

ESD

Education for Sustainable Development

Structure & Assessment

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The Four Pillars

Assessment,
Reporting & Certification

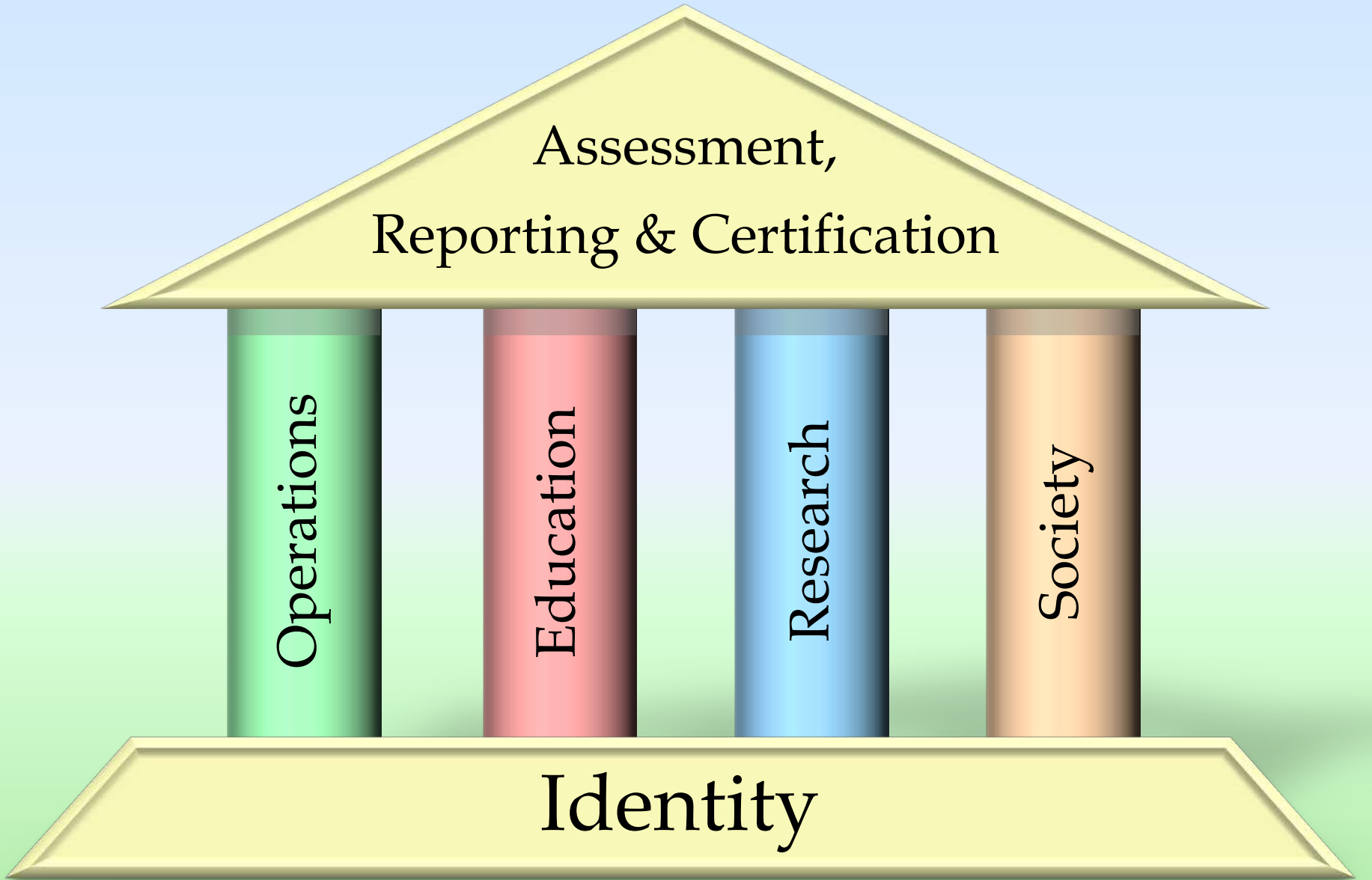
Operations

Education

Research

Society

Identity



'Table 6': Some characteristics of ESD

Principles	Characteristics	Details
Connectivity, complexity	Systems thinking	Connect analytic and holistic approach; small with large; local with global
	Multi-, inter- or transdisciplinary	Connecting disciplines and stakeholders
	Life-cycle approach	Connecting phases in the lifecycle
	Intercultural, international	Connecting people, cultures, regions, nations
	Future orientation	Connecting the past, the present and the future
Innovativity	Openness to changing conditions	Flexibility of mind; capability of dealing with uncertainties
	Openness to new solutions	Creativity, non-linearity, out of the box thinking
	Function orientation	Zooming out from products / services to underlying functions / needs
Learning by doing	Application of knowledge	Aiming at finding useful solutions to real problems
	Commitment	Personally engaged towards objectives of SD
	Cooperation	Cooperation between experts, educators, students, professionals
Reflexivity	Learning to learn	Reflection on own learning process, lifelong learning
	Responsibility	Personal responsibility for professional actions (stakeholder approach)
	Value-driven	Aware of relevance and relativity of embedded values and opinions
	Critical thinking	Critical attitude towards questions, tasks, methods, answers, own functioning
	Robustness of information	Level of certainty of knowledge, data, conclusions

'Table 6' was taken from:

'Sailing on the Winds of Change',

my PhD dissertation (2010),
based on ESD experiments
between 1991 and 2010.

