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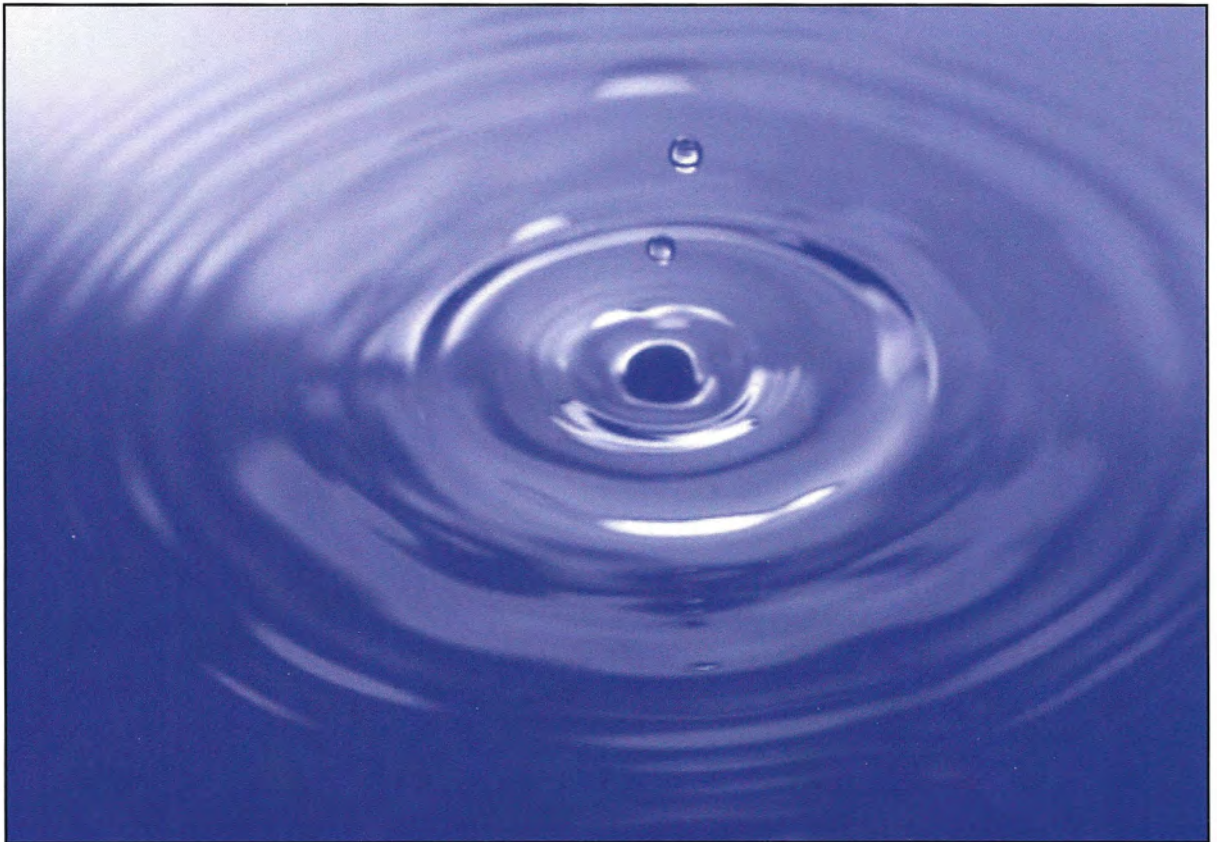
# Participate When Mapping Realities

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## EXECUTIVE SUMMARY

*Tools for recording individual perspectives of realities have long constituted the guiding theme for geographers. In this article, the "bird's eye" view resides within the spectator of complex socio-economic realities. The cases presented in this paper show the practical contributions of IT, especially of e-learning platforms and of Geographic Information Science and Systems, in facilitating the exchange of fact-based concepts for the construction of social spaces and spaces of understanding. Societal learning can enlarge and approximate spaces of understanding. Social spaces are a type of "social capital". Learning changes interdisciplinary realities ("n") seen through the lenses of interculturally diverse understanding ("m"), hence it constitutes a m:n type of "mapping perceptions" that successfully facilitates consensus finding. IT tools have promoted the dialogue in these cases of cooperative learning both in developing countries and in administrations and within academia of industrialised countries: the project Schools on Ice, the UniGIS online curriculum, the UniNet network in Kyrgyzstan, Nepal and Tajikistan, Global Studies, the ESD forum, the Environmental Systems Analysis Curriculum USW, and the European Union Twinning tool applied in Slovakia, Slovenia, Armenia, Georgia and Azerbaijan.*

*Keywords:     Approximation, Consensus, Constructivist, Intercultural, Interdisciplinary, Training, Twinning,*

## ORGANIZATIONAL

The organisations involved in the following cases include secondary schools, universities, university clusters, transnational university partnerships, international environmental NGOs, and the European Union's external policy. These organisations range from public to private and from idealistic to pragmatic. All of them plan to "change the world" and for that target they undertake to exchange views and perspectives among the stakeholders concerned. This paper approaches to find answers to the specific set of questions through cases of international collaborative educational projects.

## QUESTIONS AND ANSWERS

1. What is the inner meaning of learning?
2. Which role plays learning in global civilisatoric evolution?
3. How to overcome individualistic and sectoral views that hinder intercultural understanding?
4. Is it helpful to use recent concepts such as network society, social capital or structural capital?
5. Was "dialogic learning" and "exchanging views on reality" applied in more than a dozen cases of individual and societal learning and to what extent was this successful?

## SETTING THE STAGE

### Learning is Dialogue

As a starting point, we look at the core element of any social progress, namely at "dialogue". Dialogue leads to reflection and reflection, in turn, leads to awareness.

The final target of evolution (encompassing amongst others the evolution of mankind) is to *build consciousness* (Ahamer & Strobl, 2009). Consciousness governs procedures in the material world.

Dialogue is a suitable means to approximate divergent views – which is one of the main issues of learning – and to ultimately facilitate changes in consciousness.

Regarding learning, we may distinguish between *individual* learning and *societal* learning. Regarding the multiplicity of learning objects and learners, we distinguish the following types of learning:

- Individual learning
  - Traditional learning (1:1)
  - Interdisciplinary learning (1:n)
  - Intercultural learning (n:m)
- Societal learning, e.g.
  - Responding to climate change
  - Political integration (globally, Europe-wide).

We are traditionally used to approach learning objects from one perspective (1:1) and consider it a progress to view objects from several, interdisciplinary perspectives (1:n). A still more advanced learning procedure would take into account the *multitude of learning subjects* (m) in addition to the *multiplicity of learning objects* (n), we will refer to it as *intercultural learning* (m:n) in this text because subjects are considered to be rooted and coached in their respective cultures inducing the subject to see and view reality as they decide to.

Useful training situations are spatial planning exercises and other space-related procedures that are open to GIS applications (Jekel, 2007, 2008ab; Strobl, 2007, 2008), or political, technological, civil engineering, cultural or peace negotiations in the classroom (Ahamer, 2004).

### Learning Means Converging Divergent World Views

For very complex, interdisciplinary and intercultural learning issues a purely cognitive approach (an individual learner cognises a well-defined object of learning) appears too simple and the approach of "converging individual perspectives" (Ahamer et al., 2009) seems more appropriate.

Here, the object of learning is not regarded as something unchangeable (such as facts in natural sciences), but rather as the result of a constructivist procedure.

In such a procedure, individual perceptions (e.g. of international conflicts such as the complex Nagorny Karabakh conflict between two Caucasian states) are reshaped and reframed, which constitutes the core of "learning" on a societal level.

An early historic example for such *dialogic reframing* might be Galileo Galilei's (1632) strategy of making a discourse out of life's irreconcilable problems: "Dialogue of the two most important systems of the world" that were at odds at his time. As another example, the "greatest American philosopher" according to his students, John Dewey, sees *dialogue as the basis of education* – and art as the most effective communication that exists (Dennis, 1970, p. 3).

