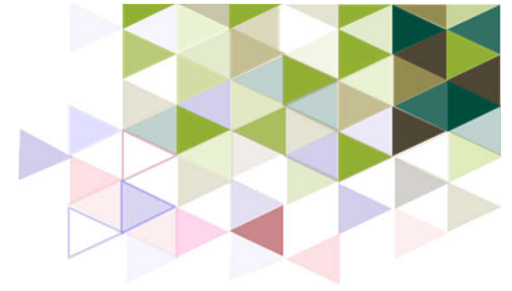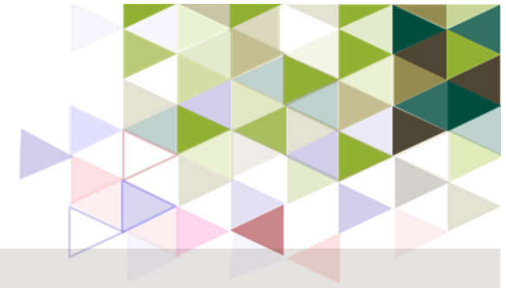**Eberswalde University for Sustainable Development**

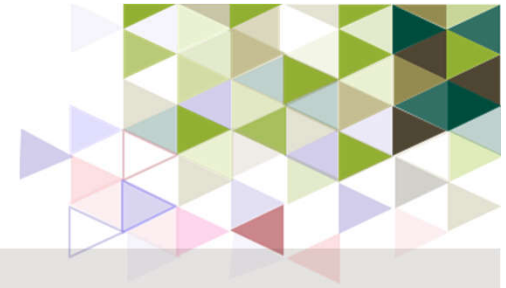# SIP1

An introduction to reflection logs

Prof. Dr. Britta M. Gossel

Outline

1. Context of reflection logs in MASESIN

2. Competency development

    1. Introduction to theoretical background
    2. Key competencies in sustainability
    3. Key competencies in entrepreneurship

3. Method of reflection logs

    1. Introduction to theoretical background
    2. How it works in praxis

4. Concluding remarks

1. Context of reflection logs in MASESIN

- MASESIN Vision

"Empowering students to become competent and socially responsible entrepreneurs or intrapreneurial changemaker, who contribute to solving social, environmental and economic challenges worldwide through the emergence of (digital) social innovations and innovative business models."

→ curriculum design of MASESIN program supports students in **developing key competencies in sustainability and entrepreneurship**, that will be in high demand in the next years to deal with current and future challenges

→ Developing competencies **is complex** on various dimensions, e.g. regarding innovative pedagogies or assessment of successful.

→ Complex educational processes **require adequate tools** to (a) develop students' competencies as such and (b) to assess this development

→ **Reflection logs** as reflective writing tool.
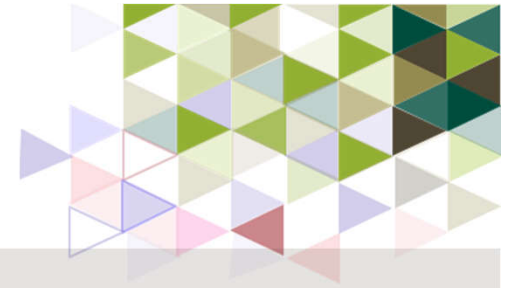
1. Context of reflection logs in MASESIN

continouus competence development

Master of Arts Sustainable Entrepreneurship & Social Innovation (MASESIN)

120 ECTS (60 credits)

Admission Requirements: Bachelor of Arts / Bachelor of Science, Deutsch B2, English B2

2. Competency development

2.1 Introduction to theoretical background

- Definition

„A competence refers to a complex combination of knowledge, skills, understanding, values, attitudes and desire which lead to effective, embodied human action in the world, in a particular domain" (Crick, 2008, p.313)

