# Learning trajectories offer more transparency and coherence

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In higher education, a sequence of programme components and subject matter presented in a certain order ensures that students acquire predefined competences by the time they graduate. It is our aim to minimise overlaps and gaps in students' study programmes. This requires that the different building blocks of the curricula fit together and complement one another. In order to ensure a smooth, gradual acquisition of competences, we can introduce **learning trajectories**. Because these trajectories span various programme components and subjects, they allow us to emphasise the coherence and structure of a curriculum more strongly.

## A closer look at the concept of 'learning trajectories'

A learning trajectory can be defined as 'a well-reasoned set of intermediate goals and contents leading towards a final goal' (Strijker, 2010). This can be a set of simultaneous and/or consecutive programme elements through which students acquire knowledge and skills in a certain domain. The term 'domain' is used in a broad sense here: it can refer to very **discipline-specific content**, but also to **subject matter that transcends disciplines**.

> *Here are a few examples of learning trajectories focused on **discipline-specific content**:*
>
> - *a 'Gene' learning trajectory in a Biochemistry and Biotechnology programme that encompasses any programme components related to genetics;*
>
> - *a 'Quantitative Methods' learning trajectory in a Business Administration programme that includes all programme components related to mathematics and statistics;*
>
> - *a 'General Political Science' learning trajectory in a Political Science Bachelor programme, mapping out where in the various programme components this theme is addressed.*

**Cross-disciplinary** or **generic learning trajectories** are aimed at the acquisition of generic skills and related knowledge and insights. These generic learning trajectories are meant to bridge certain gaps in the programme. They often tie in with strategic policy themes such as the education-research nexus, diversity, sustainability and entrepreneurship.

> *A few examples:*
>
> - *a 'Research Skills' learning trajectory in a Sociology programme, starting in the first year with a programme component titled 'Introduction to Scientific Work';*
>
> - *an 'Academic Language Proficiency' learning trajectory in an Industrial Sciences Bachelor programme, including not only the 'Academic Skills' programme component, but also further practice and assessment in various other programme components.*

Learning trajectories can be either **horizontal** or **vertical**, as we will clarify in the examples below.

**Vertical learning trajectories** ensure consistent competence acquisition throughout a standard study programme.

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> *This can be illustrated by a 'Skills' learning trajectory in a Philosophy programme, including both language skills and philosophical skills. These academic skills are gradually acquired over the course of the programme.*

A vertical learning trajectory can encompass parts of **both Bachelor and Master** programme components.

> *In a Medicine programme, a 'Clinical' learning trajectory might include medical-technical and communication skills taught throughout both the Bachelor and the Master programmes.*

Even in a one-year Master, it can be useful to incorporate vertical learning trajectories which could include components of a **preparatory or bridging programme**.

> *An example of this is a 'Research Methodology' vertical learning trajectory in the one-year Master of Organisation and Management, which includes components of both the bridging and preparatory programmes and the Master programme.*

**Horizontal learning trajectories** reflect the structure of one academic year of a standard study programme.

> *For instance, the four major modules in the Globalisation and Development Advanced Master programme, taught by different lecturers, form a horizontal sequence in the programme.*

## What is the added value of learning trajectories?

Training programmes in higher education have become increasingly complex. The flexibilisation of education and the great freedom of choice within curricula have had a negative effect on transparency. By clustering learning content into different learning trajectories, we can create an intermediate level in the curriculum, thereby reducing complexity and increasing transparency (Oorts et al., 2016).

Some practical applications demonstrating the **usefulness** of learning trajectories:

- **Adequate communication** with lecturers and students about the learning trajectories increases their insight into the structure of the programme. New lecturers, for example, can clearly situate their programme components in the wider context of the curriculum thanks to a system of learning trajectories. Students get a better overview of the way different programme components are interconnected, which can help them put together their study programmes.

- A **visual representation** of learning trajectories can ensure a transparent flow of information to various external stakeholders, such as prospective students and professionals. On info days, or in information brochures, for instance, learning trajectories could be used to give a clear overview of the structure of a study programme.

- A system of learning trajectories offers the possibility to make well-considered decisions with regard to the **sequence** in which programme components are taught – not only when it comes to the sequence of components within one learning trajectory, but also for the interconnection of programme components across learning trajectories. For example, a Microeconomics programme component ('Economics' learning trajectory) may require prior knowledge not only of economics, but also of mathematics ('Quantitative Methods' learning trajectory).

- Learning trajectories can also stimulate **interdisciplinary cooperation**, both within and across learning trajectories. For the acquisition of design skills, for instance, it could be decided to bring together human, technological and economic sciences in a single learning trajectory.

- Learning trajectories could also help facilitate the **process of curriculum changes and reforms**. The relative weightings of the various learning trajectories could serve as a basis for such reforms, starting from individual programme components – in an initial phase, at least.

- Learning trajectories can form the basis for **learning trajectory consultation**, with lecturers discussing not only how content can be interconnected, but also how study materials can be attuned to teaching and assessment methods.

- If exceptional circumstances (e.g. lecturer falls ill, coronavirus pandemic, etc.) prevent certain subject matter from being taught, it could be possible to **rearrange the learning content within the learning trajectory** temporarily.

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In one of the next ECHO teaching tips, we will discuss some key concerns when implementing learning trajectories, and we will provide some advice on how to organise learning trajectory consultations.

## Want to know more?

You can find an example (in Dutch) of a curriculum constructed around learning trajectories here.

For tips and possible pitfalls regarding this topic, you can reach out to any of the following contact persons:

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**Further reading (partly in Dutch)**

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