



# Graz Model for Integrative Development

(Resource ID: 7)

**Prof. Dr. Clemens Mader**

**Mader Clemens**

mader(at)sustainability.uzh.ch

This teaching resource is allocated to following University:

**UZH - University of Zurich**

Institution:

**Sustainability Team**

<http://www.sustainicum.at/en/tmethods/view/7.Graz-Model-for-Integrative-Development>



**Individual work**  
**Work in pairs**  
**Group work**



**Independent of  
the number of  
students**



**4-7 lecture  
units**



**Internet  
connection  
necessary**



**English, German**

The Graz Model for Integrative Development (Mader, C., 2009, 2012) assesses development processes on the basis of five principles: - Leadership & vision - Social network - Participation - Education & learning - Research integration The model presents a tool to holistically and scientifically reflect and evaluate sustainability processes as well as to provide support in the planning and further development of these processes. Development processes can be monitored from the vision to the implementation with the Graz model. Any development process includes the five principles of the Graz Model. The model further divides each principle into three levels, which enables the analysis of the principles in applied processes. The user can draw conclusions for future developments.

Users are from business (corporate processes), NGOs (social and environmental processes) or regional organizations (regional development processes).

The Graz Model for Integrative Development describes development processes on the basis of five principles: leadership & vision, social network, participation, education & learning, and research integration. The model aims to scientifically reflect and evaluate sustainability processes as well as to provide support in the planning and further development of these processes. Based on the Graz Model, development processes can be monitored from the vision to the implementation. The five principles of the Graz Model for Integrative Development can be determined in all development processes.

The model further divides each principle into three levels, which enables the analysis of the principles in applied processes. The user can draw conclusions for future developments. Users are from business (corporate processes), NGOs (social and environmental processes) or regional organizations (regional development processes).

Integrative development is manifested by blurring of the individual principles and its intensity increases towards 'the center' of the model (Mader et al., 2011).

The five principles of the Graz Model for Integrative Development, that are further divided into three levels, are described below:

**1. Leadership & Vision** describes the actions of executives. Responsible leadership can be seen as a prerequisite for a successful implementation of sustainability processes. 'Transformational leadership' further develops this process in cooperation with the stakeholders.

1<sup>st</sup> level: Administration: Administration-oriented leaders complete tasks, that are initiated by other people. Their own vision is not implemented or developed.

2<sup>nd</sup> level: Transactional Leadership: Transactional leaders pass leadership to associates. However, the strategic policy and vision are defined by the transactional leader.

3<sup>rd</sup> level: Transformational Leadership: In transformational leadership, the management shares its vision and works on its vision in cooperation with the stakeholders. Responsibilities and leadership are shared among involved stakeholders. This may be achieved by means of intellectual and creative ideas (education, research, art), development of innovation,

respect and trust between the social network and persons concerned.

**2. Social Network:** involves the active people concerned. Two factors define the level of the network—the form of cooperation and the intensity of trust.

1<sup>st</sup> level: Information Network: Information networks are the most basic type of social networks. They are based on the exchange of information. The actors of the information network do not share a common objective (e.g. library).

2<sup>nd</sup> level: Knowledge Network: Knowledge networks not only exchange information but also seek development and collaboration (Kogut et al. 1993). They are based on mutual trust and collaboration, which implies the development of common ideas and active participation (e.g. Wikipedia).

3<sup>rd</sup> level: Innovation Network: An innovation network is based on a shared vision and identification-based trust. Shared learning and development processes (Senge 1990) focus on solving problems and are based on participation and creative co-creation. Innovation is the primary goal of innovation networks and is a result of transformational leadership.

**3. Participation** describes how people as part of a social network become involved in the process. People of the social network can for example be informed, consulted, or take part in decision making processes.

1<sup>st</sup> level: Information: Information, as the lowest level of participation, makes processes transparent. People are informed about the process but they do not have the possibility to give feedback.

2<sup>nd</sup> level: Consultation: On this level, parties concerned have the possibility to give feedback and contribute their experience in an organized way (e.g. surveys, online forums, etc.) Decision makers can consider the opinion of these parties before continuing with the decision making process.

3<sup>rd</sup> level: Decision Influencing: At the highest level of participation, the parties concerned can take an active part in the process and their opinion has to be taken into account. At this level of participation, innovation networks can be formed.

**4. Education and Learning:** This principle tries to find out how best to integrate education and professional training in sustainability processes. Additionally, the people involved spend some thought on how the whole process is reflected, what conclusions can be drawn and how the vision might have to be changed.

1<sup>st</sup> level: Single-Loop Learning: In single-loop learning processes, people rethink only their actions, which then have implications for the results but

not for the initial aims. Therefore, the results of the learning process are limited to the initial aims.

2<sup>nd</sup> level: Double-Loop Learning: People not only rethink their action but also their aims. Routines are reviewed and new ways to achieve the aims are taken into consideration.

3<sup>rd</sup> level: Deutero Learning describes processes in which people 'learn how to learn'. Learners in such processes not only reflect on the aim but also rethink and improve the process itself. The organizational capacity of the learning processes is increased and innovations are created.