Self			Competent agent
Identity Desire Motivation	Dispositions Values Attitudes	Skills Knowledge Understanding	Competent learner, Citizen, mathematician, scientist etc.
Personal			Public
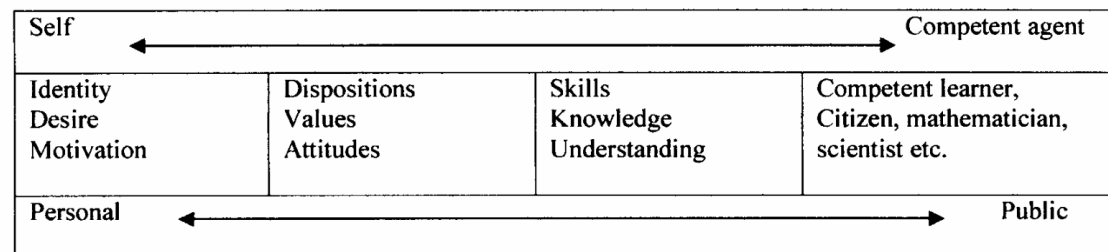
Competence as movement between personal and public, Crick, 2008, p.314)

! Competencies are an accumulation/ complex combination

! Competencies can be seen as movement between personal and public

! Competencies are assumed to be domain specific

2. Competency development

2.2 Key competencies in sustainability

Adapted sustainability research and problem-solving framework
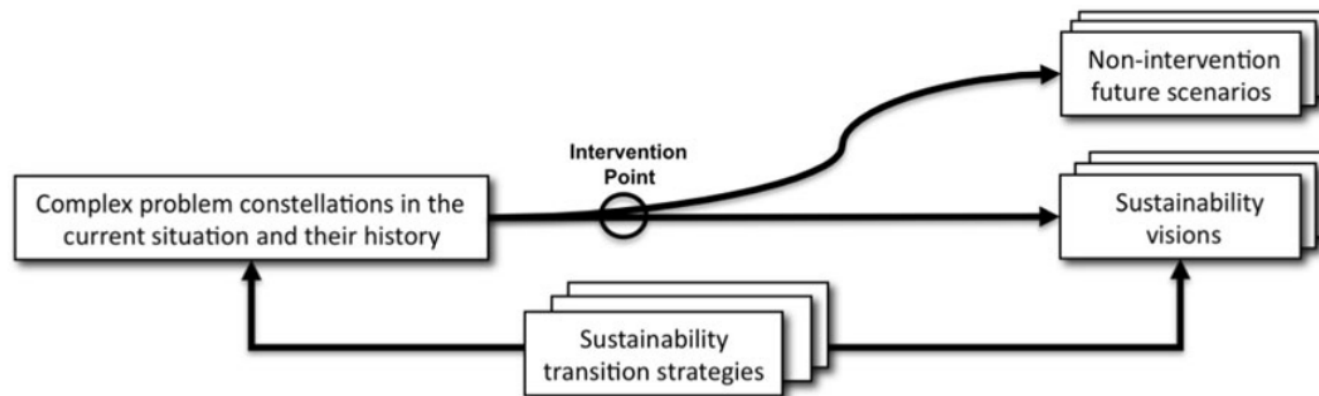
(Wiek, Withycombe & Redman, 2011 p.5, adapted from: Wiek 2010)

