



« *Integrated Exercices* » on Environmental Issues

*Description of an interdisciplinary learning
process at the Université de Liège (ULg)*

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I.E. on Environmental Issues

- ✱ Place of the I.E. in the course of study of the students ?
- ✱ Motivations and acknowledgements at the origin of the I.E ?
- ✱ Which audience ?
- ✱ How are organized the I.E.?
- ✱ The choice of the topics ?
- ✱ A reciprocal apprenticeship and difficulties

Motivations and acknowledgements at the origin of the I.E :

- ✦ to base the pedagogical dispositif upon the description of local cases ;
- ✦ Confrontation and articulation of the different points of view recorded ;
- ✦ To take distance from a kind of « problem solver state of mind ».

Which audiences ?

- ★ Students (50 to 60) interested specifically to the study and management of Environmental Issues;
- ★ Post-graduate program (min 4 to 5 years at Univ.);
- ★ Diversity of disciplinary origins;
- ★ Diversity of geographical origins;
- ★ Very different and unequal professional experiences.

How are organized the I.E.?

- ☀ The IE counts for 54h of courses and seminars;
 - ☀ Take place during 2 weeks
 - ☀ A central topic which is declined in two different ways
 - 1st week: *discovery and destabilization;*
 - 2nd week: *south countries perspectives, scaling and cumulativity);*
- or...
- 1st week: *discovery and destabilization;*
 - 2nd week: *in-depth analysis of a special question.*
- ☀ Dispositif : one week of debates with the key actors of the case, with work in sub-groups.

Typical schedule :

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	Plenary session : Introduction + Actor n°1 Work session in sub-groups	Site visit with actor n°3	Plenary session : Actor n°4 Work session in sub-groups	Plenary session : Actor n°6 Work session in sub-groups	Work session in sub- groups
PM	Plenary session : Actor n°2 Work session in sub-groups		Plenary session : Actor n°5 Work session in sub-groups	Plenary session : Actor n°7 Work session in sub-groups	Plenary session : Oral presentati on by sub- groups

Which actors invited ?

- ✦ Scientists and/or experts
- ✦ Regulators
- ✦ Agencies
- ✦ Industries
- ✦ Entrepreneurs
- ✦ Burgomasters (mayors)
- ✦ People affected
- ✦ Associations (activists)

The choice of the topics ?

The nature's management (biodiversity) – 2001-2002 :

1st week : Marshes of Fouches (Natura 2000)

2nd week : Protection of the biodiversity in the south's countries

Alternatives Energy Ressources – 2002-2003 :

1st week : The implementation of Windmills (the St Ode's case).

2nd week : The use of the firewood and its relation to deforestation (sub-Saharan area)

Environmental impacts of barrages (the scaling issue) – 2003-2004:

1st week : The "micro-barrages" (Luxemburg province area)

2nd week : Dam in the south countries



Chemical contamination of dwellings – 2004-2005 :

1st week : The Mellery's Affair (Belgium)

2nd week : distributed on a 1,5 month period of time

Waste management – 2005-2006 :

1st week : Waste management at the ULg

2nd week : distributed on a 1,5 month period of time

Bio-fuel – 2006-2007:

1st week : Future and critical analysis for Belgium

2nd week : distributed on a 1,5 month period of time



On behalf of the students :

- To dare to put one's argument into critic;
- To locate and describe the various actors involved;
- To put into relation their various points of view;
- To be able to explicit a point of view expressed by actors and the ability to go back to one's handwritten notes or documents;
- To position oneself in relation to the group and in relation to our own point of view.

On behalf of the training staff :

- In the *choice of the topic* and the problem of motivation
- In the philosophy of the IE :
 - Place of the IE : Center or periphery in the course of the curriculum ?
 - Two contrasted IE's aims : 1) exploration and reflexivity or 2) "solutions driven" ;
- In the *evaluation*: "what do they make with this experiment afterwards ? "
- At the organization level : The dispositif require a large training staff and an interested one.

Restraints :

Big investment from the institution
(in time, staff and logistic)

Cohabitation of the IE with a more
dominant classical teaching

Lack of *reflexivity*

Some students can loose their way
and literally *freeze up*

The *attitude* of the training staff

Driving forces :

Students' *backgrounds*

The *geographical proximity* of the
field or the case in hand

The *heterogeneity* of the sub-
groups

The *curiosity* towards the novelty
of the approach and the
opportunity to have a more *active*
role in the "learning" process

The *attitude* of the training staff

New Challenges for 2007-2008 ?

