Making an Entrepreneurial Difference: new approaches to entrepreneurial learning in Life Sciences Education

FROM NARROW TO WIDE ENTREPRENEURSHIP

WAGENINGEN UNIVERSITY & RESEARCH

STARTHUB Wageningen

WHO IS TALKING?

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Interests: Sustainable entrepreneurship, Entrepreneurial mind-set, student entrepreneurship, impact driven value creation

From narrow to wide EE

1) From # start-ups and skill deficits to fostering an unfolding mind-set
   - Entrepreneurship as a decision making in uncertainty
   - Entrepreneurs as change agents, emphasizing economic, ecological and social goals in equal degrees

2) Alignment of the what AND the how question
   - Entrepreneurship as a learning trajectories (curricular and extracurricular)
   - Entrepreneurship education as pedagogy

Fostering the sustainable entrepreneurial mind-set

Competencies for sustainable entrepreneurship

- 6 key competencies that support future change agents
- Mapped and implemented across different life science universities (INTRINSIC)
- Self-assessment tool; used for personal development and team reflections → sustainable entrepreneurship scan

"I realise sustainable entrepreneurship means that I have to be able to deal with uncertainty, that I can make future prognoses, and that I am able to make, and when necessary change, plans for the future"

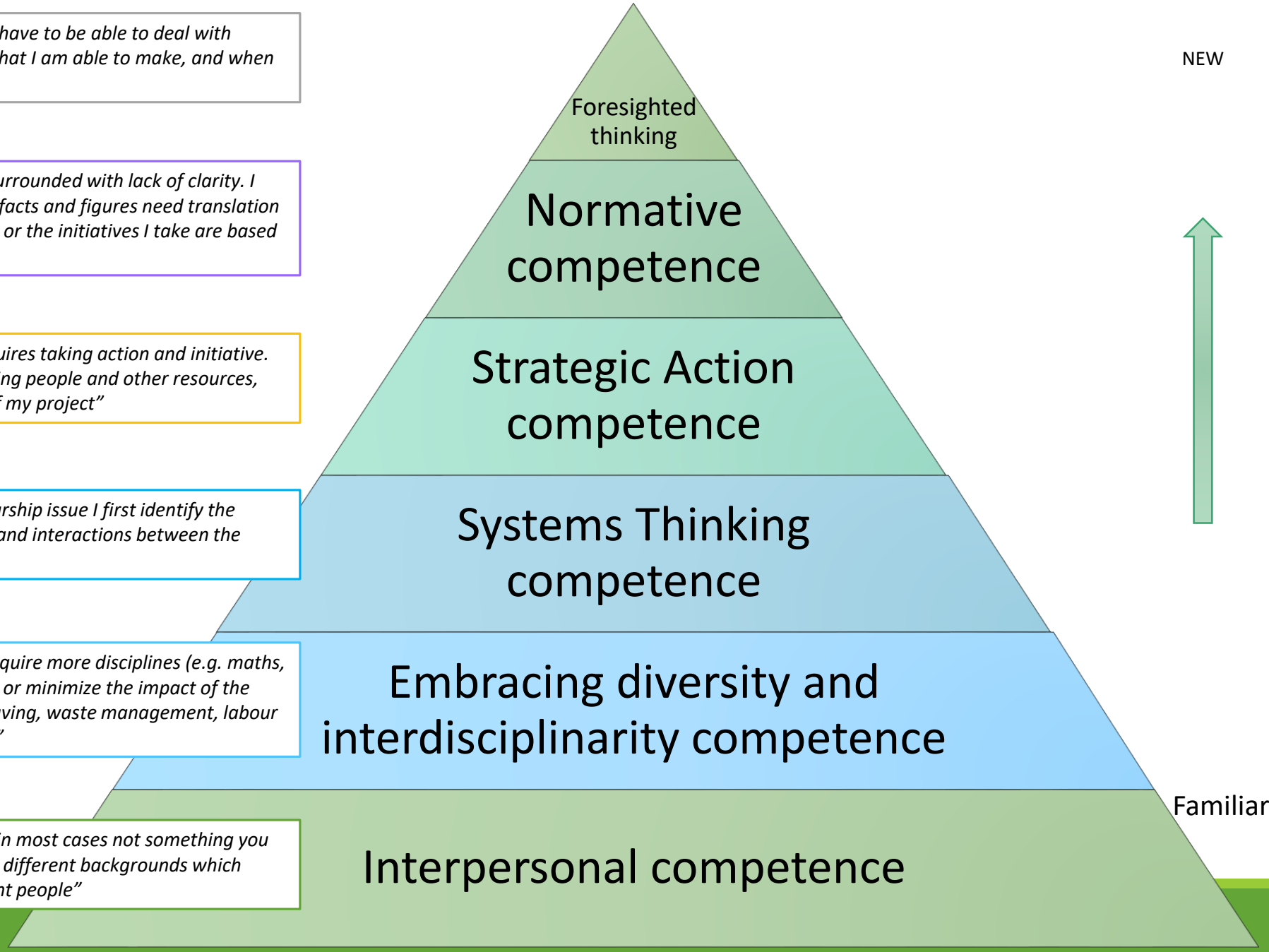
"I understand that sustainable entrepreneurship is surrounded with lack of clarity. I know what trustworthy sources are and realise that facts and figures need translation to my own practice and values. The decisions I make or the initiatives I take are based on these insights and values"