2. Competency development

2.2 Key competencies in sustainability
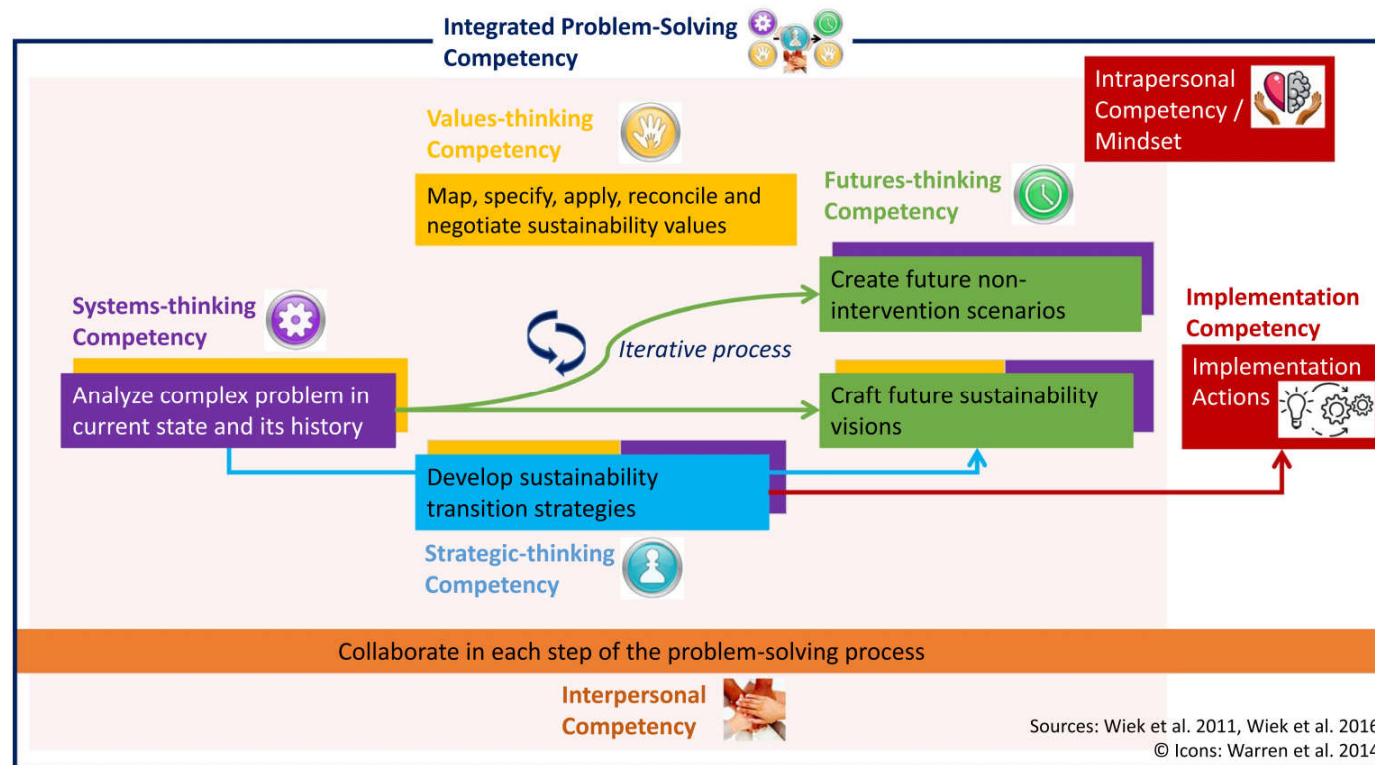
Brundiers et al., 2021, p.21

2. Competency development

2.2 Key competencies in sustainability

[1] Systems-thinking competency

„Systems-thinking competence is the ability to collectively analyze complex systems across different domains (society, environment, economy, etc.) and across different scales (local to global), thereby considering cascading effects, inertia, feedback loops and other systematic features related to sustainability issues and sustainability problem-solving frameworks." (Wiek et al., 2011, p.207)

- To analyze complex problems drawing from multiple disciplines

- To account for individual and cumulative social, environmental, and economic implications of a decision or process

- To see both, the whole system and ist parts, as well as the extent to which you can place yourself within the system (Savage et al., 2015)

2. Competency development

2.2 Key competencies in sustainability

[2] Anticipatory/ future-thinking competency

„ability to collectively analyze, evaluate, and craft rich ‚pictures' of the future related to sustainability issues and sustainability problem-solving frameworks." (Wiek et al., 2011, p.208-209)

- To deal with uncertainty and future predictions

- To predict and consider possible repercussions of our actions and decisions prior to their implementation

- To understand the future as open and something that we can help to shape (Savage et al., 2015)

2. Competency development

2.2 Key competencies in sustainability

[3] Normative/ values-thinking competency

„ability to collectively map, specifiy, apply, reconcile, and negotiate sustainability values, principles, goals, and targets." (Wiek et al., 2011, p. 209)

- To articulate a vision of a just and sustainable society

- To understand your own strenghts and weaknesses as a sustainability leader

- To collectively assess the current and future states of socio-ecological systems
  (Savage et al., 2015)

2. Competency development

2.2 Key competencies in sustainability

[4] strategic-thinking competency

„ability to collectively design and implement interventions, transitions, and transformative governance strategies toward sustainability." (Wiek et al., 2011, p. 210)

- To assess the resources available and necessary for an action

- To design integrated actions that draw on resources from across disciplines

- To develop practical tools to advance a sustainability agenda (Savage et al., 2015)

