

# WUR BSC SKILLS LEARNING TRAJECTORIES:

## FROM VISION TO PRACTICE

13-11-2024



# Welcome!

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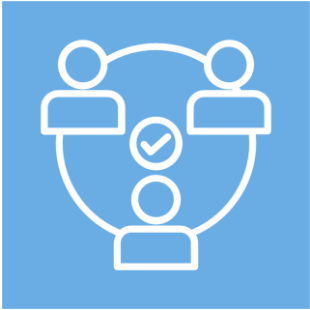
# Welcome!

- What is your biggest challenge in skills (learning trajectories) implementation, in realizing vision (or policy) into practice?

# Our ambition

- Skills learning trajectories are an explicitly integrated and visible component of all Bachelor's degree programmes.

# What has worked well in this project?



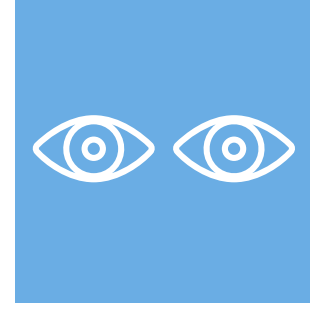
Position and  
governance



Consistent  
communication



Collaborative  
and service  
oriented  
approach



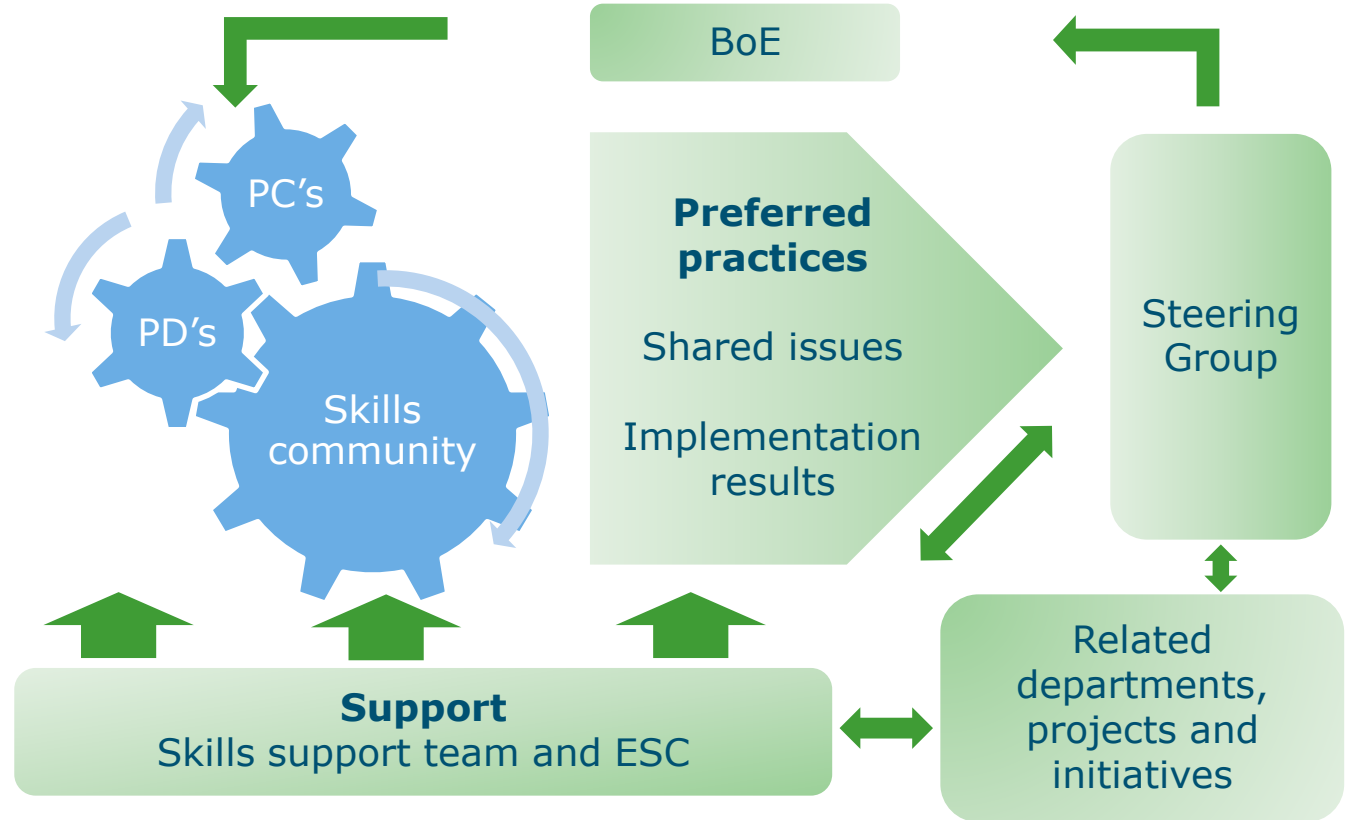
Concrete,  
practical and  
visible outcomes