## Learning Means Evolution of Spaces of Understanding

Also practical-minded disciplines take a similar stance: Taylor (2007, p. 198) stems from spatial planning. He says that *spaces are constructed*: "The most influential recent writer on the social construction of space is Manuel Castells who argues that, in an emerging network society, 'a new spatial logic', 'spaces of flows', is superseding the former logic, 'spaces of places' (Castells, 1996, p. 378). Both of these spatial forms are created through material practices. In his social theory, 'space is the material support of time-sharing practices'. That is to say, social spaces are created to bring together practices requiring simultaneous attention."

Castells is reported to condense this view to the statement "Our societies are increasingly structured around the bipolar opposition of the *Net* and the *Self*". The Net means the new, networked forms of organisation which are replacing vertically integrated hierarchies as the dominant form of social organization. The Self, on the other hand, relates to the multiple practices through which people try to reaffirm identity and meaning in a landscape of rapid change. Castells also coined the term 4th World for the poorest nations. Castells is defining space as the physical support of the way we live in time. The space and time we are used to, "real world time", is referred to by him as a space of places.

Manuel Castells (2001, p. 4f) himself says: "So what we have, for instance, in the case of Europe, is a complex system of institutional relations, which I call the *network state*, because, in fact, it's a network of interactions of shared sovereignty". "In a world of global flows of wealth, power, and images, the search for identity - collective or individual, ascribed or constructed - becomes the fundamental source of social meaning." Such views come close to Horx's (2003) emerging "*society of sense*", Renard's (2003) "mental structures" and the evolution towards a societal structure autopoietically optimizing towards values such as sense and human well-being (Ahamer & Strobl, 2009, Figure 4). On this basis we can say: *the ultimate civilisatoric aim is to create meaning*, be it called "sense of life", "quality of life" or other immaterial values.

Castells writes in his famous trilogy (1996) what is comparable to the above-mentioned evolutionist views:

- "Social movements in the Information Age are essentially mobilized around *cultural values*. The struggle to change the *codes of meaning* in the institutions and practice of the society is the essential struggle in the process of social change in the new historical context, movements to seize the power of the minds, not state power."
- "The networks are not programmed by technology; technological tools are programmed by minds. So the *human consciousness is the source*, because everything now depends on our ability to generate knowledge and process information in every domain and activity. Knowledge and information are cognitive qualities from the human mind."

- "Now, therefore, in a world in which signals, processed by our minds, are constantly shaping and reshaping what we do, the ability to influence, to change the categories through which we think our world (here, what I call the code of our culture) -- this becomes the essential battle. If you win the battle of minds, you win the battle of politics, the battle of the economy, because people will decide what they want to buy or what they don't want to buy, for instance."
- "So it's a *battle*, but ideas and talents are, ultimately, the source of productivity and competitiveness. The same thing is true in terms of the overall social organization, how people *change their minds* determines how they change their behavior. And the change of behavior would, ultimately, translate into changes in the overall social organization."

Castells says according to Stalder (2000): "New social formations emerge around primary identities. These identities are often seen as biologically or socially unchangeable. In the *interplay of the Net and the Self* the conditions of human life and experience around the world are deeply reconfigured."

The first assumption structures Castells' account of the rise of the Net: the dialectical interaction of social relations and technological innovation, or, in Castells' terminology, modes of production and modes of development. The second assumption underlines the importance of the Self: the way social groups define their identity shapes the institutions of society. As Castells (1997, pp. 6-8) notes "each type of identity-building process leads to a different outcome in constituting society". - "Identity-building itself is a dynamic motor in forming society. *Identity* is defined as the *process of construction of meaning* on the basis of a cultural attribute, or a related set of cultural attributes that are given priority over other sources of meaning". – Remember here that the final result of the GCDB analyses (Ahamer & Strobl, 2009) was "to accelerate (social as compared to physical) time" in order to allow for more sustainability in society building.

## Learning is Facilitated by a "Geography of Opinions and Perspectives"

Geography is the branch of science offering *perspectives onto reality*. Let us use such an unusual definition for the following deliberations.

Consequently, *geography creates spaces* (of understanding) that may be converging in the best case. The main tool for converging spaces of understanding is the dialogue. The circle of argumentation is closed.

Fundamentally, spaces are "spaces of (common) understanding", i.e. clusters of the same or similar "explanatory software" for the perceptions of the world. In our century, fortunately the path of intercultural understanding is followed more at the expense of thinking in terms of "cultural clashes".

An audacious statement can be made: *Our world is the entirety of perceptions*. (Our world is not the entirety of facts.) In this train of thought, it makes sense to envisage a (spatial) documentation of "perspectives onto realities" that would complement classical mapping by the additional aspect of the individual's opinion (Ahamer et al., 2009), see Figure 1.

Actually, the approach of "attributing a place to each perspective onto reality" is not as theoretic as it might seem at first glance. Any democracy lives on "mapping all perspectives" into the seats of a parliament – this is state-of-the-art. Not only stable states but also transnational procedures are designed this way: one of the vastest self-responsible and peaceful political restructuring processes is an example, namely the recent European integration process and the ongoing European Neighbourhood Policy with the EU's new neighbour states.

*Figure 1. Our world as the entirety of perceptions of reality. Above far left: one human percep-*
*tion of reality; above left: many perceptions, in disorder; above right: the dimensions represent*
*possible perspectives, e.g. scientific disciplines, values, cultures or religions. Below far left and*
*left: many perceptions, each aligned by the identities of two scientific cultures; below right: the*
*entirety of all viewers' perception, taking all possible standpoints. Far right: to become aware*
*of all possible perspectives onto realities will facilitate the dialogue among viewers (compare*
*Figure 7).*
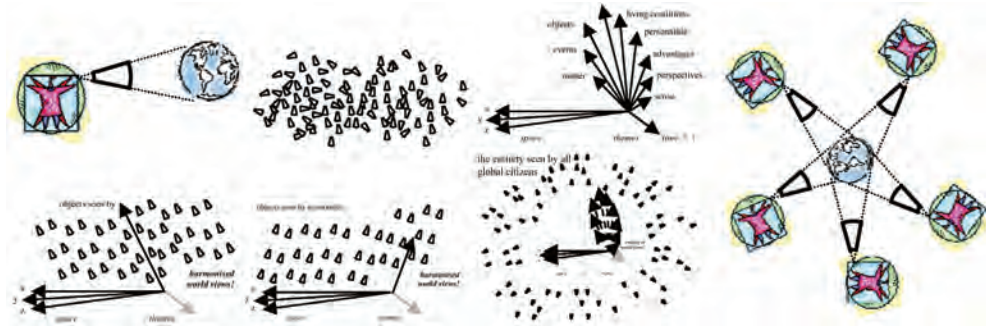


## European Integration as Prime Case for a Discursive Building of Structures

As a response to the new geopolitical situation following the events of 1989, the European Union (EU) has seen a round of enlargement in May 2004 based on dialogic procedures, and conse-quently adopted a new framework for relations with its neighbours, the *European Neighbourhood Policy* (ENP, 2009). The ENP offers neighbouring countries the prospect of an increasingly closer relationship with the EU with the overall goal of fostering the political and economic reform processes including democratization (Berman, 1997), promoting closer economic integration as well as legal and technical approximation and sustainable development. In ENP, the cluster of ex-communist "transition economies" is comprised as ENP-East (Taylor et al., 2009; Derudder et al., 2007).

The central element of the ENP is a bilateral Action Plan (AP) which clearly sets out policy targets and benchmarks through which progress with an individual neighbouring country can be assessed over several years. The ENP Action Plan defines a considerable number of priority areas among which environment, aviation and education, which are at the core of the five cases reported in this article. Such deeper integration is based on – if not common – at least approxi-mating human and societal values and constitutes a case of "identity building", as mentioned by Castells above.

European political genesis, its enlargement and subsequent neighbourhood policy represent "societal learning" in the deeper sense of the word.

In a theoretical approach, Eder (2007, p. 33) discerns two steps in the process of (European or any large-scale political) integration:

• Transcending the utilitarian needs and
• Closing the gaps by discourse.