*The pdf can be downloaded
from my [Linkedin](#) page:*

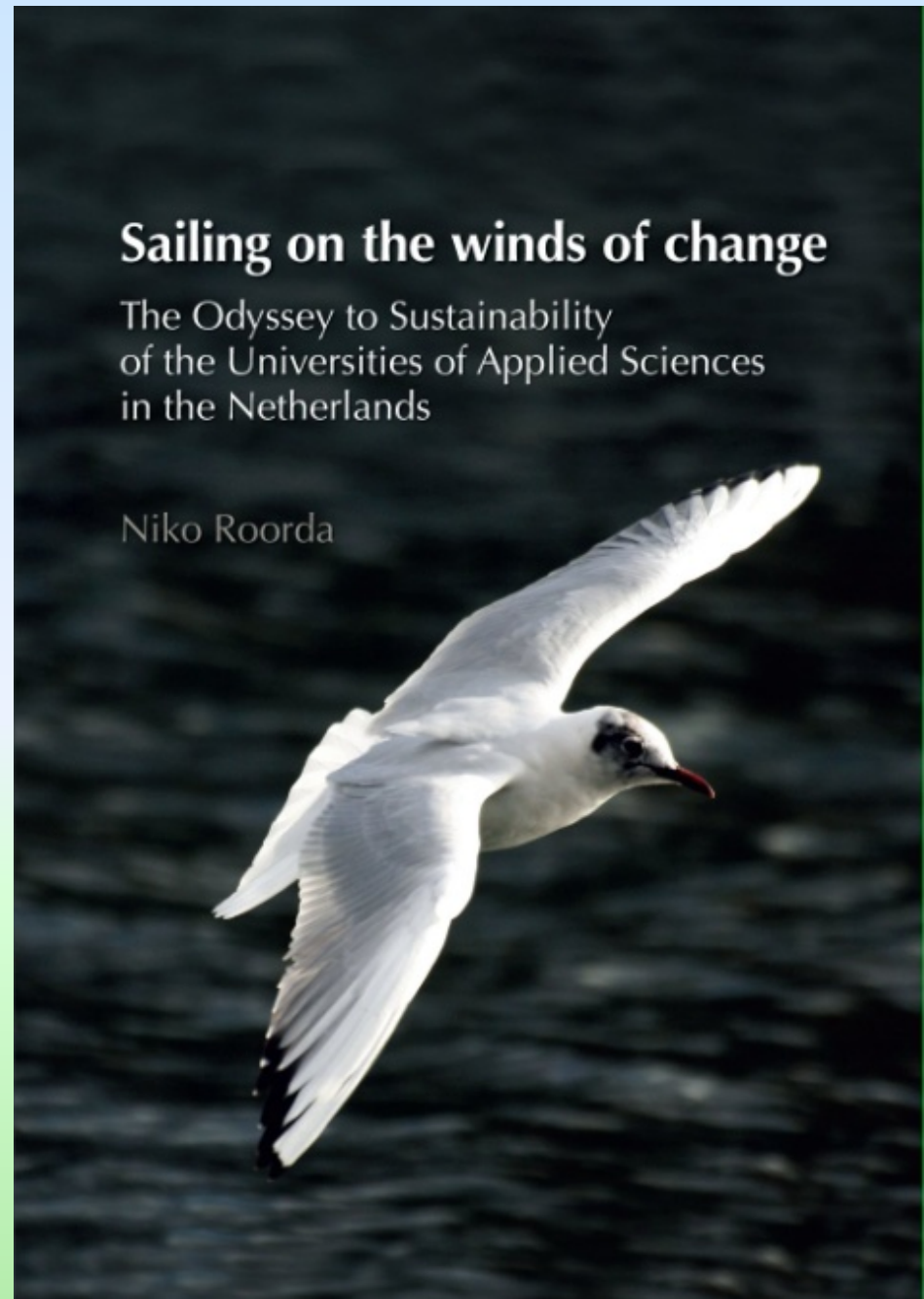
www.linkedin.com/in/nikoroorda

→ *link with me*

→ *go to Full Profile*

→ *go to Contact Info*

→ *download dissertation*



The Tree Model

Interdisciplinary cooperation

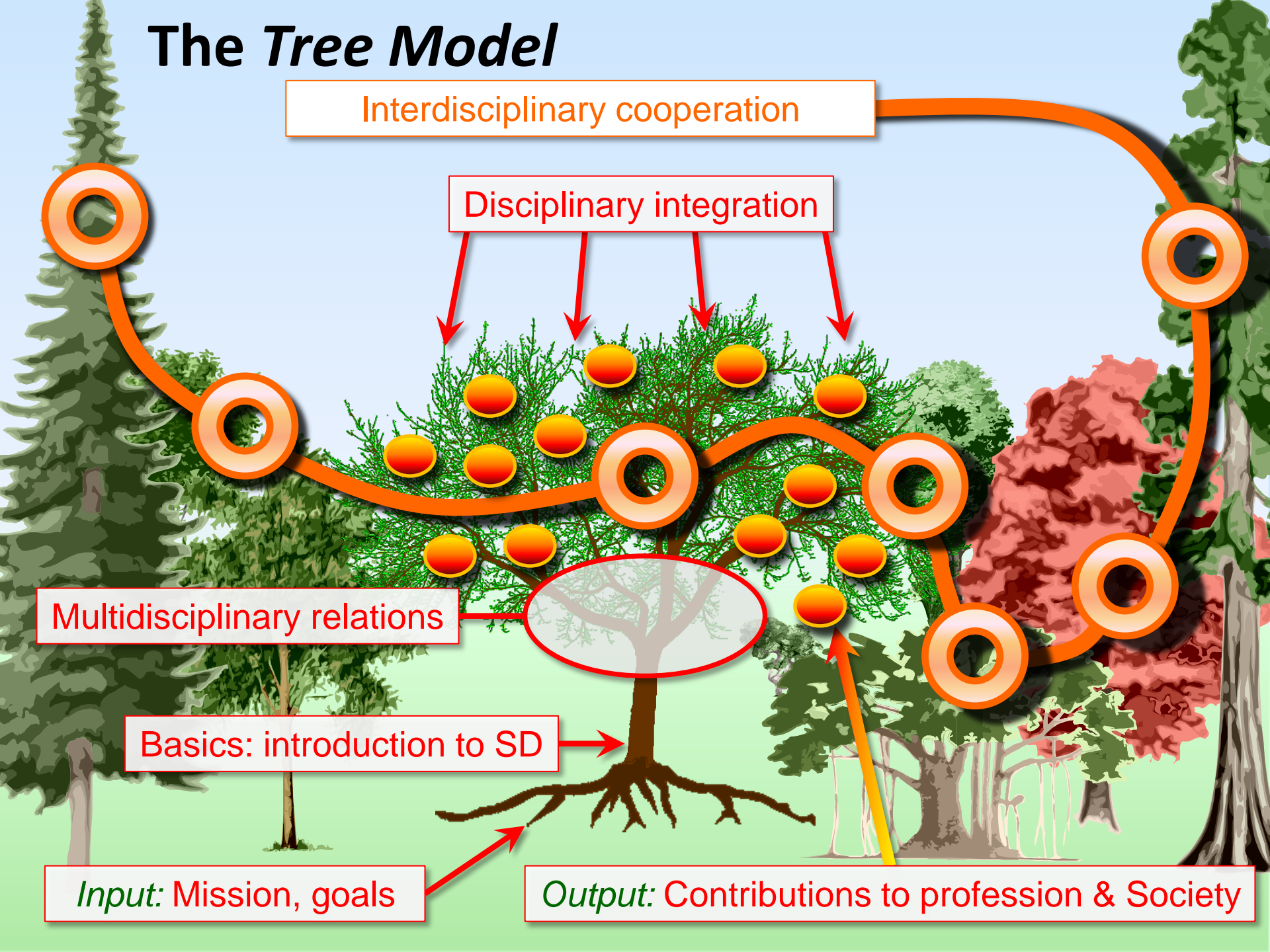
Disciplinary integration

Multidisciplinary relations

Basics: introduction to SD

Input: Mission, goals

Output: Contributions to profession & Society



Tree model:

• Roots:	Vision, mission, education goals	<i>Input</i>
• Trunk:	Basic module / introduction of SD	<i>Process</i>
• Biochemistry:	Education methodologies	
• Branches:	Disciplinary integration	
• Internal structure:	<i>Multi</i> disciplinary integration	
• Forest, ecosystem:	<i>Inter</i> disciplinary cooperation	
• Growth process:	Development & maintenance of study program	
• Fruits:	Output: effect on professional field & society	<i>Output</i>

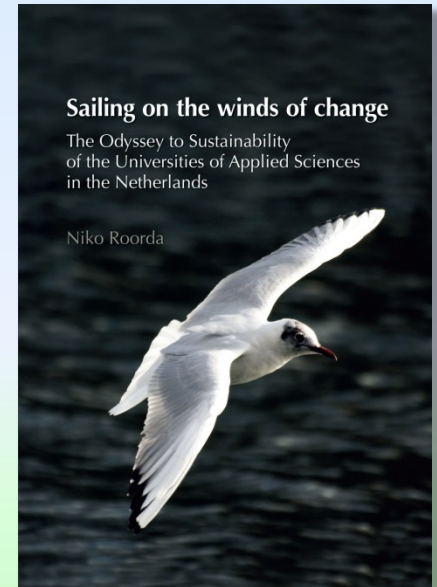
Final goal of ESD: **SISD**

'System Integration of Sustainable Development':

- **Systematic integration of SD** into a university
(or a faculty, school, study program, research institute)

AND (even more important):

- **Systemic integration of SD**, i.e. at a systems level.
SD has become a part of the fundamental characteristics of the organization, of its very **identity**.
SD has become a part of all or most **activities**, or at least of the **thoughts and philosophies** behind those activities.