# Position and governance

- Independent position
- The right people at the table
- Clear decision process
- Adequate backing

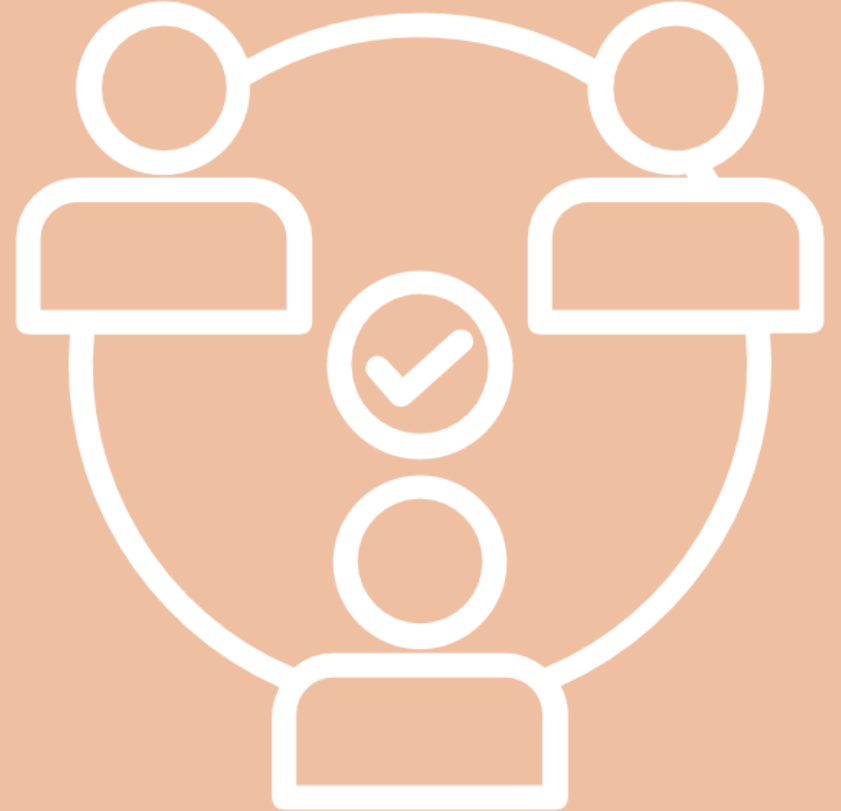


# Position and governance



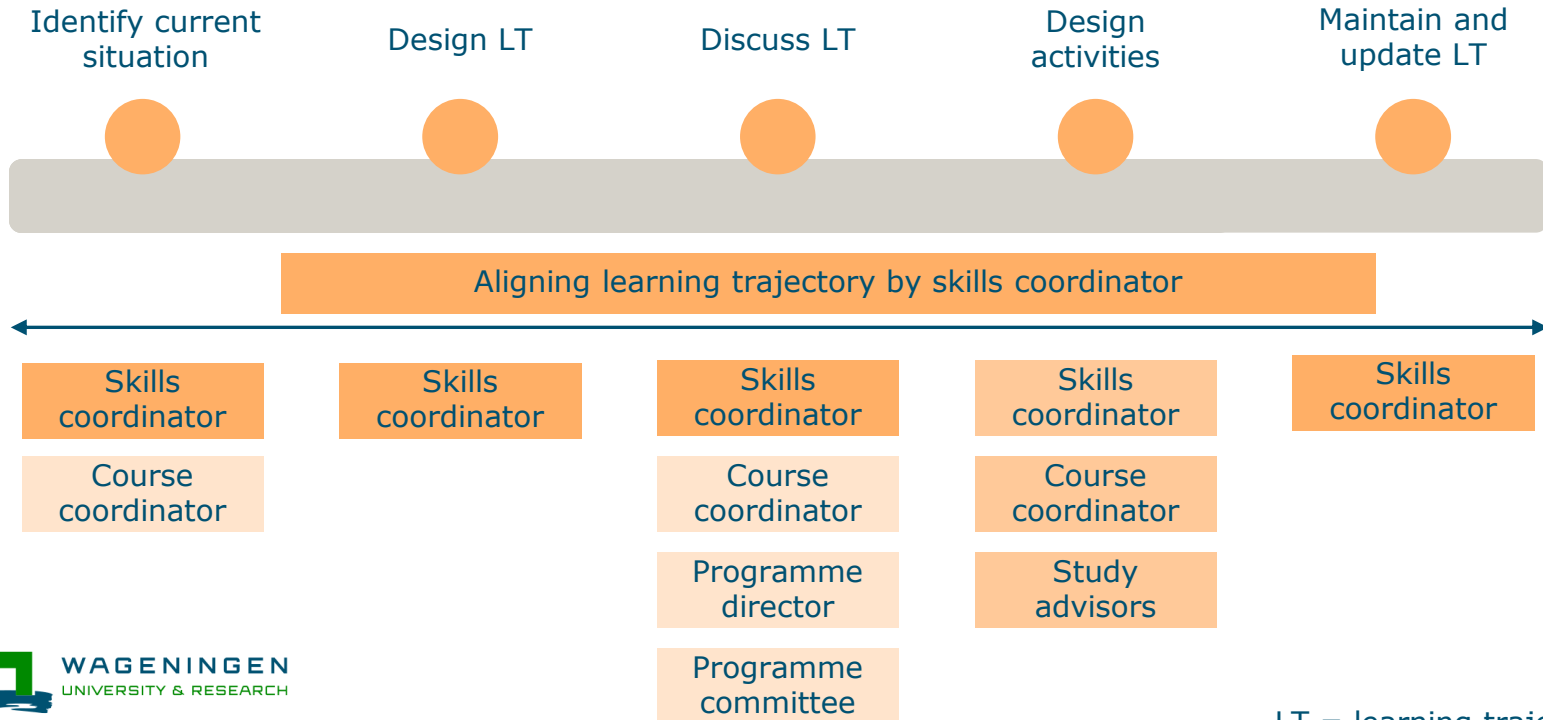
# Position and governance programme level

- Skills coordinator/team
  - Who is familiar with and involved in the programme
- Designing learning trajectories and activities **together**





# Position and governance in a programme



# Consistent communication

- Consistent project plan
- Core messages repeated
- BoE reconfirmed several times
- Recognizable documents/tools/templates (fingerprints, guideline, profile, icons)



# Example of a product: learning outcomes document

May 2023: New version, to be used 2023-2025

- [Skills profile rubric generator](#) to create a customised Programme Learning Outcomes document
- Card deck for teacher meetings/workshops



12. Data (version March 2023)  
Apply appropriate methods and techniques to mine, collect, process, analyse, interpret and visualise relevant data, putting the results and its presentation in a wider context.

	Attainment level 1 remember/know	Attainment level 2 understand and apply	Attainment level 3 apply and evaluate
12.1 Data acquisition and manipulation	Recognize relevant data in your domain. Describe and identify domain-specific data quality aspects such as: validity, accuracy, completeness, consistency and uniformity.	Acquire relevant primary (fresh) and/or secondary (existing) data in your domain given a specific task. Given acquired data, identify issues regarding data quality.	Apply methods for dealing with poor data quality, such as incompleteness and inconsistency. Given a research question, design a data model.
