Systems Leadership and Societal Transformation

Eberswalde University for Sustainable Development

Summer Semester 2025 Master Global Change Management Second Semester

Elective Module 14.04. - 25.04.25

Lecturers: Prof. Dr. Martin Welp, M.Sc. Julia Finkenzeller, M.Sc. Sophia Pschiuk, Ass.Prof. Christoph Hinske



Agenda

Date	Content	Lecturer
Monday 14.04.		
9:30 - 12:30	Introduction to the module	
	Clarifying the scope of the examination on Friday 25 nd	Martin Welp, Julia Finkenzeller
	Introduction to Systems Leadership, Insight Modelling & Action Research	
13:30 - 14:30	Presentation of Systems Leadership Case	Anne- Sophie Waag (online)
	- Wikimedia	Martin Welp, Julia Finkenzeller
14:30 - 16:30	Reading Time & Discussion on Reading	

Tuesday 15.04.		
9:30 - 11:30	Exemplary Insight Modelling	Martin Welp, Julia Finkenzeller, Sophia Pschiuk
11.20 12.20	How to find "useful" variables	
11.30 - 12.30	1 round: insight wodening (practice)	
13:30 - 16:30	2 nd round: Insight Modelling (practice)	Martin Welp, Julia Finkenzeller, Sophia Pschiuk
Wednesday 16.04.		
possibly hybrid		
9:30 - 11:00	3 rd round: Insight Modelling (practice)	Martin Welp
11:00 - 12:30	Input: real-life examples of Insight Modeling /	
11.00 12.00	CLD	Christoph Hinske
	+ Last questions regarding Insight Modelling	

Thursday, 17.04.		
online day	Conducting dialogues & research	group work
9:30 - 16:30	Coaching slots tbd	Julia Finkenzeller, Sophia Pschiuk
Tbd.		
Friday, 18.04.	National Holiday	

Week 2

Date	Content	Lecturer
Monday, 21.04.	National Holiday	
Tuesday, 22.04. online day	Conducting dialogues & research	group work
9:30 – 16:30 Tbd.	Coaching slots tbd	Martin Welp, Julia Finkenzeller, Sophia Pschiuk

Wednesday 23.04.		
9:30 - 11:30	Group model building & model integration of the developed models	Sophia Pschiuk, Julia Finkenzelle
11:30 - 12:30	Enhancing Causal Diagrams/ Storytelling with your models	
Thursday 24.04.		
online day	Group work + coaching	Martin Welp
9:30 - 16:30		
Friday, 25.04. @Wikimedia Offices in Berlin	Final presentation & discussion	Martin Welp, Sophia Pschiuk, Julia Finkenzeller, Dialogue- Partners from Wikimedia
10:00 -12:00		
12:00 - 13:00	Break (bring your own lunch)	
13:00 - 13:30	Organisations working with Systems Thinking and Modelling (real-life examples)	Julia Finkenzeller, Sophia Pschiuk, Martin Welp
13:30 - 14:30	Feedback	Martin Welp, Julia Finkenzeller

Learning Goals

- Getting to know the framework of **Systems Leadership**
- Getting to know and applying the action research method
 "Insight Modelling"
- Identifying leverage points for change though systems visualization & dialogue
- Understanding the structure of Causal-Loop-Diagrams (CLD)
- Becoming aware of own "mental models"
- Deepening listening skills

Examination

- Displaying an understanding of systems thinking and dynamics
- Creating Systems Leadership Atmosphere with the praxis-partner group
- Focus on effect for the praxis-partner
- 2h "presentation" we are open for different concepts
- general examination criteria

Systems Leadership

The wicked leader is he whom the people despise. The good leader is he whom the people revere. The great leader is he of whom the people say, "We did it ourselves."

- Lao Tzu 600 B.C.

Systems Leadership

- concept developed in the past decade
- need for new approaches to address complex, systemic challenges
- deep roots, drawing from decades of academic research and practitioner experience in the interlinked fields of systems dynamics, organizational behavior, and leadership for collective impact
 - Dreier et al. 2019:9

Who is a Systems Leader?

- skills
- mindset
- knowledge

to bring forth and even the path to working together towards a shared vision, leading to a transformation of the systems – or in other words: Systems Change. (Dreier et al. 2019)

The Key Elements of Systems Leadership



(Dreier et al. 2019)



"The Individual: The skills of collaborative leadership to **enable learning, trust-building** and **empowered action** among stakeholders who share a **common goal**



The Community: The tactics of **coalition building** and advocacy to **develop alignment** and mobilize action among stakeholders in the system, both within and between organizations

(Dreier et al. 2019)



The System: An understanding of the complex systems shaping the challenge to be addressed"

(Dreier et al. 2019)

System Leadership catalyzes **collective leadership** in others... System Leaders focus on creating the conditions that can produce change and that can eventually cause **change to be self-sustaining**.

Peter Senge, Hal Hamilton, John Kania
 The Dawn of Systems Leadership 2016



Figure 6: Causal-loop-diagram on "How does systems leadership enhance collective leadership?".