See: Chapters 7 & 10

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Assessment tool 1: RESFIA+D

RESFIA+D : Professional competences for SD

Competence **R**:
Responsibility

Competence **E**:
Emotional intelligence

Competence **S**:
System orientation

Competence **F**:
Future orientation

Competence **I**:
personal Involvement

Competence **A**:
Action skills

+D: **Disciplinary competences**

<p>Competence R: Responsibility A sustainably competent professional bears responsibility for his or her own work.</p>	<p>Competence E: Emotional intelligence A sustainably competent professional empathises with the values and emotions of others.</p>
<p>1. Create a stakeholder analysis on the basis of the consequence scope and the consequence period</p>	<p>1. Recognise and respect his or her own values and those of other people and cultures</p>
<p>2. Take personal responsibility</p>	<p>2. Distinguish between facts, assumptions and opinions</p>
<p>3. Be held personally accountable with respect to society (transparency)</p>	<p>3. Cooperate on an interdisciplinary and transdisciplinary basis</p>
<p>Competence S: System orientation A sustainably competent professional thinks and acts from a systemic perspective.</p>	<p>Competence T: Future orientation A sustainably competent professional works and thinks on the basis of a perspective of the future.</p>
<p>1. Think from systems: flexibly zoom in and out on issues, i.e. thinking analytically and holistically in turn</p>	<p>1. Think on different time scales – flexibly zoom in and out on short and long term approaches</p>
<p>2. Recognise flaws in the fabric and sources of vigour in systems; have the ability to use the sources of vigour</p>	<p>2. Recognise and utilise non-linear processes</p>
<p>3. Think integrally and chain oriented</p>	<p>3. Think innovatively, creatively, out of the box</p>
<p>Competence I: personal Involvement A sustainably competent professional has a personal involvement in sustainable development.</p>	<p>Competence A: Action skills A sustainably competent professional is decisive and capable of acting.</p>
<p>1. Consistently involve sustainable development in the own work as a professional (sustainable attitude)</p>	<p>1. Weigh up the unweighable and make decisions</p>
<p>2. Passionately work towards dreams and ideals</p>	<p>2. Deal with uncertainties</p>
<p>3. Employ his or her conscience as the ultimate yardstick</p>	<p>3. Act when the time is right, and not go against the current: ‘action without action’</p>

Competence *Levels:*

	<i>Level 1: Apply</i>	<i>Level 2: Integrate</i>	<i>Level 3: Improve</i>	<i>Level 4: Innovate</i>
<p><i>Example:</i></p> <p>E: Emotional intelligence:</p> <p>E1. <i>Recognise and respect his or her own values and those of other people and cultures</i></p>	<p>❖ You formulate the values from which you think and act as a professional.</p>	<p>❖ You formulate the values from which others think and act who are involved or have an interest in your professional actions.</p> <p>❖ You 'listen actively' to others, and you communicate respectfully with these others about the differences in values.</p>	<p>❖ You cooperate with these others, during which you utilize both the similarities and the differences of the values as an enrichment and reinforcement of the quality of your activities.</p>	<p>❖ You enrich and reinforce the quality of your professional activities by actively expanding the cooperation to people or cultures with other values.</p>

Step 1: Which levels *should* your graduates have?

Step 2: Which levels are described in the *current competence profile*?

Step 3: Which levels are realized in your *current curriculum*?

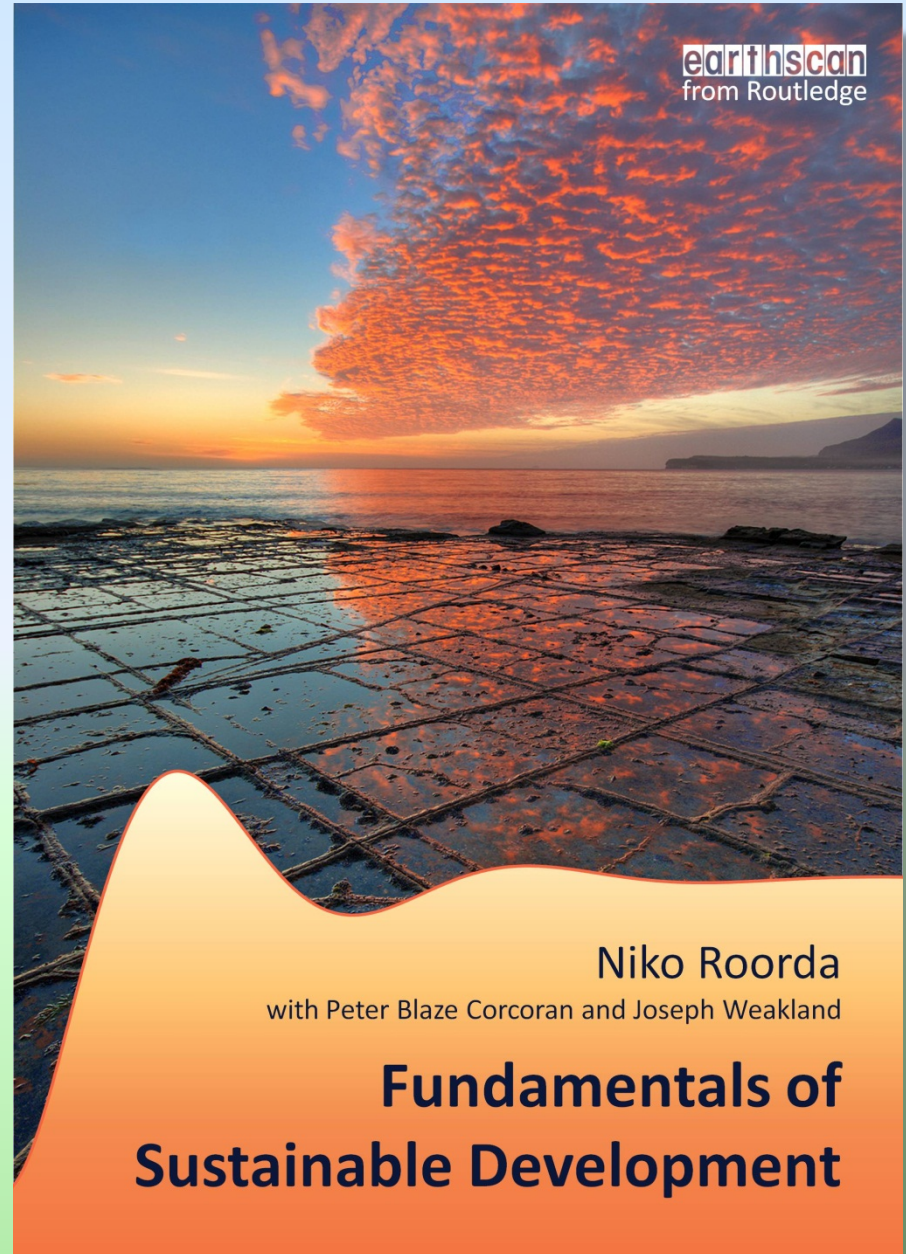
Step 4: Which improvements should be the *first priorities*?