2.2 Key competencies in sustainability

Integrated Problem-Solving Competency

Intrapersonal Competency / Mindset

Values-thinking Competency

Map, specify, apply, reconcile and negotiate sustainability values

Futures-thinking Competency

Create future non-intervention scenarios

Systems-thinking Competency

Iterative process

Analyze complex problem in current state and its history

Craft future sustainability visions

Implementation Competency

Implementation Actions

Develop sustainability transition strategies

Strategic-thinking Competency

Collaborate in each step of the problem-solving process

Interpersonal Competency

Sources: Wiek et al. 2011, Wiek et al. 2016
© Icons: Warren et al. 2014

Brundiers et al., 2021, p.21

2. Competency development

2.2 Key competencies in sustainability

[5] interpersonal competency

„ability to motivate, enable, and facilitate collaborative and participatory sustainability research and problem solving." (Wiek et al., 2011, p. 211)

- To motivate positive change in others

- To pursue collaborative approaches to problem-solving

- To work together across differences (e.g. discipline, sector, nations, perspectives, professional/nonprofessional) (Savage et al., 2015)

2. Competency development

2.2 Key competencies in sustainability

[6] integrated problem solving competency

meta-competency

Ability „to apply different problem-solving frameworks to complex sustainability problems and develop viable solution options [in order to] meaninfully integrate problem analysis, sustainability assessment, visioning and strategy building." (Wiek et al., 2015, p. 251)

- To understand concepts of transition, transformation etc.

- To describe and analyze prominent cases of social movements and organizational change

- To apply problem-solving frameworks to sustainability problems (Wiek et al., 2015)
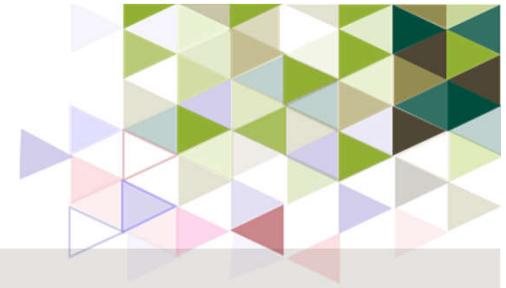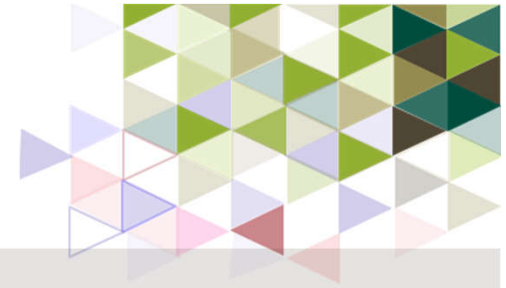
2. Competency development

2.2 Key competencies in sustainability

[7] implementation competency

action-competency

„the collective ability to realize a planned solution toward a sustainability-informed vision, to monitor and evaluate the realization process, and to address emerging challenges (adjustments), recognizing that sustainability problem-solving is a long-term, iterative process between planning, realization, and evaluation." (Brundiers et al., 2021, p. 21)

- To realize a planned solution

- To monitor the realization process

- To address emerging challenges and execute adjustments (Brundiers et al., 2021)

2. Competency development

2.2 Key competencies in sustainability

[8] intra-personal competency

„the ability to be aware of one's own emotions, desires, thoughts, behaviors, and personality, as well as to regulate, motivate and continually improve oneself." (Brundiers et al., 2021, p. 20)

- To be aware of one's own emotions, … behaviors and personality

- To be able to regulate and motivate oneself

- To be able to improve oneself continually (Brundiers et al., 2021)