**5. Research integration** plays a fundamental role in innovation for sustainability processes. Interdisciplinarity takes different perspectives (disciplines) into account, transdisciplinarity actively integrates people concerned by the research process.

1<sup>st</sup> level: Disciplinary Research: Processes are focused on only one subject area. Results of disciplinary research can provide a basis for interdisciplinary research.

2<sup>nd</sup> level: Interdisciplinary Research focuses on the impact that different subject areas have on each other and studies the effects. To assess tasks of sustainable development, an interdisciplinary approach that reflects and relates social, ecologic and economic aspects to each other is necessary.

3<sup>rd</sup> level: Transdisciplinary Research addresses issues that are relevant for society and works on these issues in cooperation with the actors and stakeholders concerned. A mutual learning process is generated by joint research and development of visions. Interdisciplinary scientific and social groups are involved in order to take the multitude of factors that can influence the addressed issues into account (Scholz & Tietje 2002).

The matrix below highlights the integrative connections of the five principles (Mader, 2009):

	<b>Leadership (L)</b>	<b>Social Network (SN)</b>	<b>Participation (P)</b>	<b>Education &amp; Learning (EL)</b>	<b>Research integration (RI)</b>
<b>L</b>	x	Maintaining confidential relationships with stakeholders (Maak, 2007)	Creating shared vision & open communication (Sosik and Dionne, 1997)	Cognitive ability (Kirkpatrick and Locke, 1991)	Knowledge of the business (Kirkpatrick and Locke, 1991)
<b>SN</b>	Innovation networks	x	Participation is needed for	Actors in innovation	Work in society

	require transformational leaders (Pratt, 2004; Sosik and Dionne, 1997; Wals, 2012)		collaboration & co-creation in networks (Prahalad and Ramaswamy, 2004)	networks learn from each other to build learning organizations	future (Praha and Ramas 2004)
<b>P</b>	Partnership allows participants to negotiate and engage in decisions with leaders (Arnstein, 1969);	Knowledge exchange; create a basis of shared values (Grunwald, 2002)	x	Social learning by participation in the course of regional development processes (Schugurensky and Myers, 2008)	Confli prevent by wo on mu intere and solutio (Grunv 2002)
<b>EL</b>	Consultation and ownership, capacity building and training, advocacy and vision building as strategies for the UNDESD (UNESCO, 2009)	Social learning takes place in groups, communities, networks and social systems (Wildemeersch, 2007)	Regional learning is a process of interaction between regional actors and the regional environment (Scheff, 2001)	x	Deute learni proce requir refle and ca supp by self assess evalua as wel resear future states
<b>RI</b>	Areas of responsibility have to be defined (Elzinga 2008) to build a common vision	Specific skills of collaboration between research and social actors are required	Transdisciplinary research is also interdisciplinary (Jantsch, 1972); Transdisciplinarity follows a participatory research approach (Pohl and Hirsch Hadorn, 2007)	To enable learning in transdisciplinary research, high levels of information flow and shared goals are necessary (Hollaender et al., 2008)	x

For detailed information on the individual levels of the Graz Model and its

applications see sources and links.

## Didactical Description of the Method

The Graz Model for Integrative Development presents a method that can be applied when planning, evaluating or reflecting sustainability processes. Based on personal experiences the following implementation in university courses is recommended:

Theoretical input about the Graz Model – 30-45 minutes (see additional materials)

Division of students into groups. Ideal group sizes are between three to five students; individual work is possible as well, but students benefit more in group work as reflection and analysis can be easier achieved in a team.

Allocation of groups to topics and/or organizations. Depending on the time available, there are two possibilities:

*Work over one semester with the aim to learn the application of the Graz Model in practice as well as to understand and analyze development processes in organizations/networks/enterprises:* As lecturer, you contact organizations, institutes, NGOs or companies that are involved in aspects of sustainability prior to the course. The groups of students then support these organizations over one semester, get to know their projects and processes, analyze them on the basis of the Graz Model and develop recommendations for the further development of the organization or a specific project. The organizations benefit in so far as their internal processes and project developments are reflected – with the assistance of students, who can provide a creative and external perspective. The students prepare a report, including a description of the organization and its projects, an analysis with the Graz Model and resulting recommendations for further developments.

*Work for 4-5 hours with the aim to learn the application of the Graz Model:* As lecturer you look up case studies of different organizations/networks/enterprises prior to the course. Each group of student deals with one case study and evaluates it with the Graz Model, whereas the case studies present the only source of information. The results can be briefly presented afterwards. Additionally, the students could also contribute own case studies they would like to analyze by applying the Graz Model, e.g. the establishment of an NGO, experiences of regional development processes or the fictive development of a product.