Tree model:

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• Growth process:	Development & maintenance of study programme	
• Fruits:	Output: effect on professions & society	<i>Output</i>

Textbook: 'Fundamentals of Sustainable Development'

English edition: March 2012



earthscan
from Routledge

Niko Roorda

with Peter Blaze Corcoran and Joseph Weakland

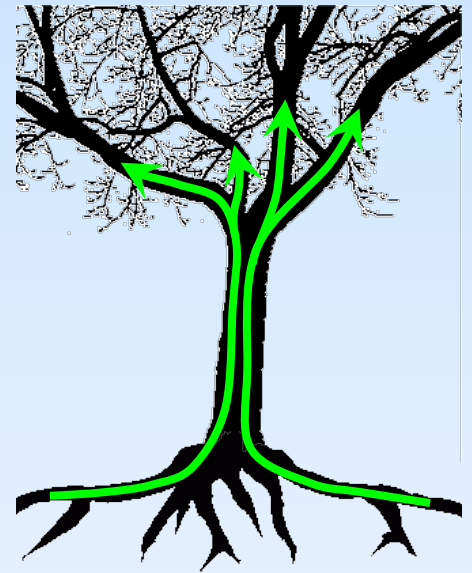
Fundamentals of Sustainable Development

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Educational methodologies

- 'Classic' education, lectures, etc.
- Problem based learning (PBL)
- Project education
- Discussions
- Research (by students)
- Enterprises (by students)
- Serious games
- Reflection
- Internships



Methodologies

Textbook: 'Fundamentals of Sustainable Development'

English edition: March 2012

The website offers:

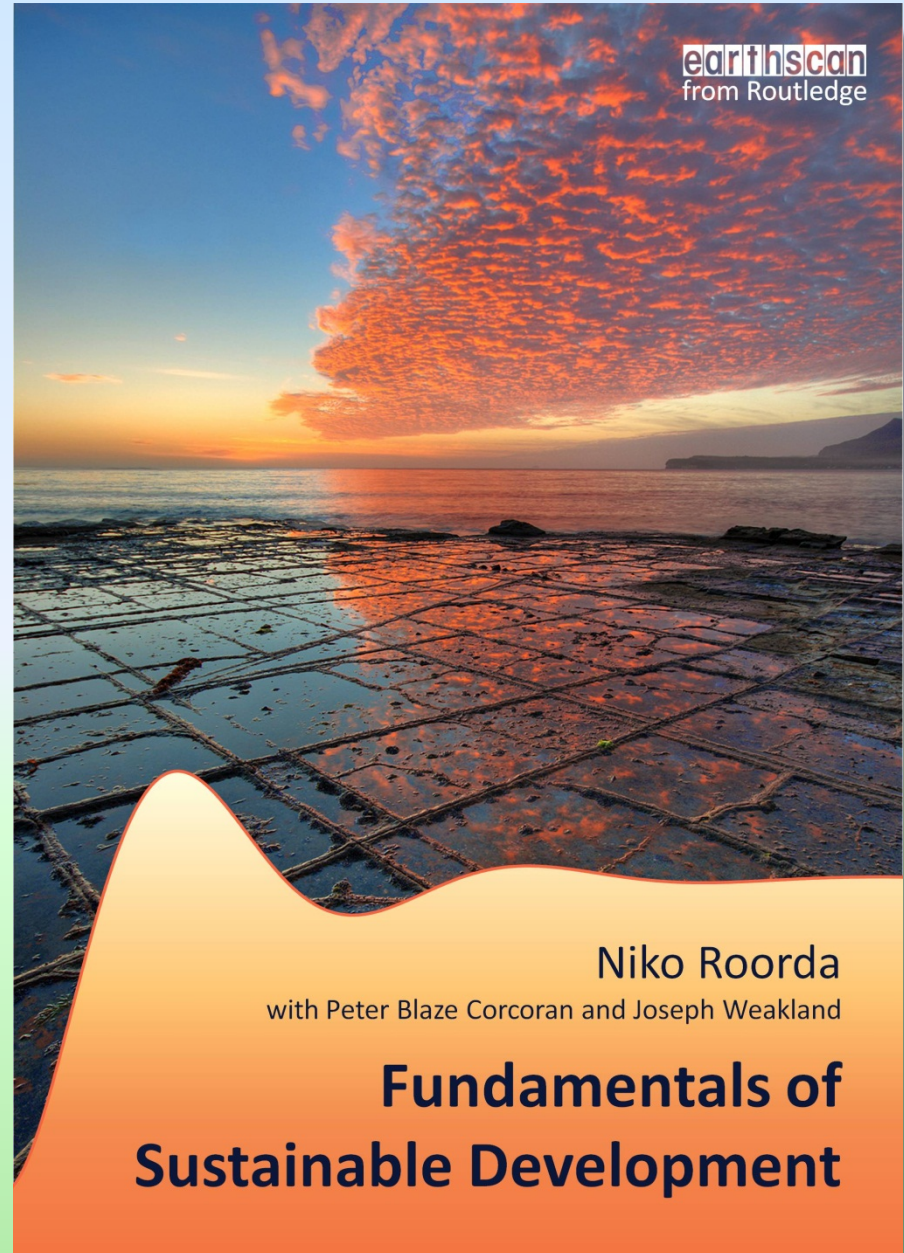
- > 200 **exercises**
- Circa 40 **videoclips**
- **Serious games** (computer programmes)
- **Learning goals** per chapter
- **Summary** per chapter
- **Extra information** per chapter
- Explaining **glossary**
- Spreadsheets, schemes, etc.

And *only* for educators:

- **Answers** to exercises
- **Powerpoint** per chapter

Website: via

www.linkedin.com/in/nikoroorda



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Assessment tool 2: *SD Curriculum Scan*

Period	Basics	People	Planet	Profit
First Year				
Sem.1	Triple P	Education	Agriculture and food	Economy
	Place	Health	Climate	Enterpre- neurship
	Time	Participation	Environment	International cooperation
	Ethics	Welfare and poverty	Nature	Technology
Sem.2	Triple P	Education	Agriculture and food	Economy
	Place	Health	Climate	Enterpre- neurship
	Time	Participation	Environment	International cooperation
	Ethics	Welfare and poverty	Nature	Technology
Second Year				
Sem.1	Triple P	Education	Agriculture and food	Economy
	Place	Health	Climate	Enterpre-

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Assessment tool 3: AISHE

AISHE 1.0 (2001)

- Developed and validated in 2000 -2001 (Netherlands, Sweden)
 - Applied ca. 300 – 400x
 - Applied in Netherlands, Belgium, Sweden, Germany, Finland, Austria, Spain, Ukrain, Lithuania, Bangladesh, Brazil, & > 10 African countries
 - **ESD Certificate**: awarded ca. 150x
 - **ESD Certificate** is formally recognized by Dutch-Belgian HE Accreditation Organization
-
- *Limitation*: Focuses on **education**

Remember the *Four Pillars*?