2.3 Key competencies in entrepreneurship

„Entrepreneurial competencies are defined as knowledge, skills and attitudes that affect the willingness and ability to perform the entrepreneurial job of new value creation" (Lackéus, 2015, p.12)
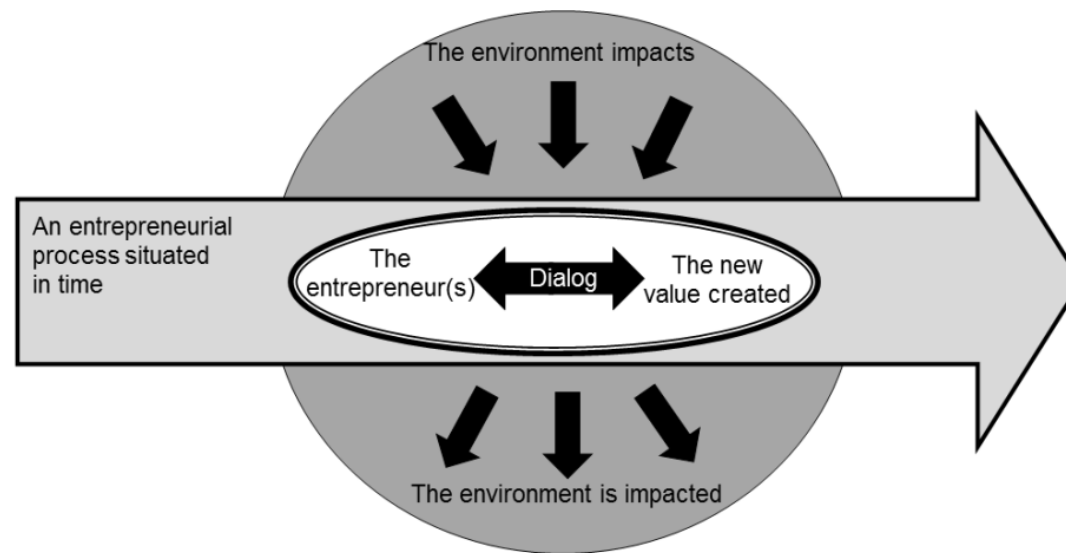
The entrepreneurial process, Lackéus, 2015, p.21

2. Competency development

2.3 Key competencies in entrepreneurship

[9] Entrepreneurial Knowledge

Entrepreneurial knowledge includes mental models, declarative knowledge and self-insight (Lackéus, 2015, p.13)

Mental models	Knowledge about how to get things done without resources, risk and probability models
Declarative knowledge	Basics of entrepreneurship, value creation, idea generation, opportunities, accounting, finance, technology, marketing, risk etc.
Self-insight	Knowledge of personal fit with being an entrepreneur or being entrepreneurial (Lackéus, 2015, p.13)

2. Competency development

2.3 Key competencies in entrepreneurship

[10] Entrepreneurial Skills

Entrepreneurial skills include marketing, resource, opportunity, interpersonal, learning, and strategic skills (Lackéus, 2015, p.13)

Marketing	Conducting market research, assessing the marketplace, marketing products and services, persuasion, getting people excited about own ideas, communicating a vision…
Resource	Creating a business plan, financial plan, optaining financing, securing access to resources
Opportunity	Recognizing and acting on business and other kind of opportunities, product/ service/ concept development skills
Interpersonal	Leadership, motivating others, managing, listening, resolving conflicts, socializing
Learning	active learning, adaptive to new situations, coping with uncertainty
Strategic	setting priorities (goal setting) and focusing on goals, defining a vision, developing a strategy, identifying strategic partners (Lackéus, 2015, p.13)

2. Competency development

2.3 Key competencies in entrepreneurship

[11] Entrepreneurial Attitudes

Entrepreneurial attitudes include entrepreneurial passion, self-efficacy, identity, proactiveness, uncertainty or ambiguity tolerance, innovativeness and perseverance (Lackéus, 2015, p.13)

Passion   „I want" (need for achievement)

Self-efficacy   „I can" (belief in one's abilities to perform tasks successfully)

Identity   „I am/ I value" (deep beliefs, entrepreneurial role identity)

Proactiveness   „I do" (action-orientation, initiative)

Uncertainty/ Ambiguity tolerance   „I dare" (open to surprises, adaptable)

Innovativeness   „I create" (novel thoughts, radical change, visionary, rule breaker)

Perseverance   „I overcome" (ability to overcome adverse circumstances) (Lackéus, 2015, p.13)
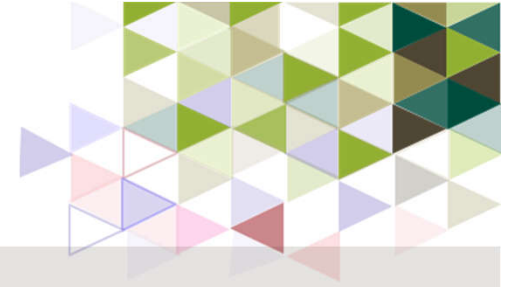
3. Method of reflection logs