12.2 Data analysis	Given a simple problem and relevant data, identify an appropriate procedure to analyse the data.	Analyse data using a relevant software tool (e.g. Jupyter, R, Excel, SPSS). Critically evaluate the results of an analysis and their scientific relevance under supervision.	Identify and perform appropriate data analysis when confronted with new and 'dirty' datasets (e.g. unit change, format change, missing values and other inconsistencies) that might include biases and errors. Critically evaluate the results of an analysis and their scientific relevance.
12.3 Data visualisation	Describe relevant basic data visualisation methods for the domain (e.g. graphs, maps, 3D models).	Given a specific aim and audience, evaluate and choose relevant data visualisation methods and tools. Indicate how specific visualisation methods may influence the interpretation (e.g. a y-axis that does not start at 0, choice of colour in map representation).	Given specific data and purpose, apply relevant visualisation. Given specific data and purpose, evaluate existing visualisation.
12.4 Data management	List good data management practices (e.g., safe data storage, file naming and organisation, documentation, and versioning). If working with personal or sensitive data recall good practices (e.g., ethical principles, GDPR).	Apply good data management practices including safe data storage, file naming and organisation, documentation (e.g. lab journals, metadata, notebooks) and versioning. If working with personal or sensitive data apply principles of ethical research.	Explain the key concepts underlying the FAIR principles for good data management (findable, accessible, interoperable, reusable). Describe domain-specific data management challenges (e.g. large volumes of data, interoperability, data security).