Assessment,
Reporting & Certification

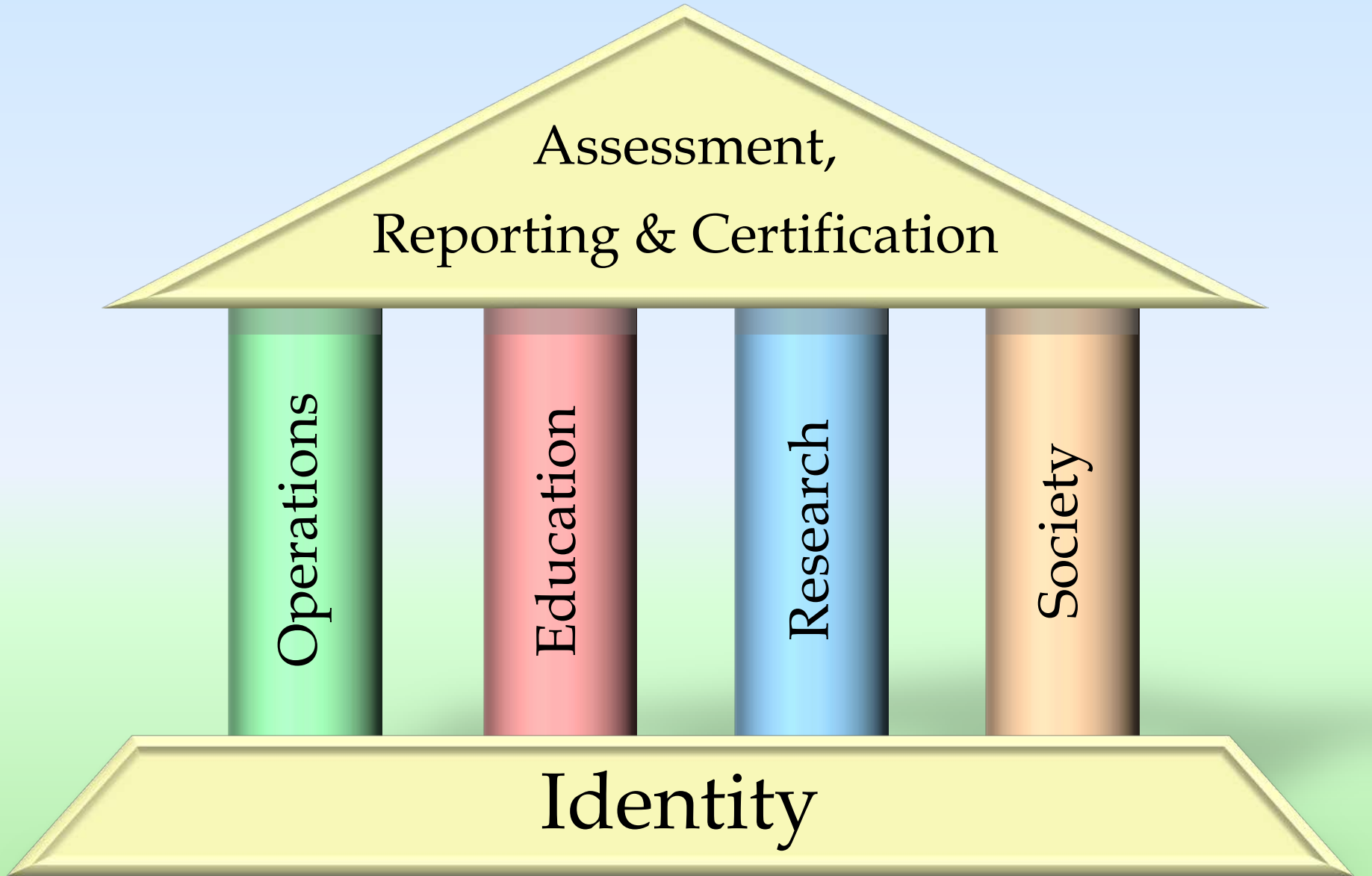
Operations

Education

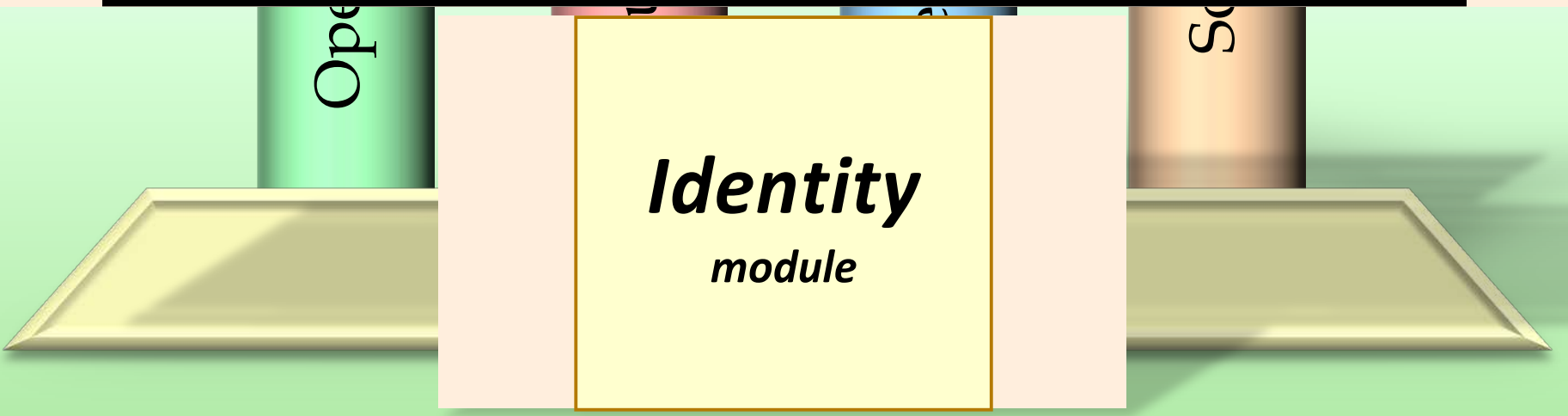
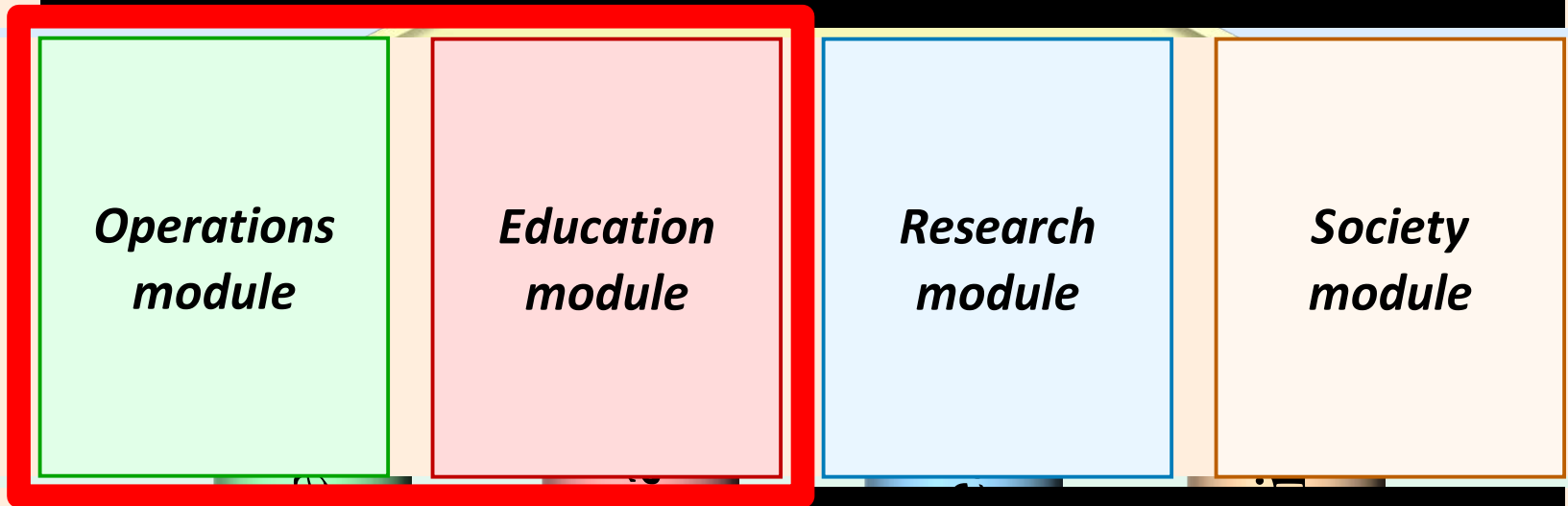
Research