Eder's (2007) paper develops a sociological perspective on the process of social integration that has been initiated in the course of the evolution of European political institutions. An abstract

notion of social integration is presented as providing an analytical framework for understanding and explaining the process of socially integrating a culturally heterogeneous Europe. The key concept is that of a *transnational space of communication and its discursive closure* (compare Bourdieu, 1997). The central theoretical idea is to use communicative density (compare Ahamer, 2009) as the criterion of the emergence of a communicative space in which two different types of experience make possible its discursive closure:

1. The experience of being *treated in a fair way by the others* inhabiting this space (the *cognitive* capital of a community) and
2. The *construction of a common memory frame* resulting from the confrontation of differing national (and subnational) memories in this space (the *narrative* capital of a community).

Thus two mechanisms can be identified which explain discursive closure. This model leaves open whether this will happen, but it offers a strategy for identifying the extent and the causes of such processes without recourse to normatively motivated wishful thinking.

The main dimensions of such a creation of a society are increasing density of interaction (or density of communication) in a European social space and its discursive closure by cognitive and narrative construction of mutuality, common ground and common interest (Eder, 2007, p. 37).

The two factors listed above are seen as forms of accumulation of *symbolic capital* while the two mentioned appearances of symbolic capital are relevant: cognitive capital and narrative capital (p. 39). In Bourdieu's concept of symbolic capital memory and remembrance become a constitutive part of the structure of collective social practice. Cultures of remembrance are a form of symbolic capital that attributes a certain value (or lack of value) to the constituents of the "common" (Eder, 2007, p. 40; Bourdieu, 1991).

On the practical level of countries, a well-targeted strategy for the creation and further development of such communality is a series of so-called Twinning projects that have been developed by the European commission for the mutual help of administrations in the member states and the candidate countries. Twinning means "Institution Building" (compare Berman, 1997). A suitable definition of the "*Twinning principles*" applicable to European neighbourhood countries (from Belarus across Azerbaijan to Morocco) can be found on the Twinning web page (EU, 2009):

- "In addition to meeting requirements laid down in the EU's agreements with third countries, Twinning must also aim at developing *structural* reforms.
- At the end of a project, any new or adapted system must be *self-sufficient* and function under the auspices of the beneficiary country.
- Projects must also include some elements relating to the adoption of EU *legislation*. An approximation to the acquis communautaire is called for, rather than full integration of EU legislation as was demanded of the candidate countries.
- The local partner in a Twinning should be represented by a *public body* that is capable of working with a Member State organisation which has a similar structure and function.
- The beneficiary country partner must be able to adapt and take on board *change*: the Twinning project is not about the EU providing one-way technical assistance."

Several cases for Twinnings will be presented in the practical part of this contribution.

## Social Spaces and Social Capital

At the end of the above *theoretical section* "setting the stage" we refresh some of the proposed approaches: Apart from the well-known notion of "human capital" also other vocabulary has entered scientific reasoning while denoting *structural stocks of a community* of varying degree of novelty to the reader – such as "*social capital*" (Adler & Kwon, 2000, Bourdieu, 1997). There is evidence for the connection between social networks and social capital (Mohan & Mohan, 2002, p. 196; Burt, 2000). Entrepreneurship (Chung & Gibbons, 1997), civil society (Hyden, 1997) and civic engagement (Kenworthy, 1997; Larsen et al., 2004; Brownlow, 2005; Purcell, 2001; Kirby, 2007) have been linked to social capital in several studies. Attempts have been made to map social structures (Zheng & Niu, 2007) or to explain their topology by biological arguments (Lemke, 2000). Anyhow, e-learning can be seen as the reconstruction of space along other lines.

Information technologies such as the internet (Arnold, 2003), social network sites (Hargittai, 2008) and other "public electronic spaces" (Crang, 2000) were identified to enhance the making of *social spaces* – a diagnosis that can be corroborated by the authors to the extent that appropriate application of ICT is cared for, best in a stepwise and rhythmised manner.

Before the start of the following *practical chapter* containing the "case descriptions" we link both chapters by stating that all cases implement the above main guideing ideas of dialogue and discourse for societal learning. The network society is implemented by mapping controversial perspective into one interdisciplinary and intercultural synthetic view. New common spaces of understanding are stretched out and new and common identities are synthesised as structural capital.

## CASE DESCRIPTIONS

The following cases narrated in the practical part of this contribution will illustrate (individual and societal) collaborative initiatives of providing learning opportunities that may be supported by suitable information technologies:

- Geographic Information based learning in Schools on Ice;
- E-learning based studies UniGIS;
- Austro-Asian university network UniNet, with local cases in:
  - Kyrgyzstan
  - Nepal
  - Tajikistan;
- Developmental curricula in Austria called Global Studies;
- European Association for the Promotion of Sustainable Development ESD;
- Interdisciplinary Environmental Systems Analysis curriculum USW; and
- European Union integration promoted by the Twinning tool with cases in:
  - Slovakia
  - Slovenia
  - Armenia
  - Georgia
  - Azerbaijan.

The following five short sub-paragraphs will introduce some key features of the editors of this special issue (Mukerji & Tripathi, 2009) linked to some of the presented cases.

## Technological Adaptability

Technological adaptability is of key interest because (1) not the same IT tools are suitable for the wide range of the 14 above-mentioned cases. Generally it was found that modest application of technological support was suitable and that strong interpersonal communication is indispensable for overall success of the learning settings. (2) Self-adaptive learning designs would certainly be the optimum – this has been achieved by "Surfing Global Change" (SGC).

## Resulting Changes in Organisations

University structures have been changed or kept changing in an evolutionary sense:

- The themes of "Global Change" and "Global Studies" are essentially connecting different schools and university faculties by the inauguration of "curricula commissions" and can be a general vehicle to improve university structures across disciplines according to authentic interdisciplinarity of real-world problems
- Institutional change is a result of a saturation phase in the view of a GCDB evolutionary cycle (Ahamer & Strobl, 2009, Figures 1 & 4). In this view, institutions are the timeless effect of an evolutionary society (just as a snail produces its house)
- Institutions are the vessels for the intersubjectively agreed and trans-subjectively applied values that a society has generated.

## What Exactly is a "Developing" Nation?

Especially after administrative experiences as experts in countries which are usually referred to as "developing", a strong feeling of structural similarity arises that similar impediments govern the bottlenecks towards a sustainable evolution: lack of assuming responsibilities, unclear division of tasks, an innovation-unfriendly system of payment in the public sector, premature obedience and submissivity. In this sense, everybody should be developing (= intrinsically living); any nation is on a path, but somewhere else in the complex pattern of factors.

## Transnational Learning

This type of social learning is enhanced by a programme called "Cross-Boundary Cooperations" (CBC) linking countries inside and outside the EU.

On EU level and also during Twinnings, societal learning occurs along the following steps:

- Agree by consensus on a "EU Directive" (level of governments)
- Elaborate "best practice guidelines" (level of task forces)
- Manuals for practical work (level of administrations).

## Changes in Organisations

For universities, the Bologna system in the EU (which means to render "quality" comparable) has created a rule-based system, which coincides with the "Atlantic ethics", as opposed to a personality-based system, more prevalent in Central European or other attitudes. Applications may be web-based socializing or person-centred socializing, as analysed in (MacGregor, 2002).

## Case Schools on Ice

Invented and organized by one of the authors, this series of *pedagogic projects* (Jekel, 2008a) includes scientific and adventurous components for the students of several Salzburg-based secondary schools: they hike across the glacier of the 2995m high "Hoher Dachstein", which is a mountain of key interest to tourists at the triangle of the Austrian provinces of Salzburg, Upper Austria and Styria, and take note of the precipitous melting of the glacier ice. The focus lies on the GIS methodologies they apply after preparation during their regular lessons in geography. Intense collaboration is enhanced both by the project's adventurous component and the interdisciplinary character, spanning measurement technology, statistics, geology, glaciology, climate change and raising of public awareness.