3.1 Introduction to theoretical background

- Definition

    - **Reflection** can be assumed as „the mental process of (re)structuring experiences, existing knowledge, or insights" (Korthagen & Wubbels, 1996)

    - "Reflection involves understanding one's own process of learning. It entails experiencing understanding of oneself as a learner in a variety of contexts" (Wolpereis et al., 2010)

    - "Moreover, reflection is an active, intentional, and purposeful process of exploration, discovery, and learning, which is embedded within social interaction" (Wolpereis et al., 2010)
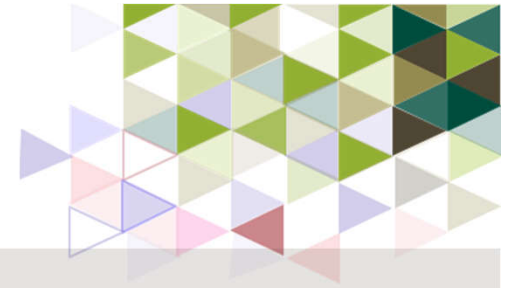
! Reflection as **mental process**, understanding one's own **process of learning**, embedded in a **context of social interaction**.

3. Method of reflection logs

3.1 Introduction to theoretical background

- Definition

  - **A reflection log** can be assumed as tool to assess and accompany competency development (e.g. Redman et al., 2021; Kubberød & Jerwell, 2014)

  - Reflection is a mental process, that needs to be turned inside out: "By committing reflective thinking to paper or computer, it is possible to step out of the (learning) process and allocate time for observing and evaluating preceding performance and learning." (Wolpereis et al., 2010)

  - Tools: portfolios, journals, logbooks

  - Alternative terms: reflective diary, reflection weblog, reflective writing

! A reflection log is a tool to turn reflective thinking to writing.