(Finkenzeller 2022)



(Dreier et al. 2019)



Christiana Figueres

- Diplomate from Costa Rica
- Lead the pre-negotiation of the Paris Agreement as "Executive Secretary of the UN Framework on Climate Change"
- Team effort
- Year-long process of negotiations
 "away from the table"
- Enabling collaboration before the two- week negotiation phase
- Podcast: Outrage & Optimism

(Sebenius et. al 2024)

Najari Smith



Najari Smith (Photo courtesy of Bay Area Bike to Wherever Days.

- Founder of "Rich City Rides" (Richmount)
- Interconnected challenge of poverty, chronic disease and environmental degradation
- Disproportionately affecting the communities of color
- Bike Shop, repairing over 1000 bikes, organizing rides, clean-ups, building job skills, increasing employment, camp trips
- Engaged local community organizations, city and regional government, philanthropists and industry in the process

https://richmondstandard.com/richmond/2022/04/28/rich-city-rides-najari-smith-named-2022-bike-champion-of-the-year



https://www.linkedin.com/in/najari-smith-08869b1b/overlay/1556030123016/single-media-viewer/?profileId=ACoAAAQx26gBkr9ZywdMnrSY8ztUzc0VJ6Ngxu

Who are Systems Leaders that you know?

Discuss with your neighbour

Introduction to Insight Modeling

Short history of System Modelling

- Ludwig von Bertalanffy (1940s)developed systems theory to describe the nature and behavior of systems
- Seneral Systems Theory (GST) (1950s): Ludwig von Bertalanffy & colleagues from different disciplines: disciplines do not communicate with each other \rightarrow connect them
- Systems Dynamic (1950s): Jay Forrester is one of the first to translate complex systems into digital systems and thus make their dynamics visible
- "The Limits to Growth" (1972) "World3" Systems Model, represents the global interrelationships (authors were students of Jay Forrester at MIT - Donella & Dennis Meadows, Jorgen Randers, and William Behrens III)
- James Grier Miller (1978) introduced "Living Systems Theory" all aspects of live are interdependent and interconnected

"Constructing a computer model forces clarification of ideas. Unclear and hidden assumptions are exposed so they may be examined and debated." (Forrester 1971:5)



(Meadows et. Al 1972)



Figure 9: A simplified overview of main variables in the Earth4All model and their relationships. The full Earth4All global model has some 800 variables. The code is available in both Stella and Vensim system dynamics software for download at www.earth4all.life.



How do we think?

A — B

Unintended feedback loop





https://www.weforum.org/agenda/2021/01/what-systems-thinking-actually-means-and-why-it-matters-today/, 09.03.24



THE COGNITIVE BIAS CODEX



https://upload.wikimedia.org/wikipedia/commons/6/65/Cognitive_bias_codex_en.s



https://upload.wikimedia.org/wikipedia/commons/6/65/Cognitive_bias_codex_en.s

IAS CODEX






(The systems thinker, 2016)

Insight Modeling?

Visualizing complex systems in conversation.

What does "Insight Modelling" look like?

Dialog

<image>

Causal-Loop-Diagram (CLD)



Figure 9: A simplified overview of main variables in the Earth4All model and their relationships. The full Earth4All global model has some 800 variables. The code is available in both Stella and Vensim system dynamics software for download at www.earth4all.life.

Figure 2.2: Four fields of generative dialogue (Scharmer, 2003)

Enacting emerging futures

2

Primacy of the whole	Generative dialogue Presencing, flow Time: slowing down Space: boundaries collapse Listening from one's future self Rule – generating	Reflective dialogue Inquiry I can change my view Empathic listening (from within the other self) Other = you Rule – reflecting	Primacy of the parts
	Talking nice Downloading Polite, cautious Listening = projecting Rule – reenacting	Talking tough Debate, clash I am my point of view Listening = reloading Rule – revealing	

Reenacting patterns of the past

Figure 2.2: Four fields of generative dialogue (Scharmer, 2003)

Enacting emerging futures

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Reenacting patterns of the past

Which skills are needed?

Integrity and

Openness and Learning Mindset

Self-awareness

Presence

2

THINKING --**Cognitive Skills**

Critical thinking

Complexity awareness

Perspective skills

Sense-making

Long-term orientation and Visioning



RELATING -**Caring for Others** and the World

Appreciation

Connectedness

Humility

Empathy and Compassion

and intercultural

Trust

skills

Mobilization skills

COLLABORATING

- Social Skills

Communication

Co-creation skills

Inclusive mindset

competence

5

ACTING -**Driving Change**

Courage

Creativity

Optimism

Perseverance

https://innerdevelopmentgoals.org/framewor k/

Which skills are needed?

5 6 2 THINKING -**RELATING** -COLLABORATING ACTING -**Cognitive Skills Caring for Others** - Social Skills **Driving Change** and the World **Critical thinking** Appreciation Communication Courage skills Integrity and Complexity Connectedness Creativity **Co-creation skills** awareness Humility Optimism **Openness and Perspective skills Inclusive mindset** Learning Mindse **Empathy and** and intercultural Perseverance Sense-making Compassion competence Self-awareness Long-term Trust orientation and Presence Visioning **Mobilization skills** https://innerdevelopmentgoals.org/framewor

k/

Why do we use Insight Modelling?