*Figure 2. Results and processes in the "Schools on Ice" project. Above: measuring points and glacier extension; centre: measuring method by echo, below: result showing lost ice volume since 1967.*
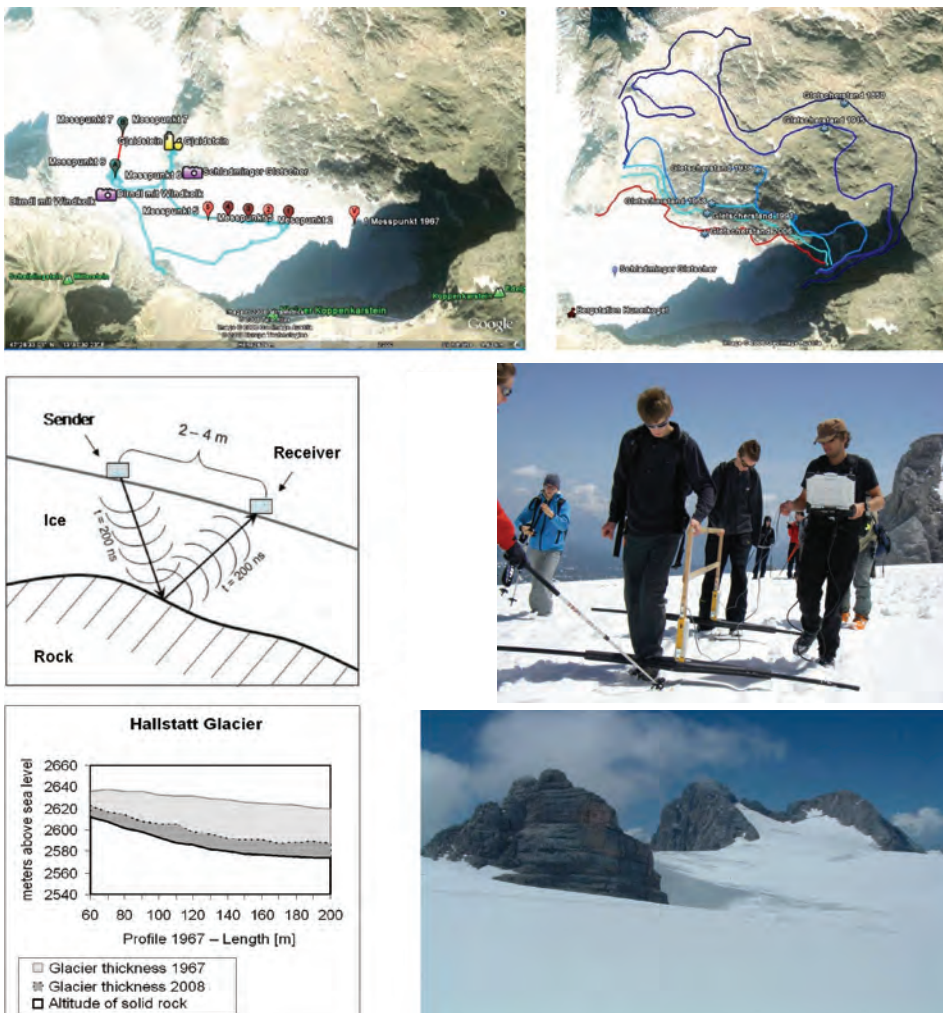
Along a given path across the glacier, students measure the depth by sonar echo as well as the extension of the glacier (Figure 2). By comparison with old maps they derive the areas and volumes that have disappeared due to global warming.

In these interdisciplinary analyses, Geographic Information Systems (GIS) play a crucial role to support students' analyses (Figure 3) and they arrive at the following conclusions:

- Skiing on this glacier will be nearly impracticable in summer
- Touristic areas based on glacier skiing should develop new economic strategies
- Glacier areas will receive a new chance in the winter season because regions under 1000m altitude will face snow problems
- If speed of decrease is maintained, the entire glacier will have disappeared in about 18 years.

Figure 4 shows the learner-based concept of this concrete project (at left) and its embedding in the overall concept of developing civic responsibilities using spatially oriented IT systems (at right). In all the projects, GIS is not the central aim of the learning process, but is rather embedded in real world problems (Jekel, 2008a). This is considerably different from recent attempts to 'learn GIS at school', i.e. a type of hardware and software training. Geoinformation here is used to a thematic end. First, Geographic Information (GI) is used as part of actively researching and analysing data, as in the project analyzing the development of housing and commercial building at the outskirts of Osnabrück. The second possibility is to use digital globes as a tool to integrate and communicate pupils' research into various themes, as in the Schools on Ice project. Third, GI can be put to use as a graphic backdrop stimulating and structuring pupils' discussions in local decision-making processes on change. In all three approaches collaborative and participative mapping comes to the fore. All approaches however put a high emphasis on visualization rather than analysis. The technical knowledge needed to use Geoinformation this way is minimal and

*Figure 3. Geographic Information Systems in the Classroom. (Foto: Koller 2008)*

*Figure 4. Left: General Concept of learner-based learning within "Schools on Ice" project (Jekel, 2008a). Right: Citizens, Analysts & GI Systems Experts (Strobl, 2008, Jekel, 2008b).*
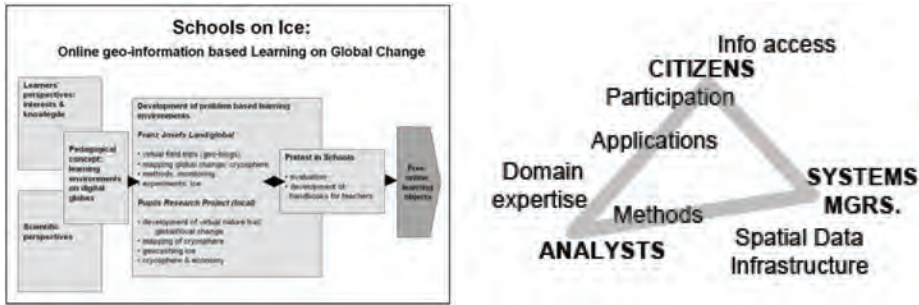


compatible with the teachers' expertise, which is one of the main question marks regarding the use of Geoinformatics in school. As an added bonus, the techniques used in the learning process are compatible with learning theory and pedagogic thinking on learning processes.

To arrive at this point, Jekel (2008b) proposes just a few guidelines that provide a mix of learning theory and geography:

- A minimal technological focus should do (in general, any web-based GIS, in many cases digital globes will be sufficient). This is also in respect to hardware and software costs.
- Learning environments should be set as real world problems, allowing for identification with the problem. Planning one's environment or the city's traffic, tracking migration with data of the class, or planning one's holiday are examples where subjectivities and identities are included - this should make for reasonable learning environments
- Collaboration and collaborative construction of meaning should be offered - this can be done in cooperation with any learning system in the market, many of which are available free of charge.
- To test results, new methodologies have to be used, that do not look for right or wrong, but for good arguments, creativity, and participation in a social process.

All these achievements are possible on the basis of digital globes (such as Google Earth or Virtual Earth). Recent empirical research has shown that with simple GI-based learning environments both interest of learners as well as actual learning processes can be fostered. Therefore, simply let children map their own (future) worlds.

For learning purposes Jekel (2007) has classified conceptions of space drawing on Vielhaber and Habermas (see Table 1).

*Table 1. Human interests, knowledge and space (Jekel, 2007)*

| Human Interest | Knowledge | Research Methods | Concepts of Space |
|---|---|---|---|
| **Technical** | Instrumental | Positivistic Sciences (empirical-analytic) | Absolute space |
| **Practical** | Practical (understanding) | Interpretative research (hermeneutic methods) | + Perceived space |
| **Emancipatory** | Emancipation (reflection) | Critical Social Sciences (critical theory) | + Relational space |

## Case UNIGIS

University studies of "Geographic Information Sciences" (GIS) can very well be conducted via internet, making use of e-learning experiences of its founder (Strobl, 2004). *The* global success story is the UNIGIS network that has developed out of the Salzburg based GIS cluster presently encompassing a university institute, an applied near-industry research institute and an institute of the Academy of Sciences.