3. Method of reflection logs

3.2 How reflection logs (RL) work in praxis

winter semester 21/22

| weeks | 38 | 39 | 40 | 41 | … | 03 |

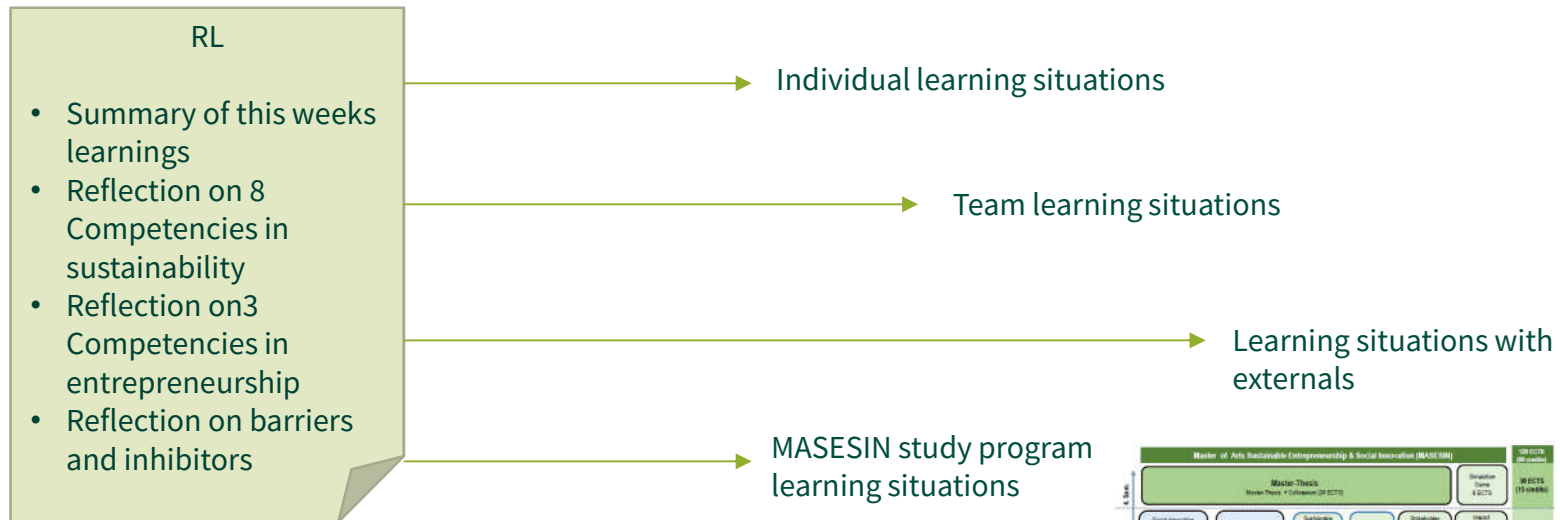RL: RL1 RL2 RL3 RL4 … RL16
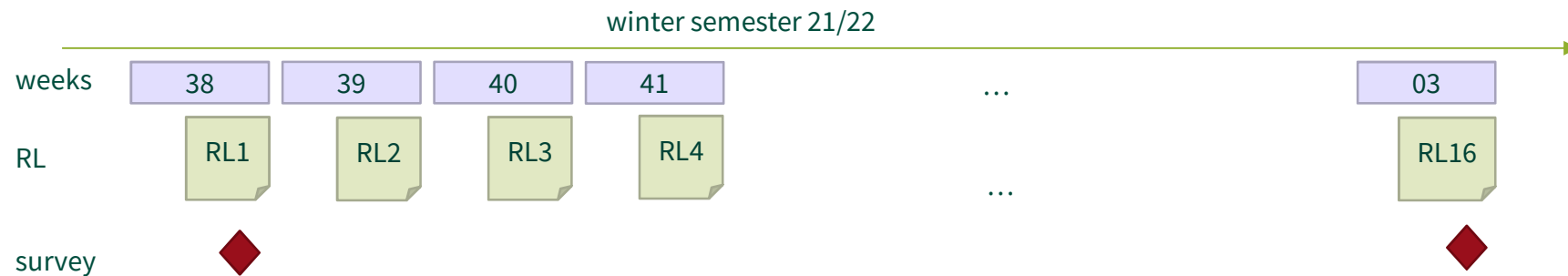
survey ◆ ◆

- Location: moodle / Course MASESIN2122 SIP 1
- Frequency: weekly (optimal: friday – sunday), not during holiday
- Workload: around 1h per week
- Format: „feedback form" (opens weekly, submit delayed not possible)
- Survey: process framed by two surveys (beginning, end of semester)

3. Method of reflection logs

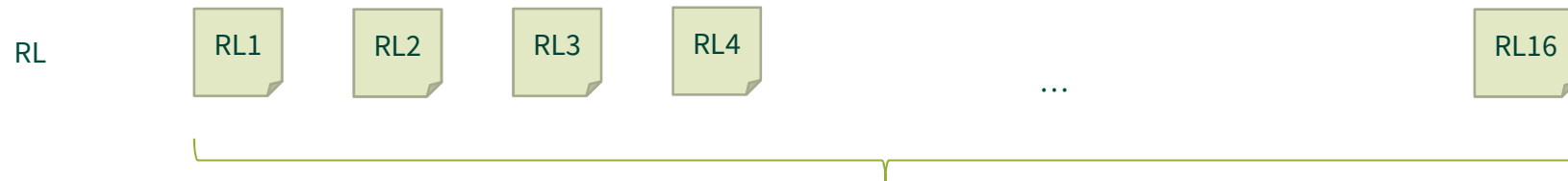## 3.2 How reflection logs (RL) work in praxis

RL

- Summary of this weeks learnings
- Reflection on 8 Competencies in sustainability
- Reflection on3 Competencies in entrepreneurship
- Reflection on barriers and inhibitors

→ Individual learning situations

→ Team learning situations

→ Learning situations with externals

→ MASESIN study program learning situations

- RL capture all learning situations, not only SIP1
- RL will continue in later SIPs

3. Method of reflection logs

3.2 How reflection logs (RL) work in praxis

RL   RL1   RL2   RL3   RL4   …   RL16

SIP 1 – Task 5 „Individual Reflection Log"

- At the end of the semester, 16 RL exist

- All RLs are exported in form of .xls-Documents

- SIP 1 | Task 5 „Individual Reflection Log" – An overall meta-reflection has to be written based on all 16 RL

Concluding remarks

But the examination regulations refer to other competencies?