- ✦ Work with younger students (Master level);
- ✦ Experimentation with the use of a methodological and conceptual grid (« CATWOE » from Soft System Methodology);

C = customers (victims or beneficiaries);

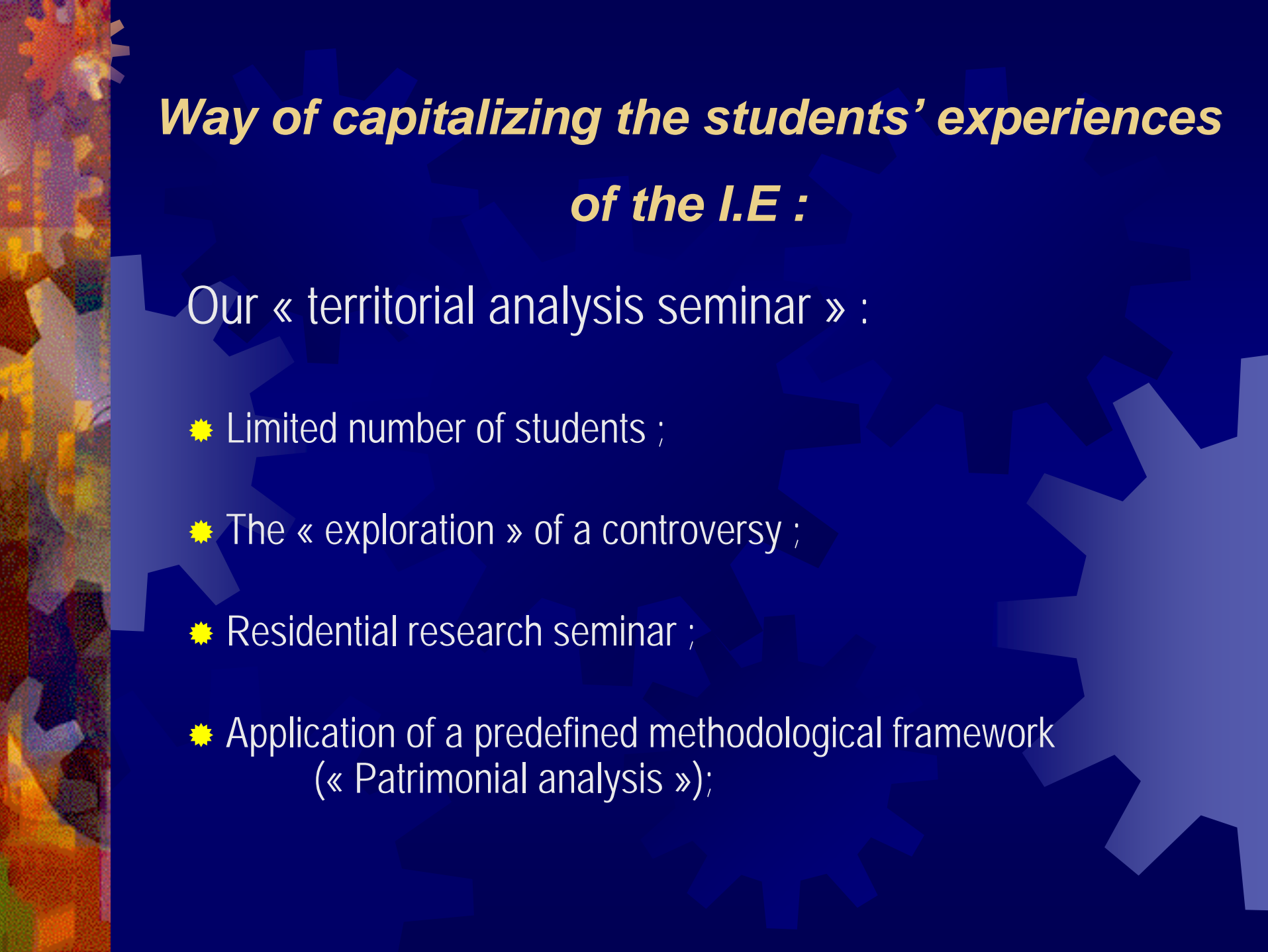
A = actors (humans and non-humans);

T = transformation suggested;

W = worldview;

O = owner;

E = environmental constraints (taken for granted)



Way of capitalizing the students' experiences of the I.E :

Our « territorial analysis seminar » :

- ✦ Limited number of students ;
- ✦ The « exploration » of a controversy ;
- ✦ Residential research seminar ;
- ✦ Application of a predefined methodological framework (« Patrimonial analysis »);