwikkeling, uitvoering, evaluatie en doorontwikkeling - Lesmateriaal*. Blauwdruk Ontwikkeling, Uitvoering, Evaluatie En Doorontwikkeling. [maken.wikiwijs.nl/173358/B\\_Blauwdruk\\_ontwikkeling\\_uitvoering\\_evaluatie\\_en\\_doorontwikkeling](https://maken.wikiwijs.nl/173358/B_Blauwdruk_ontwikkeling_uitvoering_evaluatie_en_doorontwikkeling)

Peeters, W. (2021, September 21). *Leerdoelen, lesdoelen en leeruitkomsten: Wat is het verschil? Vernieuwonderwijs*. [www.vernieuwonderwijs.nl/leerdoelen-lesdoelen-en-leeruitkomsten/](https://www.vernieuwonderwijs.nl/leerdoelen-lesdoelen-en-leeruitkomsten/)

Rideout, C.A. (2018) Students' choices and achievement in large undergraduate classes using a novel flexible assessment approach, *Assessment & Evaluation in Higher Education*, 43:1, 68-78, DOI: [10.1080/02602938.2017.1294144](https://doi.org/10.1080/02602938.2017.1294144)

Rizvi, N. F., Gulzar, S., Nicholas, W., & Nkoroi, B. (2017). Barriers in adopting blended learning in a private university of Pakistan and East Africa: Faculty members' perspective. *MHealth*, 3(5). [mhealth.amegroups.com/article/view/14722](https://mhealth.amegroups.com/article/view/14722)

Ryan, R. M., & Deci, E. L. (2002). 1: Overview of Self-Determination Theory: An Organismic Dialectical Perspective. In *Handbook of Self-Determination Research* (pp. 3-34).

Scheers, M., & Pinchetti, T. (2020). *Impact flexibele studentroutes op onderwijslogistiek* [Research report]. [ersnellingsplan Onderwijsinnovatie met](https://ersnellingsplan.nl/onderwijsinnovatie-met-ict/)

ICT. [www.versnellingsplan.nl/Kennisbank/impact-flexibele-studieroutes/](https://www.versnellingsplan.nl/Kennisbank/impact-flexibele-studieroutes/)

Schwartz, B. (2016). *The Paradox of Choice—Why More is Less* (Revised Ed.). Harper Collins Publishers Inc.

Shift. (2018, July 12). These 27 Questions Will Help You (Really) Know Your Learners. SHIFT's *ELearning Blog*. [www.shiftelearning.com/blog/get-to-know-your-learners-better-elearning](https://www.shiftelearning.com/blog/get-to-know-your-learners-better-elearning)

Ten Berge, H., & Lam, I. (2019). Een Leven Lang Leren vraagt om flexibiliteit. *Thema*, 1(19), 52-56. *Tuning Educational structures in Europe—European Higher Education Area and Bologna Process*. (2016, May 18). [Tuning Educational Structures in Europe. ehea.info/cid101886/tuning-educational-structures-europe.html](https://tuning-educational-structures-europe.html)

Van Berkel, A. (2017, June). De assessmentdriehoek voor leerwegaafhankelijk toetsen en begeleiden. *Open Universiteit*, 2, 40.