Application of the Graz Model: The students explain the characteristics of the specific organization/network/project – structured on the basis of the five principles of the Graz Model. Each principle is analyzed on the three levels; i.e. explaining the principle ‘participation’ – it is described how

participation takes place within an organization or project; how information, consultation and decision-influencing are implemented. As a result you get an overview on how integrative an organization is working and what further adaptations might be useful, e.g. are there stakeholders within the social network, who should be more involved in the decision making processes, etc.

### Necessary Material

Assessment tool „rubric“ for the Graz Model for Integrative Development  
Hand-out „Graz Model for Integrative Development“  
PowerPoint presentation about the Graz Model for Integrative Development

---

### Type of teaching method



Reflection

### Type of teaching method

- Reflection

### Preparation

Low

### Related Teaching Resources

No specific previous knowledge / related resources required

### Topics of sustainability

The variety of topics that can be assessed with the Graz Model for Integrative Development, is manifold. To provide some examples:

- Assessment of sustainability processes of universities (see 'Assessment of sustainability processes – the case of the University of Graz'), institutions, NGOs, enterprises, etc.
- Urban and regional development
- Participation processes

- Social entrepreneurship
- Comparison of intercultural processes

## Strengths of the method

- Understanding of the Graz Model for Integrative Development, its principles and applicability
- Application of the Graz Model within the university course and additionally independent application in unknown development processes
- Analysis of the integrative connections of the Graz Model
- Assessment of sustainability processes on the basis of the Graz Model and independent development of problem-solving strategies
- Reflection on development processes and the role of integrative thinking

## Assessment / evaluation

A rubric is proposed as assessment tool, where different criteria are being assessed:

- Application of the Graz Model
- Scientific work
- Understanding of the system
- Strategic recommendations
- Team work
- Creativity and improvement
- Comprehensibility of the report
- Structure and layout
- Oral presentation

The rubric can be found in the section: additional materials. Of course you are welcome to add other criteria that are important to you.

A learning portfolio is recommended to better analyze if the students have understood the systemic and strategic dimension of the Graz Model. The students hereby have to reflect their personal work and application with the Graz Model (i.e. what are the most important findings, what questions arise, are there difficulties in understanding the model, concluding reflection and resume). The learning portfolio is submitted at the end of the course. The lecturer can thus assess the learning process and learning success of the students.

## Sources and Links

### Description and application of the Graz Model for Integrative



## **Development:**

- Mader, C. (2012) Sustainability process assessment on transformative potentials: the Graz Model for Integrative Development, Journal of Cleaner Production, <http://dx.doi.org/10.1016/j.jclepro.2012.08.028>
- Wals, Arjen .E.J. (2012) Shaping the Education of Tomorrow: 2012 Full-length Report on the UN Decade of Education for Sustainable Development, UNESCO, 100 p.
- Mader, Clemens, Mader, Marlene, Diethart, Mario (2011) Der Nachhaltigkeitsprozess der Universität Graz – analysiert durch das Grazer Modell für Integrative Entwicklung, S. 63-69; in: Zimmermann, Friedrich M. (Hrsg.), (2011) Nachhaltigkeit, Regionalentwicklung, Tourismus – Festschrift zum 60. Geburtstag von Friedrich M. Zimmermann, Grazer Schriften der Geographie und Raumforschung, Band 46, Universität Graz, 380 p.
- Mader, Clemens (2010) Integrative Entwicklungsprozesse, S. 311-321; in: Lenz, Werner (Hrsg.), (2010) Interdisziplinarität – Wissenschaft im Wandel, Erhard Löcker Verlag, Wien, 369 S.
- Mader, Clemens (2009) Principles for integrative development processes towards sustainability in regions: cases assessed from Egypt, Sweden and the USA, University of Graz, 141 p.

## **Applied theses by students:**

- Flaujac, Charlotte (in print) Integrative processes as a solution for sustainable regional development – A case study on agriculture learning from Sierra Leone, Master thesis University of Graz.
- Helmreich, Katharina (2012) Education in Sri Lanka: process and sustainability analysis of a private education initiative: The case of "one world foundation", Master thesis University of Graz, 161 p.
- Konrad, Oliver (2011) Stadt – 2030 – Graz: integrative Stadtentwicklung am Beispiel Graz, Master thesis University of Graz, 113 p.
- Mandl, Bettina (2011) Die Stadtregion Graz: eine sozioökonomische Typisierung der Stadt-Umlandgemeinden und die Analyse ihrer nachhaltigen Entwicklungsprozesse, Master thesis University of Graz, 110 p.
- Silly, Stefan (2011) Die Zivilgesellschaft als handelnder Akteur im Kontext der Nachhaltigkeit – die Transition Town Bewegung als Fallbeispiel eines erfolgreichen zivilgesellschaftlichen Zusammenschlusses, Master thesis University of Graz, 186 p.
- Teschner Christin (in print) Nachhaltigkeitsmanagement und Kommunikationsstrategie in Beratungsunternehmen – Konzeptentwicklung für die Unternehmensberatung nord6, Master thesis Leuphana University Lüneburg.

## Funded by

Funded by the Austrian Federal Ministry of Science and Research within the framework of the call "Projekt MINT-Massenfächer" (2011/12)