"I realise sustainable entrepreneurial issues also requires taking action and initiative. More specifically it involves arranging tasks, mobilising people and other resources, inspiring and motivating others and an evaluation of my project"

"Before I start working on a sustainable entrepreneurship issue I first identify the system(s) it may concern by examining the linkages and interactions between the elements that compose the system"

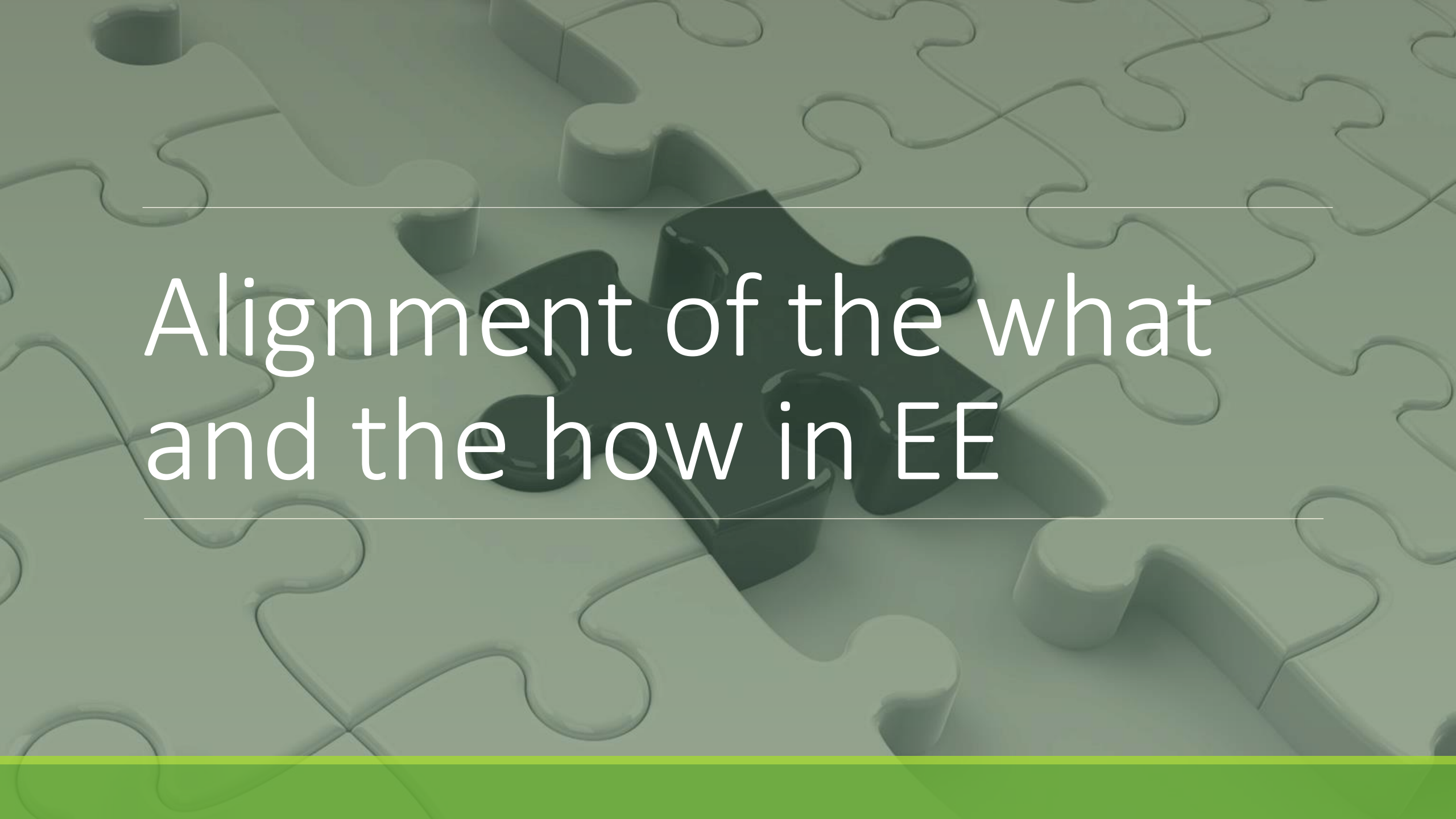
"I realise that sustainable entrepreneurship issues require more disciplines (e.g. maths, biology, science, social science) to solve the problem or minimize the impact of the problem. I cannot solve challenges such as energy saving, waste management, labour conditions or reducing carbon footprints on my own"

"I see that working as a sustainable entrepreneur is in most cases not something you do alone, it demands working with people who have different backgrounds which requires being able to communicate to these different people"