[Back to overview](#)






# Consistent communication programme level

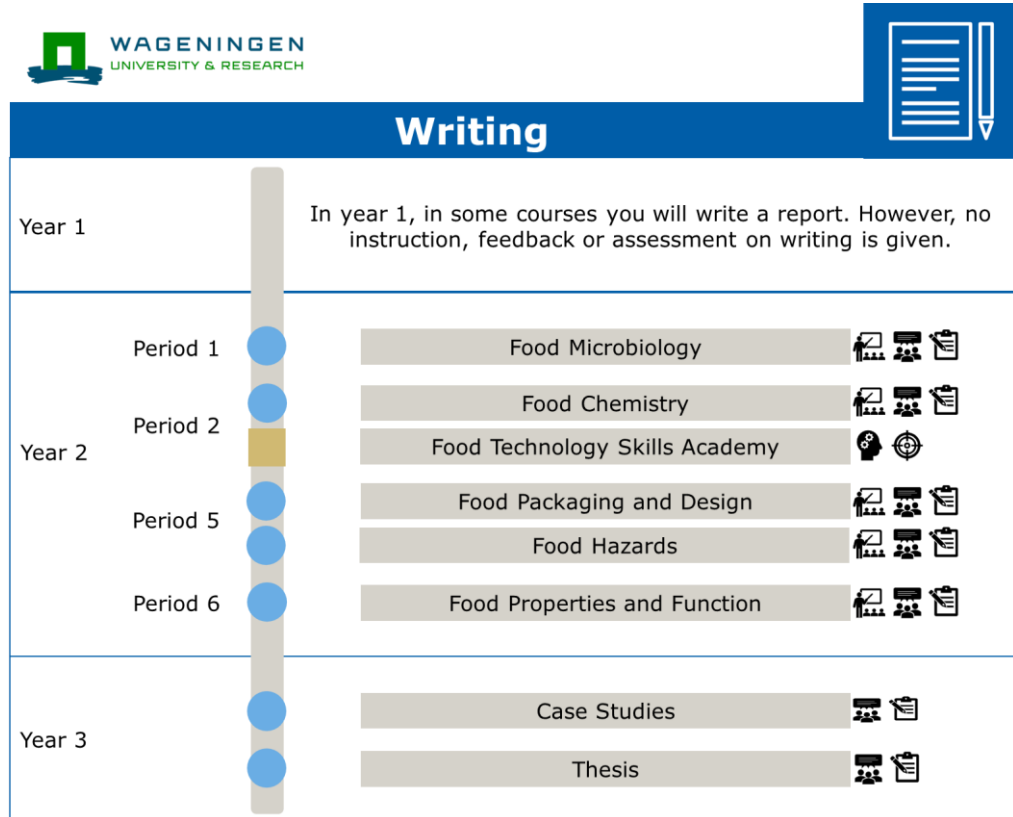
- Clear and visible learning trajectories for both students and teachers
- Recognizable overviews and assignments