- Yes, that is correct. This is built on the UNESCO (2017) publication. Welcome to scince! Meanwhile, the scientific debate regarding key competencies in sustainability is moving on. Since the creation of the examination regulations, the framework has been continuously developed. So we decided to refer to the most current publication we found (Brundiers et al., 2021)

Uff, tough stuff. Do I have to read all the references to do the reflection log?

- No. We don't want you to be a junior scientist in educational research. Please see this information presented here as background information. Of course, you need to have a rough understanding of the different domains of competence development – in a sense, these are the drawers of the shelf they are to build.

Concluding remarks

What if I can't think of anything for a domain. What should I write?

- Relax. This can happen. Sometimes it is difficult. Please try anyway, perhaps by simply showing an example of your work. Please keep in mind that the individual reflection logs are the basis for T5. If you don't write anything too often, you will have problems to complete the task.

Is there anything that I can do wrong?

- No. Reflective writing is not related to the logic of „right-wrong". It is an individual process. The only wrong thing would be, not to reflect.

I see some overlaps in the competencies, is that a problem?

- No, in fact it is not important in which drawers of the shelf you order your thoughts. But think twice – maybe there are two sides of one coin.
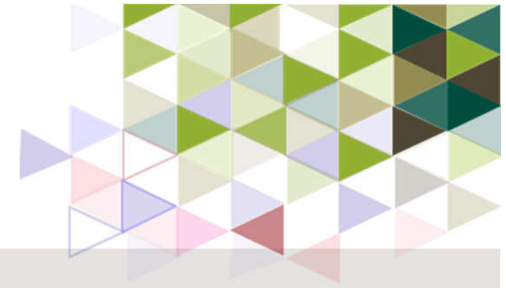
Concluding remarks

So I should just focus on what we are doing in SIP 1?

- No, it's an all-encompassing process. Please include in your experiences in terms of (a) traditional subjects in your studies, (b) teamwork in your studies, (c) interactions with externs, (d) individual work in your studies, (e) other situations and events that have influenced your learning process.

It seems to be all about sustainability and entrepreneurship – where is social innovation?

- It is somehow hidden. Competencies to innovate can be seen in relation to entrepreneurial competencies, dimensions of social problems and solutions are included to the broader concept of sustainability

References

- Brundiers, K., Barth, M., Cebrián, G., Cohen, M., Diaz, L., Doucette-Remington, S., ... & Zint, M. (2021). Key competencies in sustainability in higher education—toward an agreed-upon reference framework. *Sustainability Science*, *16*(1), 13-29.

- Crick, R. D. (2008). Key Competencies for Education in a European Context: narratives of accountability or care. *European Educational Research Journal*, *7*(3), 311-318.

- Kubberød, E., & Jervell, A. M. (2014). Transformative Learning by Reflection in Entrepreneurship Education–Role of Mentoring. In *Inaugural ECSB Entrepreneurship Education Conference. Turku, Finland*.

- Lackéus, M. (2015). Entrepreneurship in education: What, why, when, how. *Background paper*.

- Redman, A., Wiek, A., & Barth, M. (2021). Current practice of assessing students' sustainability competencies: a review of tools. *Sustainability Science*, *16*(1), 117-135.

- United Nations Educational, Scientific and Cultural Organization, UNESCO (2017) Education for sustainable development goals: learning objectives. UNESCO, Paris, France.

- Wiek, A., Bernstein, M. J., Foley, R. W., Cohen, M., Forrest, N., Kuzdas, C., ... & Keeler, L. W. (2015). Operationalising competencies in higher education for sustainable development. In *Routledge handbook of higher education for sustainable development* (pp. 265-284). Routledge.

- Wiek, A., Withycombe, L., & Redman, C. L. (2011). Key competencies in sustainability: a reference framework for academic program development. *Sustainability science*, *6*(2), 203-218.

- Wopereis, I. G., Sloep, P. B., & Poortman, S. H. (2010). Weblogs as instruments for reflection on action in teacher education. *Interactive Learning Environments*, *18*(3), 245-261.