Necessary ingredients for this world-leading consortium of universities and curricula in *Geographic Information Sciences* are:

- Technologies (= the web platform Blackboard)
- Clear rules (what is necessary to reach at the MSc)
- Driving spirit (the person of the initiator).

The classical curriculum of technology-supported learning is the internationally successful master course in geographic information science. It comprises a well-defined content that can neither be altered by individual views nor be changed as a function of discussions, but constitutes a clear target of cognitive learning. Every single learner faces his precisely defined content. Dialogue and discussion is only a means to enhance the learning process, not to alter or adapt the substance of the content.

A group of several dozen students per year go through a bimonthly cascade of twelve courses (one building upon the other). After two months, the results of a difficult exam are transmitted by email to the instructor. Several electives, a master thesis and a collaborative project round out this curriculum (www.unigis.net). Students meet for attendance units during a three-day introductory meeting in Salzburg and during a second seminar after one year. Online collaboration is enhanced by informal learning groups that are set up as a function of geographic vicinity of the individual learners across the German-speaking countries. Over one thousand students have successfully completed this postgraduate course in the last few years. Inter-university comparability is guaranteed by an overarching organisation convening experts from all participating universities (www.unigis.net).

Technology plays an important role in this learning setting: it is the target of any action (mastering GIS software), technology facilitates communication among learners, and is the method of delivery for well-defined results.

The created space of understanding consists in the enlargement of individual understanding of geographic information science, systems and technologies.

Typical difficulties encountered are lack of cognitive achievement or deficits in establishing collaborative structures for individual students. In this case, the dialogue is not yet creating content, but just facilitating its acceptance.

## Case UNINET

The *Eurasia-Pacific Uninet* established between Austrian and Asian universities is the largest of its kind in the world and reunites a total of 130 member institutions. This university network promotes multilateral scientific cooperation, joint research projects, conferences as well as faculty and student exchange. Contacts stemming from the Salzburg-based GIS cluster (Strobl, 2004; Strobl et al., 2008) led to international institution building among others in India, Central Asia (ACA*GIS in Bishkek/Kyrgyz Republic), South East Asia, China and other countries.

A small office of five has developed out of the China Center of Salzburg University and has managed to establish the largest existing Europe-Asia-university network. Funded by the Austrian ministry of science, annually almost hundred study visits, conferences, workshops, scholarships, preparatory missions, are attended by members of Austrian and Asian universities, who have gradually succeeded in building a network structure and even distinctly institutionalised branches of research and teaching.

Dialogue is occurring during the typically week-long visits and study tours. The foundation of collaboration is created by such structured discourse, whereas the content only acts as inter-mediary means for building such structures. The target of Uninet is not to hold conferences as a target in itself, but to create structures that might be institutionalised using personal contacts in such conferences. Hence Uninet might be the most constructivist of all case studies mentioned here. Difficulties encountered might be political instability or a subcritical mass of too few involved persons on either side of the network.

## Case Kyrgyzstan

The Austrian-Central Asian Centre for Geographic Information Science (ACA*GIS) was founded in 2008 in Bishkek (Kyrgyzstan) as an offspring of both Unigis and Uninet activities. Starting from this Kyrgyz cooperation, the workshop openSolar'09 (www.aca-giscience.org/opensolar) is organized in August 2009 together with the annual Central Asian GIS conference GISCA'09. Again, its target is to create sufficient personal links between stakeholders in order to promote institutionalising of solar-oriented collaboration: construction and deployment of thermal and photovoltaic solar cells, cooperation in research and in legal matters. For this target, high-ranking officials from administration are expected to enhance solar implementation in Kyrgyzstan.

Regarding solar energy applications, the necessity to bridge standpoints occurs (1) between Central Asian and European views to consider for example to what extent the Kyrgyz economy should master the modernisation of the energy system by its own force and (2) among Central Asian standpoints themselves, for example regarding the question of the water management of the Syr-Darya river, if water from the Toktogul reservoir should be released during summer for the needs of the Uzbek cotton plantations or during winter for the needs of the Kyrgyz electricity generation. As another example, the tariff for electricity in Kyrgyztan is presently still so low, that it does not at all cover the cost of electricity generation, which holds back the engagement of foreign investors to exploit the huge hydroelectricity potential of Kyrgyztan. Additionally, an escape from the deadlock of the Kyrgyz electricity market cannot be imagined without external help: the Kyrgyz viewpoint might be too restricted, so that raising electricity tariffs is only seen as socially negative, whereas the World Bank report identifying weak financial sustainability and corruption as prime obstacle might be seen as capitalistically inspired.

Foreign experts are useful in such a situation not only for delivering know-how but also because they are not part of the pattern of interest of the respective country. Therefore, they can play the role of a social catalyst. The very essence of such consultancy work is to bring the social procedures beyond the point of a deadlock when opposing national interests bring national planning efforts to a standstill. The mere fulfilment of World Bank advice does not always seem a possible strategy for everyday politics, especially because the so-called "Tulip-Revolution" in 2003 and the riots in 2010 were initiated among others by a rise in electricity tariffs.

Dialogue and discourse in this case may construct a real-world escape from an unsatisfying situation after the collapse of the Soviet Empire.

The technological substrate of this type of collaboration is a web site containing the lectures of Austrian authors and also a web space containing the contributions of the workshop attendants

who have computed the solar energy potential of their respective Central Asian home country, such as Kyrgyztan, Uzbekistan, Kazakhstan, Tajikistan, and Turkmenistan. Continued interlacing of social webs in Austria and Central Asia will be performed during a discussion session on the last day of the workshop, where professors from both sides take part and also industrial actors and development helpers in order to prepare concrete implementation of solar energy in Kyrgyztan.

## Case Nepal

Both Austria and the Himalayan countries have special experience with problems in high mountain ranges: natural disasters, earth slides, climate change. Therefore, a long cooperation between Austrians and members of a centre of mountain research has been developed and led to the joint organisation of an annual conference. Additionally, Himalayan countries might encounter political difficulties when cooperating among themselves; they reach from Afghanistan to Myanmar. Therefore, it is important to have a joint platform for discussing scientific and environmental issues without disturbances due to different political systems. Such a platform allows to adopt different viewpoints and to go beyond limited national views. Additionally, the presence of Austrian experts has enlarged the scope of existing perspectives. This annual conference is also organized through Uninet, in this case the scientific output and the technological support were comparable to a conventional conference.

## Case Tajikistan

Geographic Information Systems are a suitable IT tool for solving practical energy related questions for the Central Asian country of Tajikistan. Deprived of fossil resources, its important hydro energy potentials are worth being analysed in a geo-referenced manner as planned in a GIS workshop (enerGIS, 2010).

Not only generation of electricity is a highly georeferenced issue (Strobl, 2007) but also transport of electricity (i) across the "oasis" of Ferghana Valley with the shared borders of Uzbekistan, Kyrgyzstan and Tajikistan and (ii) across the Pamir-Alai mountain ridges to the emerging markets of Pakistan – quite unlikely economic ties when considering Russia in line with the former Soviet structure of interdependency.

## Case Global Studies

Over the last decade, initiatives for "Global Studies" have emerged in the Austrian cities of Vienna, Graz, Salzburg and Innsbruck. The idea is to found a sound scientific curriculum that is inspired by developmental ethics. The first of these developmental studies has been established at the University of Vienna and has recently reached an annual throughput of some two hundred students per year.

Formally, this initiative has been led by the Department for African Studies in Vienna, but is still identified as a "project" and is carried out mainly by a group of half a dozen university lecturers. Despite the growing importance of developmental studies on an international level and their longer traditions in the Anglo-Saxon countries, the institution building process at the University of Vienna has been very slow.