# Example– visibility of learning trajectory

Interactive visual of learning trajectory on Brightspace

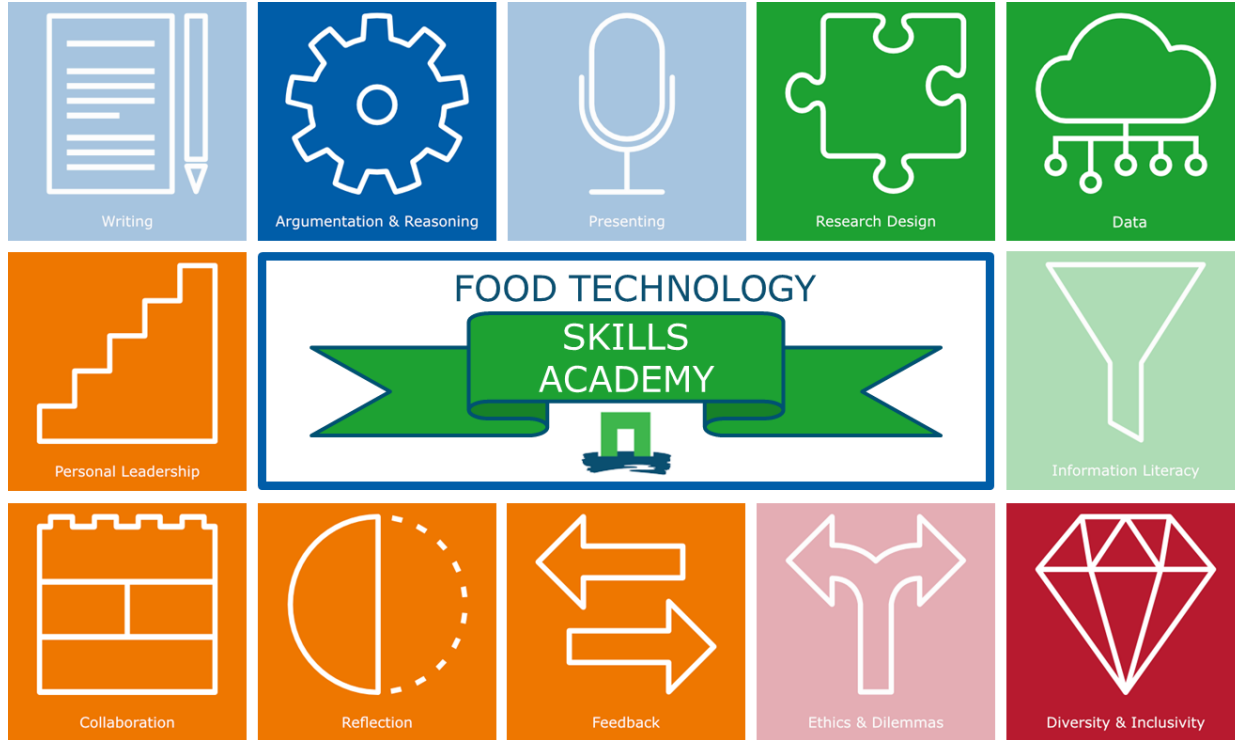
-  Instruction
-  Feedback
-  Assessment
-  Reflection
-  Goal setting



# Example– recognizable overviews



# Example– recognizable overviews



# Example-recognizable assignments

All reflection assignments consist of 3 steps:

1. Take-away message
2. Reflecting
3. Setting goal

## Assignment Reflection on Collaboration

In the course Introduction to Food Technology, you collaborated with other students on the case, the FPE practical and the EFT assignments. When collaborating, you might have experienced some challenges, and it is good to be aware of these challenges to collaborate better next time. Furthermore, it is useful to look back at what went well.

**Assignment 1 – take-away message:** What challenges did you encounter when collaborating with other students (1)? And what went well (2)?

- (1)  
(2)

Related to the skill *Collaboration*, a few subskills are important. For all subskills, you might feel that you are already good on a certain aspect, but might can improve on other aspects.

**Assignment 2 – reflect on your skills:** Complete the table on *Collaboration* for each subskill, by providing examples or situations of what you are already good at, and of what you still can improve.

For example:

<i>I am already good at the following aspects:</i>	<b>Subskill</b>	<i>I can improve myself on the following aspects:</i>
<i>During the practical, I was the one who divided the work and everybody agreed with the division.</i>	I was able to structure meetings and to divide the work.	<i>Make better agreements about the division of work of the case: now 2 people finished the same exercise.</i>

*Subskills for the skill Collaboration.*

<i>I am already good at the following aspects:</i>	<b>Subskill</b>	<i>I can improve myself on the following aspects:</i>
	I was able to structure meetings and to divide the work.	
	I was able to share all information with each other and integrate this well.	
	I was able to listen to others and speak up for myself.	

**Assignment 3 – set goals for next time:** Go to the [portfolio](#) tool in Brightspace and follow the [instruction](#) to:

- Open the collection 'Collaboration', and **upload this document** under the goal 'Awareness on skill' (by clicking on the 3 dots and on 'Add evidence to goal').
- Choose at least one subskill (or a combination of subskills), for which you **describe a goal** to work on. In period 4, you will be looking back to this goal. Insert this goal in portfolio, by clicking on 'Add goal', 'New goal'.