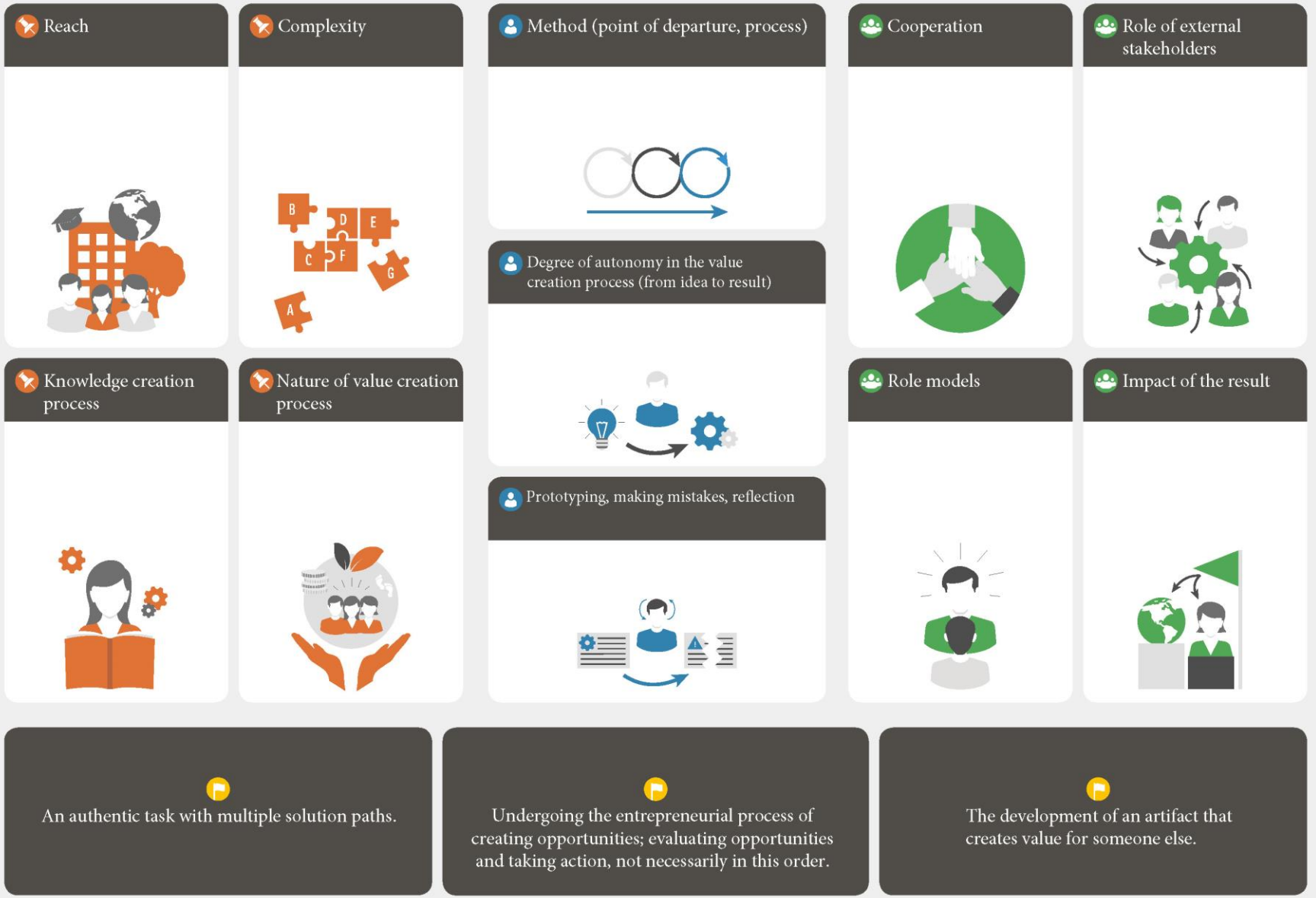
The Entrepreneurial Mind-set Monitor

- Measuring actionable behavior under uncertainty
- Based on the principles of Sarasvathy's work on Effectuation
- Moment to moment
- Instant feedback for the student



Alignment of the what and the how in EE

Design Principles for wide Entrepreneurship Education



EE at Wageningen University

1. Focus on *evidence-based* sustainable E-ship mind-set & knowledge
2. Interdisciplinary and Inclusive
3. Flexible: individual learning pathways
4. Capitalizing the full Wageningen Education Ecosystem, curricular & extracurricular
5. Visible, endorsed by entrepreneurs and scientific excellence

Architecture: E'ship@WUR

Academic and strategic coordination

Research

Sustainable entrepreneurship

- Entrepreneurial mindset
- Learning Tools
- Innovation and the role of entrepreneurs
- Intrapreneurship
- Valorisation policy and strategy

Education

Curricular

- Learning lines (BSc)
- Modular skills (MSc)
- Mastertrack e'ship courses
- PhD/Postdoc courses

Postacademic

- HR Capacity Development
- Starthub extracurricular program
- International training