At Graz University, a "bundle of electives" has been offered since 2003 (www.uni-graz.at/globalstudies) and is currently merged into a regular curriculum for the master course "Global Study". Whereas the Viennese initiative is mostly rooted in political sciences and sociology, the Graz initiative always maintained a very broad scope encompassing all faculties of this university: economics, political science, international law, languages, theology, global change, and

sociological methods. The Graz curriculum is composed of 6 components and ensures a broad understanding. The Graz initiative was founded by a long-standing expert in peace research, Dr. Karl Kumpfmüller, and was implemented by a peer group of active members of Graz University, the so-called "Steering Committee Global Studies", who have been meeting bimonthly for the last 6 years. This bundle of electives amounts to 24 hours per semester or 36 ECTS, of which the only mandatory lecture is one introductory lecture to Global Studies held by the founder and one of the authors. A strength of the master curriculum is the mandatory three-month practical that might consist in developmental work abroad.

The Salzburg initiative is organised by initiative of the Institute for Geography and has accumulated a budget of eight hours per semester for a just starting curriculum also called "Global Studies". The Innsbruck initiative gained momentum after the biannual Austrian developmental conference 2008 in Innsbruck.

## Case ESD

The conviction that only radical reforms of our present economic system can heal the environmental and economic crisis to a sufficient extent, has led to the foundation of the European panel on the promotion of sustainable development ESD. This is a loose but clearly organized group of idealists, who have formed as a vivid and constructive discussion round with illustrious authors of critical books in Austria. In an iterative process of mutual review, a book was authored that immediately after its publication reached the second highest rank of the evaluated books in future science. This structured discussion process is maintained and will soon lead to a second reworked edition of the book "The turn of the Titanic". ESD has its own website (www.esd-eu.org) but is also relying on personal contacts and face-to-face debates and structured discussion. In no other case is the orientation to "discursive society" so clearly implemented as in ESD. The special chance and the special risk at the same time of this idealistic corporation might be the strong individualism and the deep ethical motivation that cared for a small but very dedicated group of activists, who managed to disseminate their thoughts in numerous public discussions and debates, especially with high ranking stakeholders from industry, banking and administration.

## Case Environmental Systems Analysis (USW)

A worldwide unique curriculum is "Environmental Systems Analysis" (Umweltsystemwissenschaften, USW) at Graz University, which comprises 5 specialties: economics, business administration, geography, chemistry and physics. Students of USW have to select one of these 5 specialties and additionally complete one quarter of their studies in the field of systems analysis, including a so-called "interdisciplinary practical" (IP). The special identity of USW is to train interdisciplinary dialogue already during the course of studies as a constitutive element. More than a dozen of such IPs have been conducted by one of the authors.

Problems related to Environmental Systems Analysis are the increasing character of this curriculum as a mass course of study. The number of students has reached 200 per year, which is a considerable change compared to the initial years of a dozen students who had to apply for their own curricula to be accepted by the university authorities as "studium irregulare". Initially swept away by a very positive public response, the percentage of highly motivated students has decreased to a normal level. An institution that might have been the hope for a generation may even lose its inner drive after having become part of "the system".

A *web-supported negotiation game "Surfing Global Change"* (SGC) was used as a dramatic foundation for many of these interdisciplinary practicals. SGC is a discussion-oriented negotiation game that trains consensus building.

Its structure along time is symbolically depicted in Figure 5 that leads through the five levels of SGC. Rhythmisation of social procedures is the key didactic element of this web-supported negotiation game.

A brief outline of the social processes and the game activities that are used for the design of consensus building can be taken from Figure 6. Recently, SGC was in parts applied to secondary schools and learning with virtual globes (Vogler et al., 2010).

The entire set of rules can be retrieved in journals (Ahamer, 2004). Experience has shown that SGC can be applied effectively to "distributed learning processes", especially to intercultural learning processes, because the focus is on viewing others' standpoints and dealing with them.

Lessons learned from the invention of SGC are: how can the rhythmized interplay of different communicative phases (real ⇔ virtual; conflict ⇔ cooperation; etc.) be applied to other learning settings? Two dozens of SGC games have been implemented to date at two Austrian universities and received positive feedback from students. SGC represents the idea of "*learning as gaming*".

## Case Twinning as a Tool

The historic processes of the break-up of the former Eastern-European Bloc in the year 1989 and the subsequent independence of these nation states has led them to pursue membership in the European Union. Consequently, a political and administrative tool on a continental scale had to be developed, that would be useful in defining a clear process of these new states towards restructuring into a democratic society. Such societal procedures can only occur on a voluntary basis; or else they would not be successful because of a lack of perceived ownership in the respective administrations. In 1998, the European Commission started the first "Twinning projects" that where designed to train administrative staff in the candidate countries for their future duties as member state administrations.

The main idea of these Twinning projects is to *jointly solve issues* posed by membership. Both physically and symbolically, civil servants of the candidate country and of a new member

*Figure 5. Symbolic depiction of the communicative setting (left) and the consecutive social processes (right) in which the five phases of Surfing Global Change (SGC) are developing: the evolution from dwelling upon single technical details towards a coherent view.*
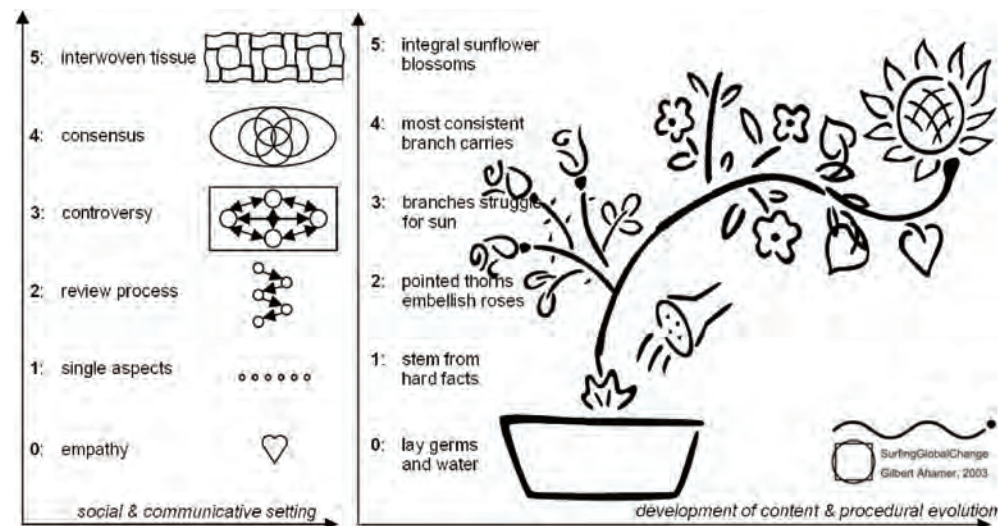
*Figure 6. A folder displays the successive levels of gaming in SGC (© G. Ahamer).*



state sit next to one another and together face their issues and problems of daily work. Training is done on the job, in partnership, on the same height of eyes (symbolically and literally) and in a non-confrontational manner. The experts of the new member states are not standing "in front" of the experts of the candidate countries and giving them "good advice", but the "common enemy" is the task to be mastered. Therefore, the stakeholders are trained for their future roles as colleagues on EU level. Additionally, the spirit of work and the democratic culture of self-responsible fulfilment of work duties are implemented in real live, not only theoretically taught. The side effects of gradually adapting to a different work attitude after decades of communism where rules and regulations might have been perceived as unnecessary attack on the individual might have constituted the most important achievement in many cases. Hence, Twinning offered a double achievement: learning new matters and new procedures. Anyhow, learning procedures always necessitates "matters" as a substrate of learning.

According to the philosophy of Twinning, concrete projects had to be formulated and applied for by people in the candidate country's administration. Often the most dedicated individuals have taken the effort to define a Twinning project and thus have contributed to the advancement of their specialties and maybe sometimes also to their personal careers. However, an almost invisible "cultural change" in EU financing took place, namely the shift from "demand driven" to "accession driven" projects. Whereas the first type of projects often meant: "candidate country demands, EU pays", towards "if you fulfil your own tasks in approaching the EU system, we will help you with that".