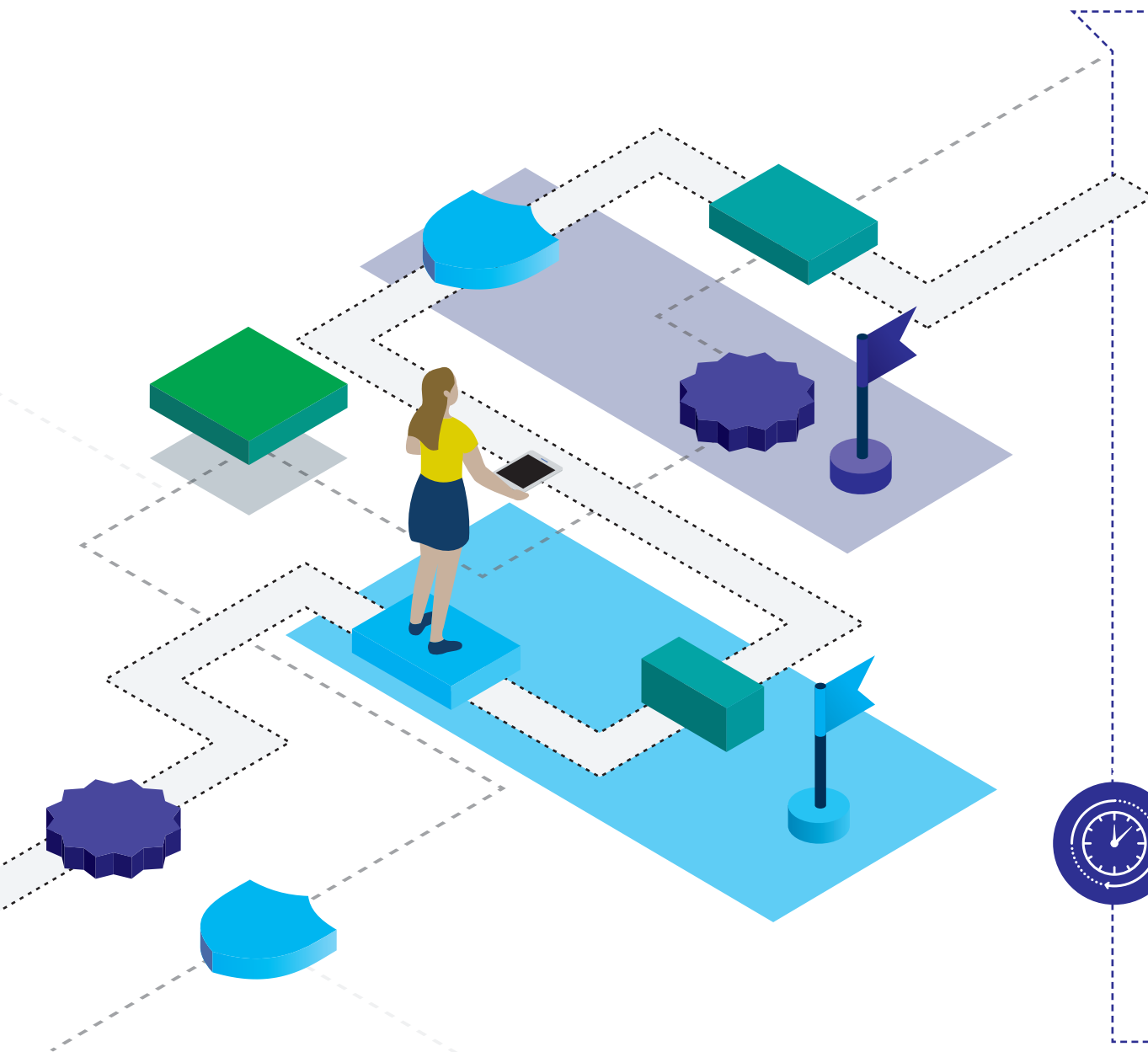
Van Delft, A. (2020). *Handleiding Formuleren leeruitkomsten NCP NLQF 2020*. Nationaal Coördinatiepunt NLQF. [nlqf.nl/images/downloads/Verzoek\\_tot\\_inschaling/Handleiding\\_Formuleren\\_leeruitkomsten\\_2020\\_NCP\\_NLQF\\_28122020.pdf](https://nlqf.nl/images/downloads/Verzoek_tot_inschaling/Handleiding_Formuleren_leeruitkomsten_2020_NCP_NLQF_28122020.pdf)

Vennix, J. J., Dekker, P. J., Hebbink, E., Peet, A., Ter Beek, M., Hopster-Den Otter, M., & Van Geel, M. (2021). *Focus op de onderwijskundig ICT-professional. Een verkenning in het (inter)nationaal hoger onderwijs met aanbevelingen voor de praktijk*. Versnellingsplan Onderwijsinnovatie met ICT. [www.versnellingsplan.nl/wp-content/uploads/2022/01/Focus-op-de-onderwijskundig-ICT-professional.pdf](https://www.versnellingsplan.nl/wp-content/uploads/2022/01/Focus-op-de-onderwijskundig-ICT-professional.pdf)

Voogt, J. M., Pieters, J. M., & Handelzalts, A. (2016). Teacher collaboration in curriculum design teams: Effects, mechanisms, and conditions. *Educational Research and Evaluation*, 22(3-4), 121-140. [doi.org/10.1080/13803611.2016.1247725](https://doi.org/10.1080/13803611.2016.1247725)

Wanner, T., Palmer, E., & Palmer, D. (2021) Flexible assessment and student empowerment: advantages and disadvantages – research from an Australian university, *Teaching in Higher Education*, DOI: [10.1080/13562517.2021.1989578](https://doi.org/10.1080/13562517.2021.1989578)

Wiggins, G., Wiggins, G. P., & McTighe, J. (2005). *Understanding by Design*. ASCD.



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### Building blocks for flexible education with personalised learning paths

Acceleration Plan for Educational Innovation with IT - Zone Flexibilisation



### Acceleration plan Educational innovation with ICT

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