Support

Outreach

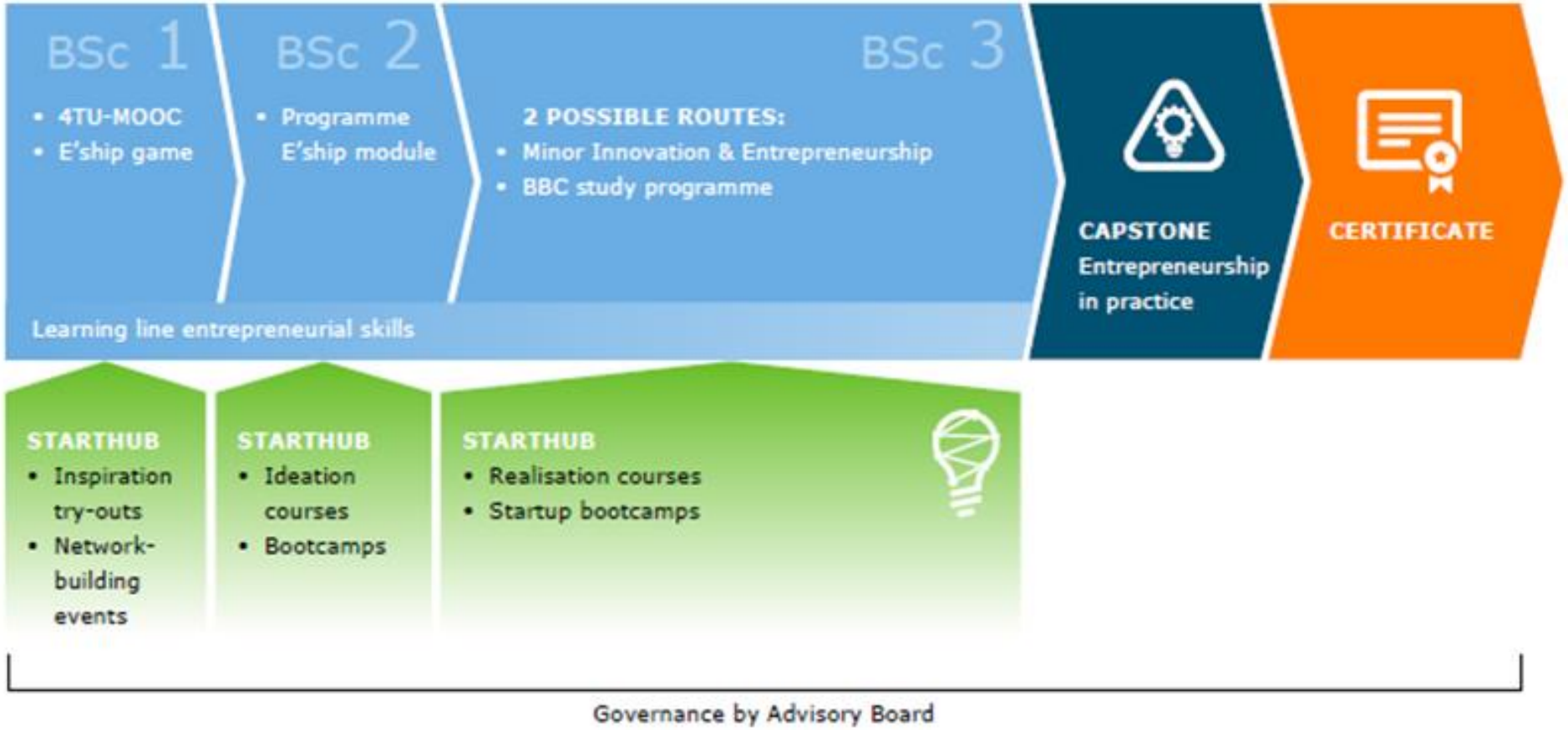
- International platforms – EBN, ICA
- Teacher community
- International exchange (EYE)
- Scouting and screening WUR