"No one can define or measure justice, democracy, security, freedom, truth, or love. No one can define or measure any value. But if no one speaks up for them, if systems aren't designed to produce them, if we don't speak about them and point toward their presence or absence, they will cease to exist."

- Donella Meadows, Thinking in Systems - A primer

Benefits of Insight Modeling

- Gaining an understanding of a complex system and how the actual goal can be achieved
 - Specifying the variables and the question
 - Expressing the assumed connections
 - Explaining your own train of thought
- Finding leverage points how to get the system to have the desired outcome
- In groups:
 - > Arriving at jointly supported decisions
 - Finding the same language
 - Getting to know other people's perspectives

Fields of application

- Individual dialogs
- Group discussions
- Literature
 research

Important basics behind the method

- Systems Thinking
- Mental Model Awareness
- Skills of a Systems Leader

What are the benefits of Systems Thinking?

- Dynamic thinking: Viewing your problem as part of a pattern of behavior that has developed over time;
- System-as-cause" thinking: constructing a model to explain how the problematic behavior comes about;
- "Forest" thinking: seeing the "big picture" and taking a more "average" view of the system;
- Operational" thinking: analyzing the actual functioning, the cause-effect relationships and the actual service provision;
- Thinking in "closed loops": Moving away from enumerating factors that exacerbate the situation and describing the "feedback loops" that work together to produce the performance of the system (see What are system dynamics?);
- Quantitative" thinking: quantifying not only the hard data, but also the soft variables that operate in the system;
- Scientific" thinking: using models to reject falsehoods and not just to determine the "truth".

Insight Modeling - Action Research Method



- family of practices of living inquiry
- not so much a methodology as an orientation to inquiry to create participative communities
- challenges received wisdom in both academia and among social change and development practitioners
- a practice of participation, engaging those who might otherwise be subjects of research or recipients of interventions to a greater or less extent as inquiring co-researchers
- does not start from a desire of changing others 'out there', but can have the result

(Bradbury 2015)

Basic principles of action research

- interdisciplinarity,
- ✤ a situational approach,
- the involvement of the research subjects in the process,
- Participatory observation of the researchers in as many areas of the researched field as possible,
- the joint development of research instruments by researchers and research subjects, and

2007)

 the change of the researched situation by all participants following the research process.



"an interconnected set of elements that is coherently organised in a way that achieves something" -Donella Meadows, Thinking in Systems - A primer "Systems thinking refers to the way in in which [a system] is defined and made sense of" (Hacking, NA:1)



Nested systems





What defines a system?

Elements

Connections / relationships

 Purpose / function (what really happens, not what we would like to have/wish for)





What to look at in systems?

Stocks and Flows



Feedback-Loops



Balancing Feedback-Loop



https://ncase.me/loopy, 09.03.24



5:25 - 8:25 - example balancing feedback loop



(Haraldson 2004)

Reinforcing Feedback -Loop



https://ncase.me/loopy, 09.03.24

- Makes it difficult to test hypotheses

- Example: CO2 accumulation in the atmosphere, incoming amount of orders for a product
- Leading to overshoot and instability

(Christopher Franz nA)

Systems Boundary

"Like a spider web, a living system is so intricate, that no part exists isolation."

- Booth Sweeney 2022:example: a system)

Ways to find Systems Boundaries

SYSTEM BOUNDARIES CAN BE QUITE CLEAR OR NOT AT ALL DIFFERENTIATION BETWEEN SYSTEM - ENVIRONMENT (LUHMANN

2020)

PERSPECTIVE/RESEARCH QUESTION OF THE ANALYST Building a Causal-Loop-Diagram

Legend Causal Loop Diagram

Good resources

Ressourcen

Website for building dynamic CLDs https://ncase.me/loopy/

Telegram-groupSystems Modeling: <u>https://t.me/+qFmsaO8aXMdkMGY6</u>

Document with knowledge from the Modeling-Group : https://bit.ly/CLD Live-Interviewing (incl. list of good books on the subject)

Information on Systems Thinking & Modeling <u>https://thesystemsthinker.com/</u>

The Systems Thinking Playbook – System Thinking Games for groups

Videos

CLDs: <u>https://www.youtube.com/watch?v=UgZTXf5PDis</u>; Feedback-Loops: <u>https://www.youtube.com/watch?v=y-WAEW06J00</u> Vensim: <u>https://vensim.com/vensim-video-library/#getting-started</u>

CLD + Vensim: <u>https://www.youtube.com/watch?app=desktop&v=817HvJeP4Mq</u>

Explanation of a Systems Model by Christoph Hinske: Explaination to the Value Model developed on the BCNT events – YouTube

Online -Kurse

https://loopsconsulting.kumu.io/systems-thinking-and-systems-modelling

https://www.open.edu/openlearn/science-maths-technology/mastering-systems-thinking-practice/content-section-overview?active-tab=content-tab

https://www.systemsinnovation.network/


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