Every year, one hundred Twinning projects have been carried out since 1998 all over Europe in such areas as environment, justice and home affairs, and other key areas that have been enlarged to practically all issues of the so-called 33 "chapters" of the European Union accession mechanism. Twinning philosophy is deeply rooted in dialogue and discourse and was documented by the so-called Twinning Handbook (EU, 2009) and has been subject to iterative improvements on the basis of annual reviews assessing the success of the individual projects and the Twinning tool as such.

The last Twinnings for the enlargement round of the Central European countries have been performed in 2006. Due to the overall success of this type of programming the tool of Twinning

has been subsequently applied also to the countries of the so-called "European Neighbourhood Policy" (ENP). This is a set of countries reaching from Belarus to Azerbaijan in the East and to Morocco in the West; however, these projects do not lead to accession, only to approximation of states.

The core of any Twinning is the voluntary act of absorbing the so-called "acquis communautaire" which means the entire set of EU legislation.

Many Twinning projects have a typical budget of one million Euro. Regarding the project structure, key roles are the "Resident Twinning Advisor" (RTA), who resides in the beneficiary country for one to two years and acts as a link between the European Union member states (MS) and the candidate countries or beneficiary countries (BC). RTAs report to the project leaders, one from the BC and one from the MS. Apart from the long-term expert RTA, typically five to forty short-term experts (STE) come to missions in the beneficiary country for typically one or two weeks. They should cooperate on a daily basis with their local homologues, who are civil servants on the beneficiary side. Twinning experts must come from an administration and are typically civil servants; STEs are not consultants in the usual sense of the word. This leads to the main characteristic of Twinning: *Twinning is institution building*, not technical consultancy. Twinning means "*strengthening of institutions*"; after a Twinning the beneficiary country should be able to perform its administrative tasks relying on its own strengths, its own motivation and its own financial and organisational means.

Twinning is certainly not a theoretical exercise limited to science only. It means changed realities in such concrete fields as taxation, border control, anti-corruption within the police, waste management, vocational education, or aviation safety. In this sense Twinning is institutional learning and societal learning in the sense as described in the first chapters. Twinnings may be seen as *one of the most effective methods for societal learning* as such.

Often considerable obstacles may arise in intercultural understanding. Also very often, the understanding prevails that the "western consultants" come, do the work and leave and thus spare the local consultants from this workload. Such an attitude would not comply with the requested ownership leading to empowerment of the beneficiary.

An overall analysis of the Twinning tool will arrive at seeing as a highly effective program enabling smooth transition processes of a large group of countries towards a democratic system. The latest enlargement of the European Union might even be seen as a third world war without one single victim. It represents possibly the first example in human history of an area one thousand kilometres wide encompassing an entire continent that has deliberately and voluntarily changed its political system, ultimately backed by the will of the majority of the population.

The core of the success of a Twinning lies in its potential to provide new perspectives on the same reality by incorporating the Twinning partner's view. When jointly sitting over a task, the expert colleagues exchange their views in an undramatic manner as part of their daily lives in an atmosphere that does not encourage competition but constitutes a win-win situation where the personal success of each one is the highest when having attained consensus with the partner. However, also cases of less harmonious Twinnings have been experienced where the long-term expert was replaced on the basis of dissatisfaction in the beneficiary country.

## Case Twinning in Slovakia

An example for an early Twinning project during the early phase of accession is one of the first hundred Twinnings: "Strengthening of Institutions in the Air Quality Sector" in Slovakia in 2000-2001 led by the Austrian Federal Environment Agency.

Initially planned as a technical investment project to provide 40 PCs for the Slovak air monitoring system, this project became a full-fledged Twinning and was later inofficially named "the best Twinning in Slovakia". It produced over twelve concise reports on air quality measurement methodologies that were very positively received by the European Court of Auditors. However, some of the possible shortcomings of Twinnings played a considerable role here: during the planning process, all three involved actors (Slovakia, Austria, and European Commission) contributed to delays during the preparative phase of preparing the Twinning contract (Twinning Covenant). During these early years the Twinning tool was not yet fully developed, the rules were subject to change, and all involved actors lacked experience. The resulting delay of more than one year prompted the beneficiary country to assume that it would no longer need a Twinning at all.

However, the ongoing legal analysis of the "Act on Air" text of the Slovak Republic revealed that there were still considerable shortcomings of the transposition of the EU legal texts (the EU Framework Directive on Air Quality and their related daughter directives). As a consequence, during long periods of this Twinning, the Slovak partners showed considerable reluctance to sufficiently collaborate with the Austrian partners because the beneficiary thought it had sufficiently accomplished transposition. Nonetheless, more gaps emerged in the field of implementation, and even more in enforcement – these three steps are the main phases of any Twinning procedure.

Ultimately, this single Twinning reflected very well the subjective perceptions of the civil society on both sides of the former "Iron Curtain", namely that each one thought the processes on their own side to be much more mature than perceived by the other side. Slovaks considered themselves over-matured to approach the EU, whereas Austrians felt alleged backwardness of any Central or Eastern European country. This fundamental bias of perception of the role of one's own country with respect to the role of the partner country led to a decrease in factual collaboration during the Twinning process. In contradiction to the mutually agreed plans, the Twinning reports were authored by Austrian experts to 95%, whereas Slovak experts restricted themselves to delivering data in cases they have been asked for expressly. As a result, the Twinning targets, that actually are understood as "guaranteed results" were watered down and fulfilled either too late or only formally or not at all. Such severe assessment comes from a long-term expert who is one of the authors. The Slovak administration repeatedly declared that it was willing to achieve only the minimum performance in transposition of the acquis into Slovak legislation.

During the same time period, another Twinning on water quality in Slovakia was very successful due to the high level of dedication of the Slovak project leader and his team. A third Twinning on waste suffered from distributed responsibilities among several Slovak ministries. In general, Slovak administration was severely understaffed (that was partly triggered by EU advice to cut down costly administrative staff in ministries) and severely underpaid which resulted in a brain drain towards private economy. Ten years after the Velvet Revolution, a change of working atmosphere, the degree of taking responsibilities and self-guidedness of civil servants had not yet reached a sufficient level. This is only one of the conclusions after having spent a year in another working culture. Another conclusion was that after returning home many aspects of administrative life in the home country resembled considerably the unsatisfactory impressions in the beneficiary country. Consequently, the returning long-term expert perceived his own country as a "developing country" - only at a different stage of development. Any country that is reluctant to develop further its social structures and institutions is in danger of creating bottlenecks for fruitful societal evolution.

What were the lasting benefits of such a project? Firstly, training on the technical level of how to fulfil the reporting duties for air quality matters, secondly, personal knowledge of the environmental administration in the partner country and thirdly, and foremostly, the ability to step out of the perspective of one's own country and to adopt the perspective of a member of

the other country. This latter *ability of "switching roles and switching perspectives"* is the *core of social learning* in such *intercultural* interdisciplinary projects.

## Case Twinning in Slovenia

A different country with a different history and a different phase in the overall accession process has led to very different experiences, self-conceptions and resulting interpersonal relationships. One year after the accession of Slovenia to the EU had already taken place, the Twinning on "Pricing of Water According to the EU Water Framework Directive" has been performed by a mixed German-Austrian team from 2005 to 2006. For half a year of the Twinning period, Slovenia itself adopted the role of EU presidency and fulfilled its duties in a highly respected manner.

A rather complex issue was selected, namely the question of how market mechanisms could control the amount of water consumption as a function of the water price. The aim of the project was to use different levels of water pricing to determine the levels of water consumption in different geographic areas of Slovenia with its only two million inhabitants. The task of the Twinning experts was to develop an algorithm of computing water prices that would sufficiently take into account the ecological ("external") costs linked to the supply of fresh water and subsequent management of waste water.

The selection procedures by the Slovenian administration revealed later on that existing personal contacts had led to the decisions which partner to select out of four offers.

During the entire Twinning a friendly interpersonal atmosphere prevailed among the experts. However, the collaboration among the RTAs and beneficiary country project leaders was not always without problems. Lack of knowledge of the subject itself might have led to a visibly formalistic attitude on one side of the Twinning partnership.