Collaborations

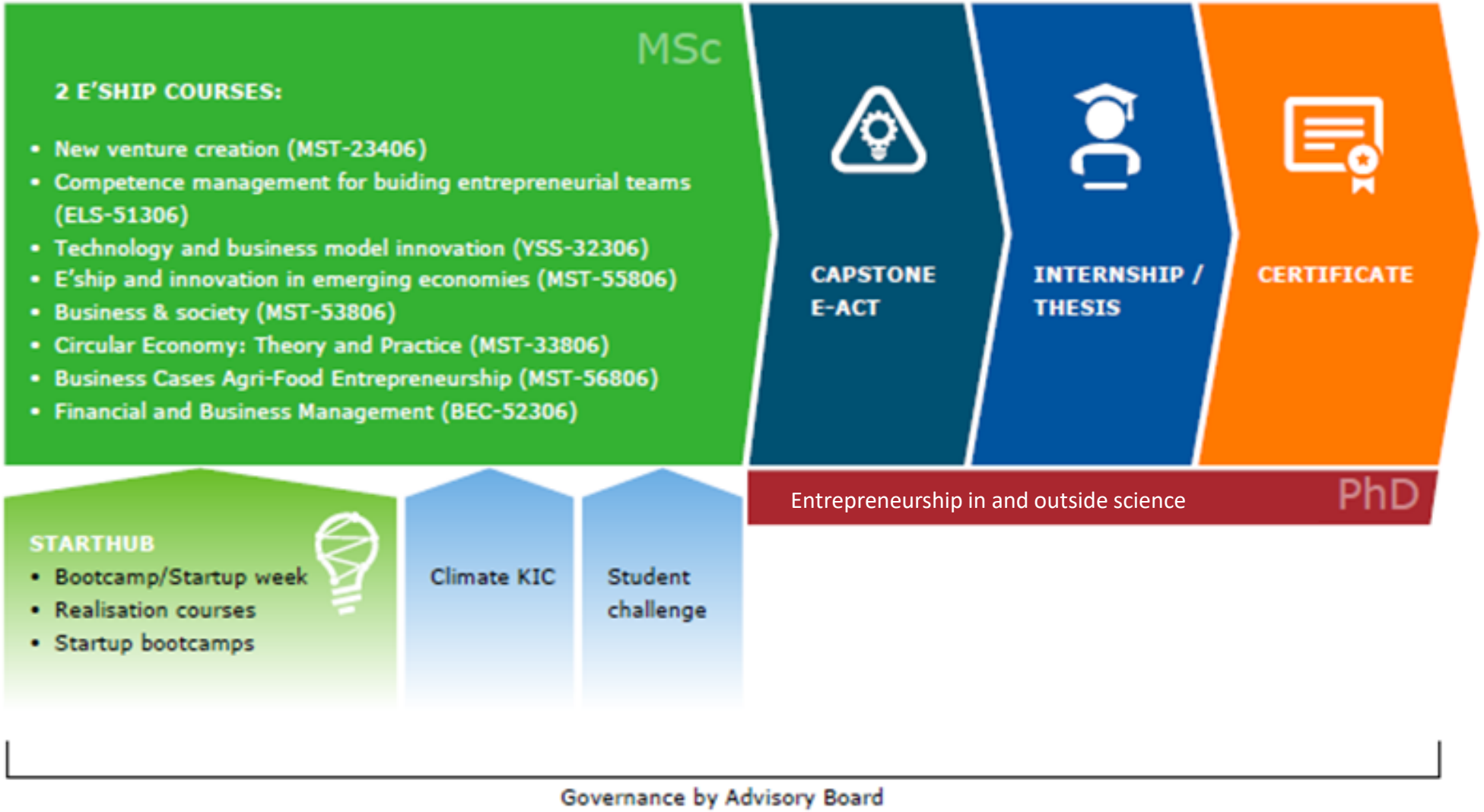
- WU-UU-TUE strategic alliance
- 4TU alliance
- StartHub mentor and expert network
- FabLab

StartHub Incubator Community

BSc


BSc 1
• 4TU-MOOC
• E'ship game
BSc 2
• Programme E'ship module
BSc 3
2 POSSIBLE ROUTES:
• Minor Innovation & Entrepreneurship
• BBC study programme
CAPSTONE
Entrepreneurship in practice
CERTIFICATE
Learning line entrepreneurial skills
STARTHUB
• Inspiration try-outs
• Network-building events
STARTHUB
• Ideation courses
• Bootcamps
STARTHUB
• Realisation courses
• Startup bootcamps
Governance by Advisory Board