Society

Identity



AISHE 2.0 (2008)



Operations

Education

CHECK

Quality Assessment

Output Assessment

Humanity *People*

Interdiscipl. Integration

DO

Ecology *Planet*

Thematic Integration

Economy *Profit*

Tree Model

Awareness & Basics

Physical Structure

Methodology

PLAN

Goals

Goals

Identity

CHECK

T

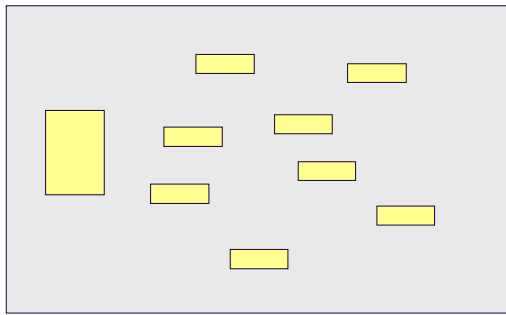
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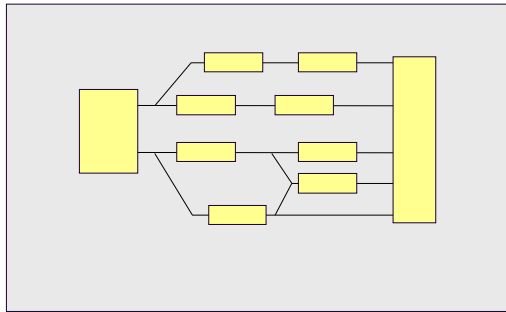
	Operations	Education	Research	Society	
<i>CHECK</i>	Quality Assessment	Output Assessment	Output Assessment	Impact Assessment	ACT
<i>DO</i>	Humanity	Interdiscipl. Integration	Interdiscipl. Integration	Connecting	
	Ecology	Thematic Integration	Thematic Integration	Thematic Involvement	
	Economy	Awareness & Basics	Awareness & Basics	Awareness & Learning	
	Physical Structure	Methodology	Methodology	Methodology	
<i>PLAN</i>	Goals	Goals	Goals	Goals	←
Identity					

<i>CHECK</i>	Transparency & Accountability	ACT
<i>DO</i>	Coherence	
	Expertise	
	Communication	
	Leadership	
<i>PLAN</i>	Vision & Policy	←

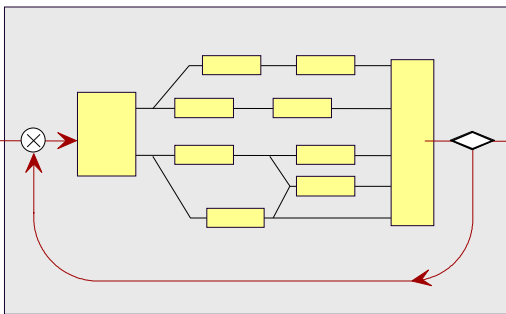
Stage 1: Ad hoc activities



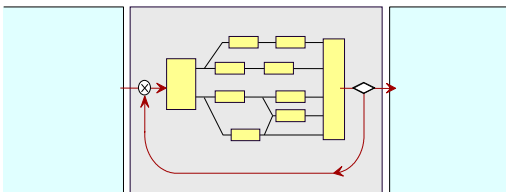
Stage 2: Process



Stage 3: System

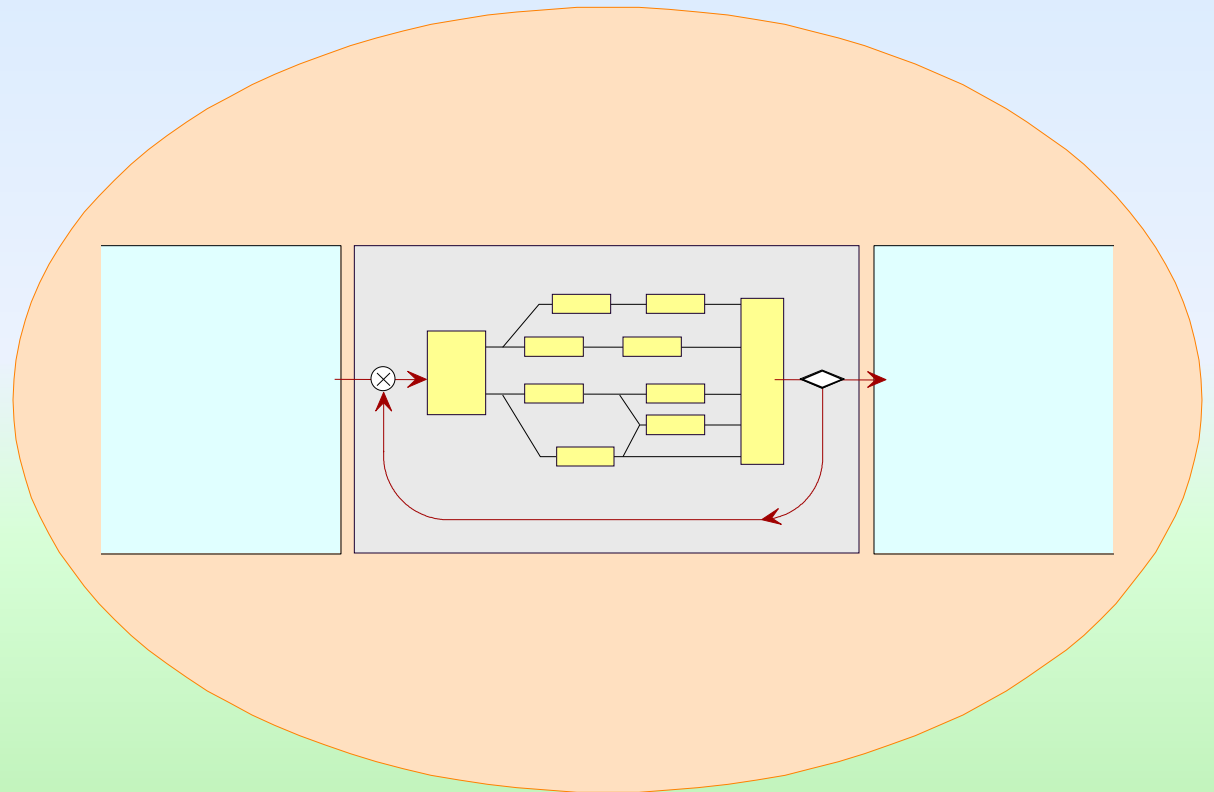


Stage 4: Chain



Organisation development (*EFQM, AISHE*): 5 stages

Stage 5: Society



The assessment process

Participation by ca. 15 people:

- 1 or more managers
- Ca. 6 professors / lecturers / teachers
- Ca. 6 students
- 1 or more non-teaching staff
- 1 or more members of professional field

Time use: most of a day:

1. Introduction by assessor	45 min.
2. Individual scoring by AISHE participants	45 min.
3. <u>Consensus meeting</u>	<u>4 hours</u>
Total	5 - 6 hours

Part of an *AISHE* report:

Criterion 3.1. Profile of the graduate

Present situation: Stage 1

The educational goals contain some environmental issues, like "Hand care..."