**After uploading this document + adding a goal in your portfolio, you are finished!**



# Collaborative and service oriented approach

- Focus on co-creation and connection
- Balancing guidance and autonomy
- Identify latent needs
- Iterative and flexible
- Handle/prepare tasks to relieve workload for teachers



# Balancing guidance and autonomy

## Skills profile

- Skills are defined
- Programmes indicate the level and extent of presence that fit the programme and suits their ambition

## SKILLS PROFILE (EXAMPLE)

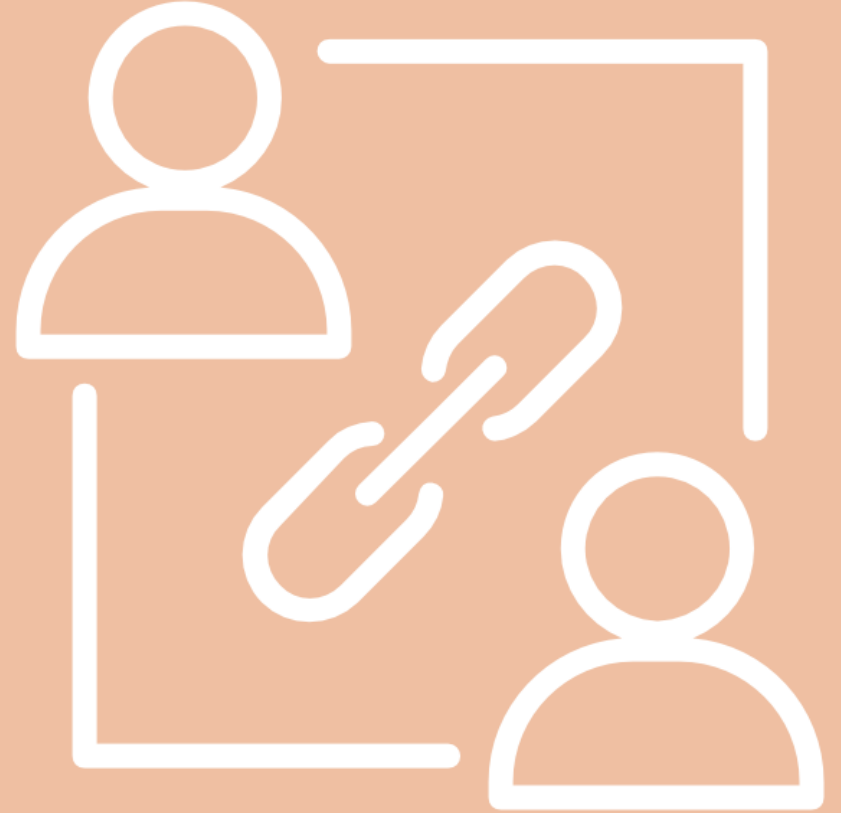
Determine the skills profile by ticking the appropriate boxes and deciding on the final level students achieve. I = Instruction; L = Learning activities; F = Feedback; A = Assessment.

		Core skills				Supportive skills				Implicitly taught skills			
		What are the core skills of the programme? What skills should every graduate demonstrably possess? What skills are explicitly instructed, trained and evaluated?				What are the main supportive skills? What skills are explicitly addressed within the programme to reinforce other skills, subjects or learning goals in the curriculum?				What are the supportive skills that shape students' development and point of view, but are only implicitly addressed within the programme? What skills are covered but not explicitly taught?			
	Level	I	L	F	A	I	L	F	A	I	L	F	A
<b>Communication</b>													
Academic English	2												
Argumentation	2												
Presenting	3	✓	✓	✓	✓					✓	✓	✓	
Writing	3	✓	✓	✓	✓								
<b>Research</b>													
Research design	2	✓	✓	✓	✓								
Information literacy	1					✓		✓					
Data science	3	✓	✓	✓	✓								
<b>Personal development</b>													
Collaboration	3	✓	✓	✓	✓								
Feedback	2					✓	✓	✓					
Personal leadership	2	✓	✓	✓	✓								
Reflection	2						✓	✓					
Entrepreneurial skills	1						✓						
<b>Responsibility</b>													
Diversity	3					✓	✓						
Ethics	1									✓	✓		
Philosophy of science	1					✓	✓	✓	✓				
Social embeddedness	1										✓		
<b>Summary of skills</b>													
<b>Core skills</b>		Presenting Writing Research design Data science Collaboration Personal leadership				<b>Supportive skills</b>				Information literacy Entrepreneurial skills Feedback Reflection Diversity Philosophy of science			
						<b>Implicitly taught skills</b>				Academic English Argumentation Ethics Social embeddedness			