MSc


MSc
2 E'SHIP COURSES:
• New venture creation (MST-23406)
• Competence management for buiding entrepreneurial teams (ELS-51306)
• Technology and business model innovation (YSS-32306)
• E'ship and innovation in emerging economies (MST-55806)
• Business & society (MST-53806)
• Circular Economy: Theory and Practice (MST-33806)
• Business Cases Agri-Food Entrepreneurship (MST-56806)
• Financial and Business Management (BEC-52306)
CAPSTONE E-ACT
INTERNSHIP / THESIS
CERTIFICATE
Entrepreneurship in and outside science
PhD
STARTHUB
• Bootcamp/Startup week
• Realisation courses
• Startup bootcamps
Climate KIC
Student challenge
Governance by Advisory Board

Future:
BSc skills learning line

Gradual implementation of games, lectures and cases in existing course in all bachelor programs across the WUR

	BSc 1 Foundation **Discovering the entrepreneurial world, the concept, tools and methods associated with entrepreneurial processes while relying on the support of others.**	**BSc 2 Intermediate** **Building independence through identifying ideas that create value for others, testing them and exploring solutions with significant others.**	**BSc 3 Advanced** **Taking part in transforming ideas into value for others and build solutions in interdisciplinary teams.**
Entrepreneurial mind-set & behaviour	Explore and Understand examples of entrepreneurial ambitions, intentions in their own study domain.	Identify ideas which create value (i.e. social, environmental, economic) for others (e.g. actors) in my (or adjacent) field(s) of work.	Develop own ideas into sustainable solutions that create value for others. thereby contributing to WUR challenges.
Tools & methods for sustainable entrepreneurship	Identify the concepts, tools and methods available to address the iterative, non-linear, open nature of entrepreneurial processes in their own study domain.	Select, test and refine ideas that create value for others using tools and methods for (sustainable) entrepreneurship. Reflect on achievements and failures and learn from these.	Assess and adapt, when appropriate, the tools and methods necessary for creating value for others in WUR challenges.
Entrepreneurial projects	Experiment in a guided environment with the iterative, non-linear, open nature of entrepreneurial processes in their own study domain.	Identify and examine entrepreneurial solutions to authentic problems in my (or adjacent) field(s) of work, through iterating with a wide range of individuals and groups in value creating activities.	Develop potential solutions to WUR challenges that create value for others, by taking initiative, mobilize resources, building an interdisciplinary team and taking decisions.

Success factors

Accessible for all students

Combination of domain specific contexts for learning combined with entrepreneurial thinking

Certificate

Real life cases

Adoption of wide entrepreneurship

Challenges

Involving teachers from all faculties

Designing flexible learning pathways

Embedding it in university structure

Most E-ship courses are ‘optional’ courses, i.e. not mandatory for any programme (i.e. funding is limited)

Relevant resources

1. Baggen Y, Lans T, Gulikers J. Making Entrepreneurship Education Available to All: Design Principles for Educational Programs Stimulating an Entrepreneurial Mindset. Entrepreneurship Education and Pedagogy. January 2021. doi:10.1177/251512420988517

2. Ploum, L., Blok, V., Lans, T., & Omta, O. (2018). Toward a validated competence framework for sustainable entrepreneurship. *Organization & environment*, *31*(2), 113-132.

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Thank you

Questions for the round table

1. What is needed to align the WHAT (entrepreneurship theory and practice) and the HOW (pedagogies and implementation) better at your university?

2. How can we encourage lecturers across a discipline specific degree programme to contribute to the integrated development of their students' entrepreneurial competences?

3. How do we embed sustainability better in entrepreneurship education?