Desired situation: Stage 2

The present educational goals will be investigated in correspondence curriculum development, and improved wherever possible with respect sustainable development.

Criterion 3.2. Educational methodology

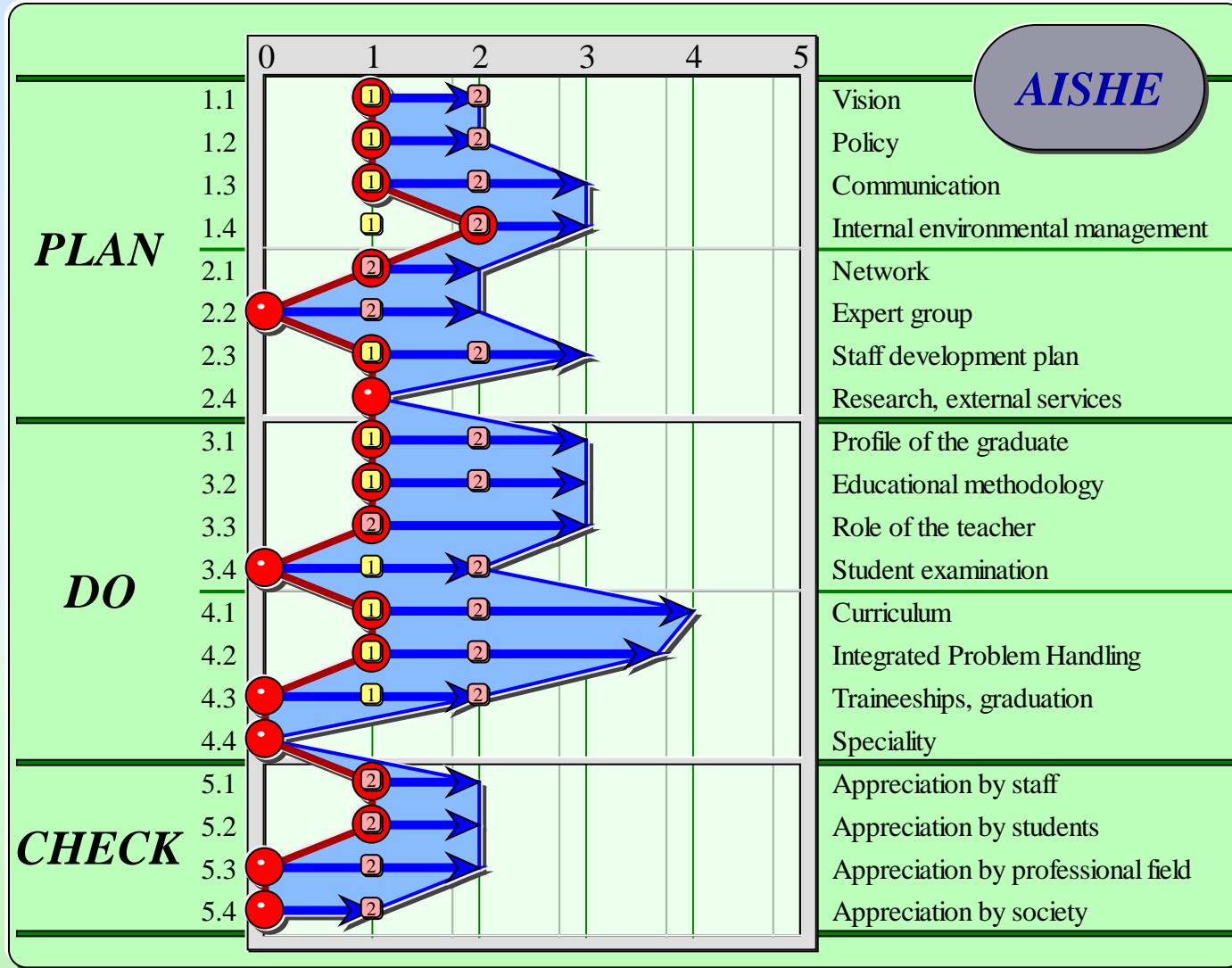
Present situation: Stage 2

The new curriculum has been designed in such a way that individual r is trained (stage 3): e.g. propaedeutical projects. In practice this has r realized in all parts. Students are members of the Education Committee

Desired situation: Stage 4 - High Priority

The way in which the own choices and decisions of the students are re professional practices will be investigated. Differences in graduation p in the starting profiles of individual students will be made clear. The

ESD Certificate based on AISHE 1.0:



- Vision
- Policy
- Communication
- Internal environmental management
- Network
- Expert group
- Staff development plan
- Research, external services
- Profile of the graduate
- Educational methodology
- Role of the teacher
- Student examination
- Curriculum
- Integrated Problem Handling
- Traineeships, graduation
- Speciality
- Appreciation by staff
- Appreciation by students
- Appreciation by professional field
- Appreciation by society

● Present situation
 ➔ Desired situation

Certificate * 1
 Certificate ** 2

What you get from an *AISHE* assessment

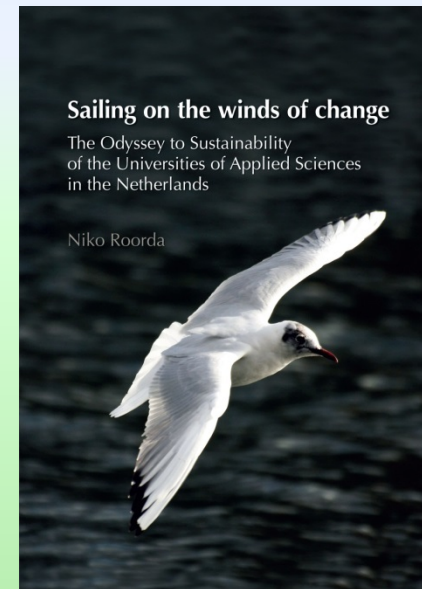
1. Realistic knowledge about the **present**
2. An **ESD Strategy / Policy** for the coming year(s)
3. **Support, enthusiasm, *passion***
(managers, staff & students)
4. *If successful:* the **ESD Certificate**
(1 star, 2 stars, 3 stars ...)