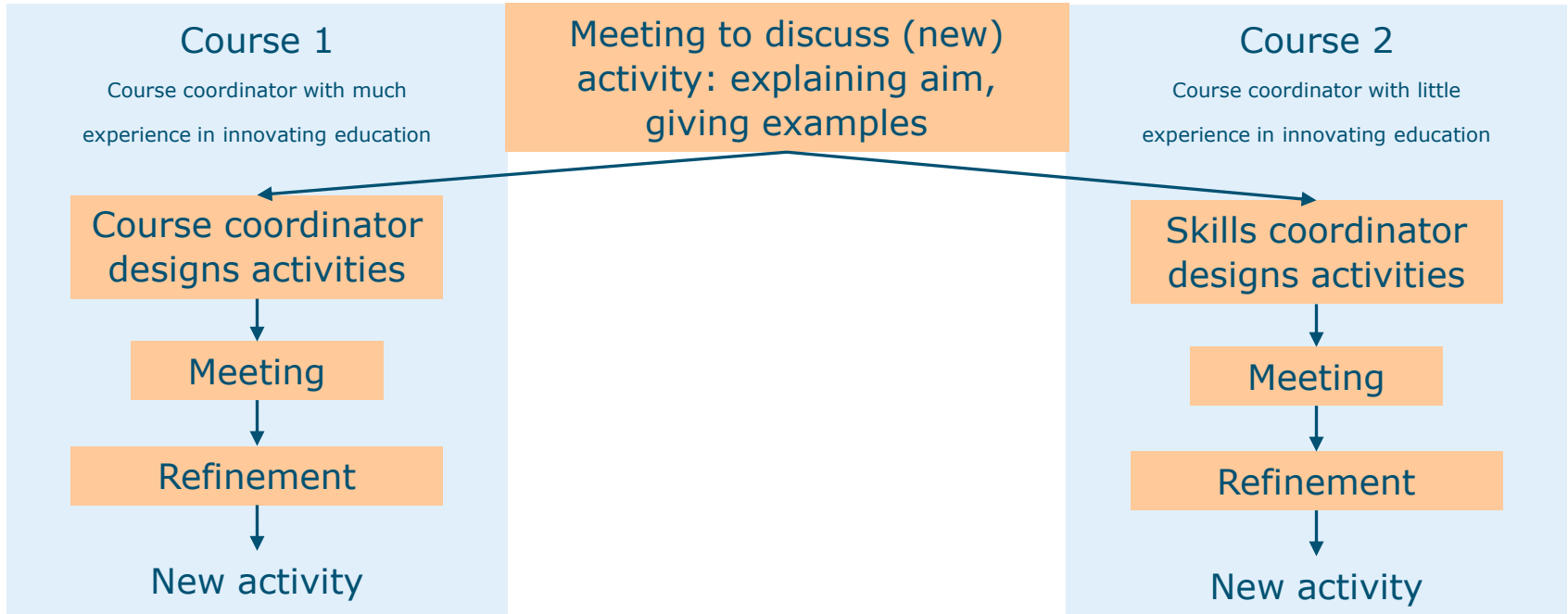
# Collaborative and service oriented approach

## programme level

- Make adjustments to the current situation
- Design learning trajectories and activities **together**
- Level of involvement is different per teacher