The fulfilment of the "guaranteed results" in this Twinning was endangered by the interdisciplinary complicatedness of the field and the audacious underlying assumption of controlling water demand by the price level. A very positive aspect was that Slovenia's very young staff in administration saw an active collaboration in this international project as a chance to advance their own careers and showed ongoing consistent activity that was only hampered by the generally very high workload imposed on the exhausted staff of this small EU member country. Different working attitudes were no problem at all, given the folkloristic designation of Slovenes as "the Prussians of the Balkan" based on the century-long common history with its northern neighbours. There were no frictions between the EU member state senior partner (Germany) and junior partner (Austria) due to the friendly overall attitude of the resident Twinning advisor (RTA). His fair and empathic attitude might have added to a low level of clarity and resistance against the formalistic behaviour exhibited by the other partner. As in all such cases of international projects, final reports reflect mainly the harmonious side of completed projects. The role as EU presidency has prohibited Slovenia to succumb to a role of the recipient of "good advice". Patterns of interaction within the senior member state partner were overshadowed by relationships to the original workplace in the home country, which brought about an inclination to solve strategic issues around a small table "behind closed doors". Also here, social interactions during this exercise of social learning were not ideal, but they did not hamper the overall project success at all.

## Case Twinning for Armenia

When the tool of Twinning had been transferred to the countries of the "European Neighbourhood Policy" (ENP), an additional item was introduced: authoring of the so-called "Twinning Fiche" (the tendering document clearly defining the targets and contents of the Twinning project)

was also transferred to a team of two or three consultants from the European Union member states, because administrations in the ENP did not usually dispose of sufficient knowledge of EU procedures and institutions to draft this text on their own.

One of the first three Twinning fiches drafted for the Ex-Soviet Republic of Armenia was on aviation safety. For this target, two missions of two weeks and one week respectively took place and comprised mainly visits to Armenian officials in the responsible ministries in descending order of hierarchy. This process ensured the active involvement of the local government and enhanced the spirit of ownership of the institution demanding assistance before the target of meeting the criteria of the international aviation association. The main phase of this preparatory project consisted in long-hour conversations with the national experts on aviation that revealed and precisely defined the real needs of the beneficiary country for EU assistance. The findings of these conversations were moulded into a clear work plan containing clearly defined tasks for the future Twinning project.

During the month between the first and second mission the Armenian experts had the chance to review in detail the draft fiche that has also been translated into Armenian language by the translator who was part of the consultant's team. Additionally, the relative amount of manpower flowing into each expert's area of responsibility has also been clarified during a hearing convening all Armenian experts. In such a way the philosophy of partnership and peer activity was guaranteed.

In a subsequent procedure, the line DGs in Brussels expressed their review comments on the draft fiche. After these last comments had been taken into account by the team of experts, the fiche was published and the bidding procedure was able to start.

Given the highly difficult traffic situation of Armenia it is understandable that one of the first Twinnings related to aviation in order to secure the country's accessibility.

Generally, the level of intercultural understanding between European and Armenian experts was very high and no severe mismatches in working attitudes occurred.

## Case Twinning for Georgia

Half a year later, a Twinning fiche preparation project on the same subject matter of aviation safety was held in Georgia. The same geopolitical circumstances were prevailing, namely the wish of a country to have access to European Union traffic schemes. Additionally, in Georgia the wish to adhere to the European Union's system of values, democratic principles and political organisations was very developed, as could be seen during numerous encounters with the local population. In a similar procedure of two missions a first draft fiche was prepared, and then reviewed by the Georgian partners and finally completed by adding a very concrete work plan that defined targets and volume of numerous short-term missions.

In both these Caucasian aviation Twinnings, the task of creating a precise and adequate list of "guaranteed results" was relatively simple, because the targets of the European aviation requirements are precise, independent of the country's characteristics and well-documented. Neither the existence of the working targets nor their concrete definition is questioned – and could not have been questioned, because they lie out of the reach of both actors. Rather, working targets are defined by an international institution that is responsible for civil aviation safety. Consequently, the task of defining the workload boiled down to attributing numbers of weekly missions to each one of the subdivisions of aviation safety requirements.

Also in this case there occurred no cultural inconsistencies between the partners as a function of different working attitudes, despite the large geographic distance. It was visible both from the numbers of European flags on public buildings and from the behaviour of "people on the

street" that Georgian self-understanding was truly European. However, considerable weakening of Georgian integrity was perceived to have occurred by recent military and political issues in two northern territories of Georgia. Not even the presence of three different international bodies of observers seemed to have been able to help out of this impasse.

## Case Twinning for Azerbaijan

A third project preparing a Twinning fiche took place recently in the third and largest Caucasian republic of Azerbaijan. The theme of Twinning in this case was "Vocational Education in the Field of Agriculture". At a first glance, almost all the parameters guaranteeing project success seemed to have been lower in this case: possibly a lower level of involvement on part of the beneficiary, possibly a less clear division of responsibilities among the ministries, possibly lower clarity in communication with the Twinning team and in general, and possibly a lower degree of experience with clear, objective, personality-independent ways of working.

Such first impressions have been corroborated by personal experiences with the police on the street, who took money out of the wallet of one of the authors during the course of a passport inspection and during other incidents with street police, who halted taxis on the highway without visible reason but only in order to bluntly ask for money from the taxi driver. An elevated level of informal economic behaviour and corruption is reported by outside perspectives, but not always by spectators from inside the country. Azerbaijan is highly ranked in the international corruption index. In almost any office of mid-level civil servants, a dozen of devotional objects such as photos, portraits, books and videos of political leaders were present in a very self-understood manner.

In parallel to this internal situation, a frozen military and political conflict with the neighbour country was perceived by citizens in an astonishing manner, taking into account only one's own national lines of argumentation and not seeing or perceiving arguments brought forth by the conflict partner.

During the first week of the mission, the impression arose among the European experts that Azerbaijani counterparts were not particularly interested in the project at all. However, with time and as a result of a repeated attempt to communicate by telephone rather than by email (typically officials have no administrative email addresses but only public domain addresses like Gmail and Yahoo) the success of communication increased substantially. Therefore, the assumption became more convincing that not a substantial lack of interest but maybe just general self-constraint and caution were the reason for unsuccessful communication in the first place.

In total, the communicative procedures in Azerbaijan were far more difficult than in the case of the other two Caucasian republics. However, final results will be achieved also there and the prospects are promising that during the three weeks of the project dedication of the actors can be generated and enhanced, even if it might not be present right from the outset.

## Synthesis of All Cases: Participation When Mapping

The common issue of all cases presented is the procedures by which citizens can partake in constructing "realities", be they architectures, buildings, highways, high voltage lines, political agreement or strategic alliances. Each of the above case studies has developed a rhythm of how to combine individual perspectives to arrive at the same desired results: common perspectives. Pushing constructivism into an extreme: reality is defined by consensus; diverging concepts will never come interpersonally "true", they remain individual "consciousness". Figure 7 sketches 360 degree-like perspectives of the presented case studies – similar to the approach of the fictitious "bird's perspective" that classical geography has adhered to for centuries.

*Figure 7. Participation in mapping constitutes the preferable way of constructing realities (compare with Figure 1).*



## CONCLUSION

This text has provided an overview of "dialogic learning". For complex interdisciplinary and intercultural issues, "learning" is seen as converging different and divergent world views into a common synthetic perspective on reality. Manuel Castells concept of the "network society" combines easily with such concept.

One motto of this entire volume is: how have organizations adapted to the advancement of learning options? Therefore this contribution illustrates the genesis and evolutive growth of "structural capital and social capital" which consists in common institutions, common procedures and common values of diverse individuals, communities and societies.

The target of this contribution is transcultural learning. Cultures may be delimited spatially, politically, or also mentally such as different scientific disciplines.

Consequently, the described 14 cases in this contribution

- Extending on both individual and societal learning
- Comprising aspects of interdisciplinary and intercultural learning settings

all attempt to illustrate that a suitable way to "make a change" in our world is to exchange and adapt our world views.

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