Tree model:

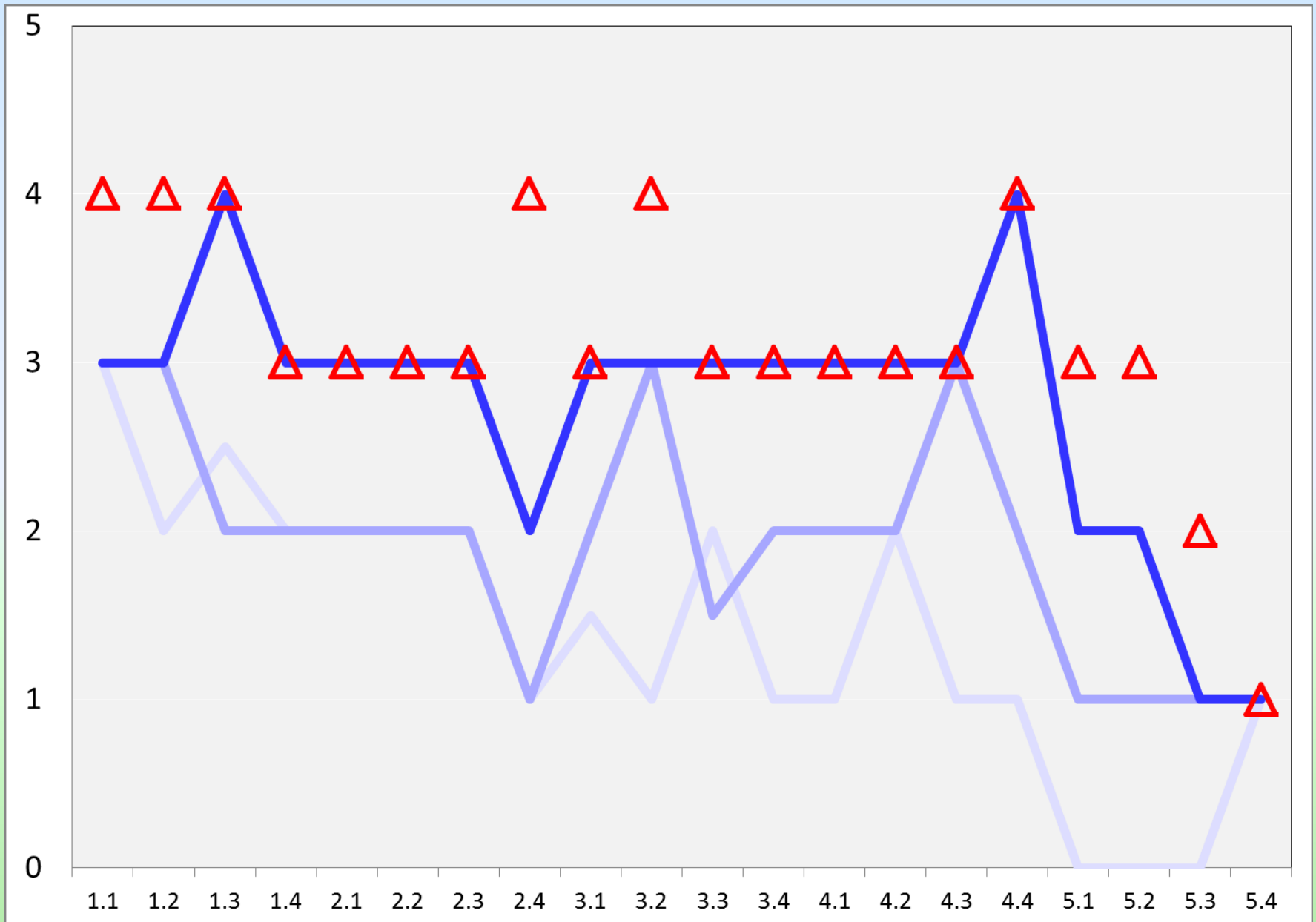
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3 Certificate = SISD

System Integration of Sustainable Development



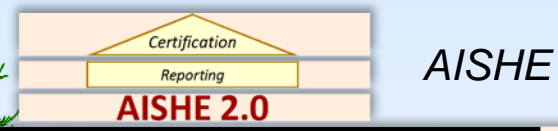
Case: Fontys University, School of Applied Sciences (2001 – 2008)



Summary. Instruments for ESD development:

Period	Basics	People	Planet	Profit
First Year				
Sem.1	Triple P	Education	Agriculture and food	Economy
	Place	Health	Climate	Entrepreneurship
	Time	Participation	Environment	International cooperation
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Second Year				
Sem.1	Triple P	Education	Agriculture and food	Economy
	Place	Health	Climate	Entrepreneurship

SD Curriculum Scan



- Biochemistry:** Education methodologies
- Branches:** Disciplinary integration
- Internal structure:** Multidisciplinary integration
- Forest, ecosystem:** Interdisciplinary cooperation
- Growth process:** Development & maintenance of study program
- Fruits:** Output: effect on professional field & society

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DO	Humanity	Interdiscipl. Integration	Interdiscipl. Integration	Connecting
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PLAN	Goals	Goals	Goals	Goals

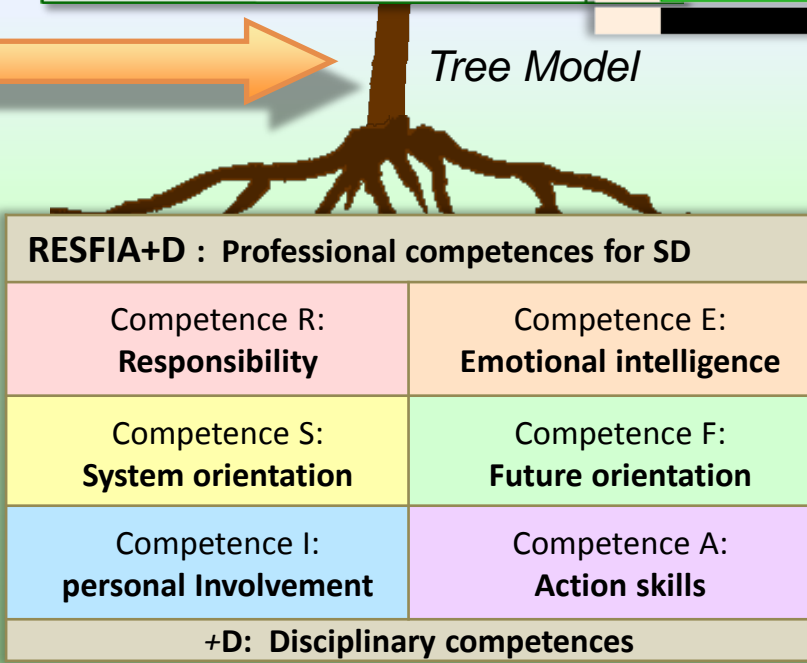
Identity



Niko Roorda
with Peter Blaze Corcoran and Joseph Weakland
Fundamentals of Sustainable Development

Basics textbook

RESFIA+D







CHECK	Transparency & Accountability	ACT
	Coherence	
DO	Expertise	ACT
	Communication	
	Leadership	ACT
PLAN	Vision & Policy	

Certificate



Offers / proposals to UNICA - UGAF

1. AISHE 2.0 owned and distributed by 
 2. European ESD Certificate based on AISHE 2.0, awarded by 
 3. European ESD consultancy by  , based on all ESD instruments you have seen today (and more)
 4. Intensified ESD coaching, education & research for 1 or 2 European universities, members of 
-

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