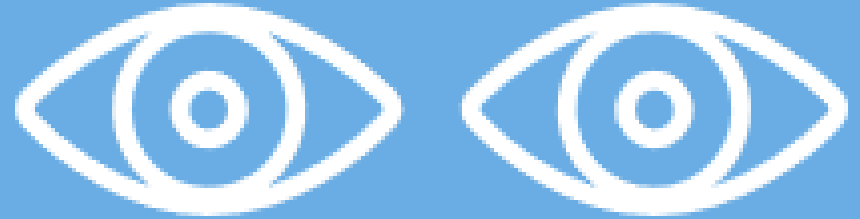


# Example–design of new activity in course



# Concrete, practical and visible outcomes

- Tools
- Guidelines
- Icons



# Sixteen skills in four clusters

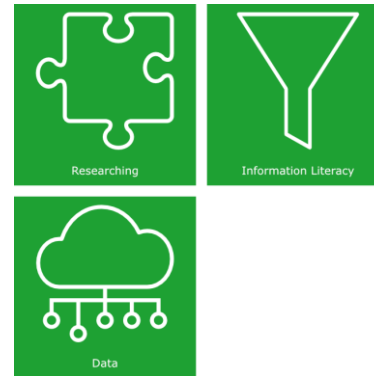
## Communication



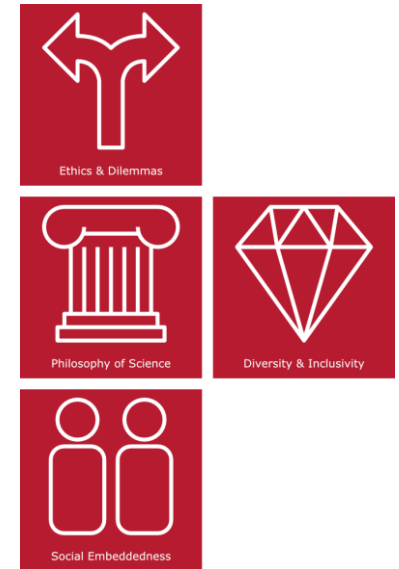
## Personal development



## Research

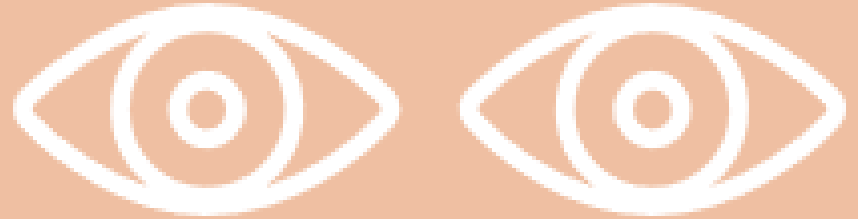


## Responsibility



# Concrete, practical and visible outcomes programme level

- Skills learning outcomes
- New assignments
- Brightspace with all material



Search Topics

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### Introduction

Welcome to the Brightspace of the Food Technology Skills Academy!

In the bachelor Food Technology, you will learn much about Food Technology, but you will also develop many skills. For that reason, we have several learning trajectories throughout all courses in the bachelor, in which you will develop all skills.

On this Brightspace, you can find information on:

- When (in which courses) you can practice the skills;
- How to develop the skills

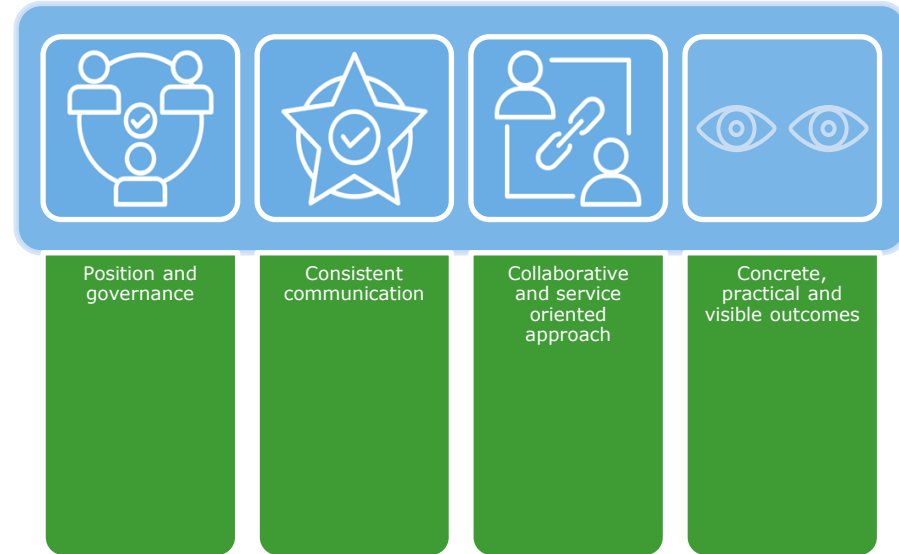
For first-year students, the introduction will be given in the course Introduction to Food Technology. For second-year students, the introduction will be given in the course Mathematical Concepts of Food Technology.

The graphic consists of a grid of icons on a blue and green background. The icons represent various skills: a document and pencil for 'Writing', a gear for 'Argumentation & Reasoning', a microphone for 'Presenting', puzzle pieces for 'Research Design', and a cloud with nodes for 'Data'. Below these is a large orange staircase icon, a central banner with the text 'FOOD TECHNOLOGY SKILLS ACADEMY', and a green funnel icon.



# Challenges in your own ambition/project

- How could you face your challenges, using these dimensions? Focus on your own circle of influence.
- Exchange and advise each other
- Upload your responses



# Thank you!