Sustainable Technology Development: Design assignment

Master Course Coordinator: Bas van Vliet

Course duration: 4 weeks

Study load: 3 credits (+/- 84 study hours)
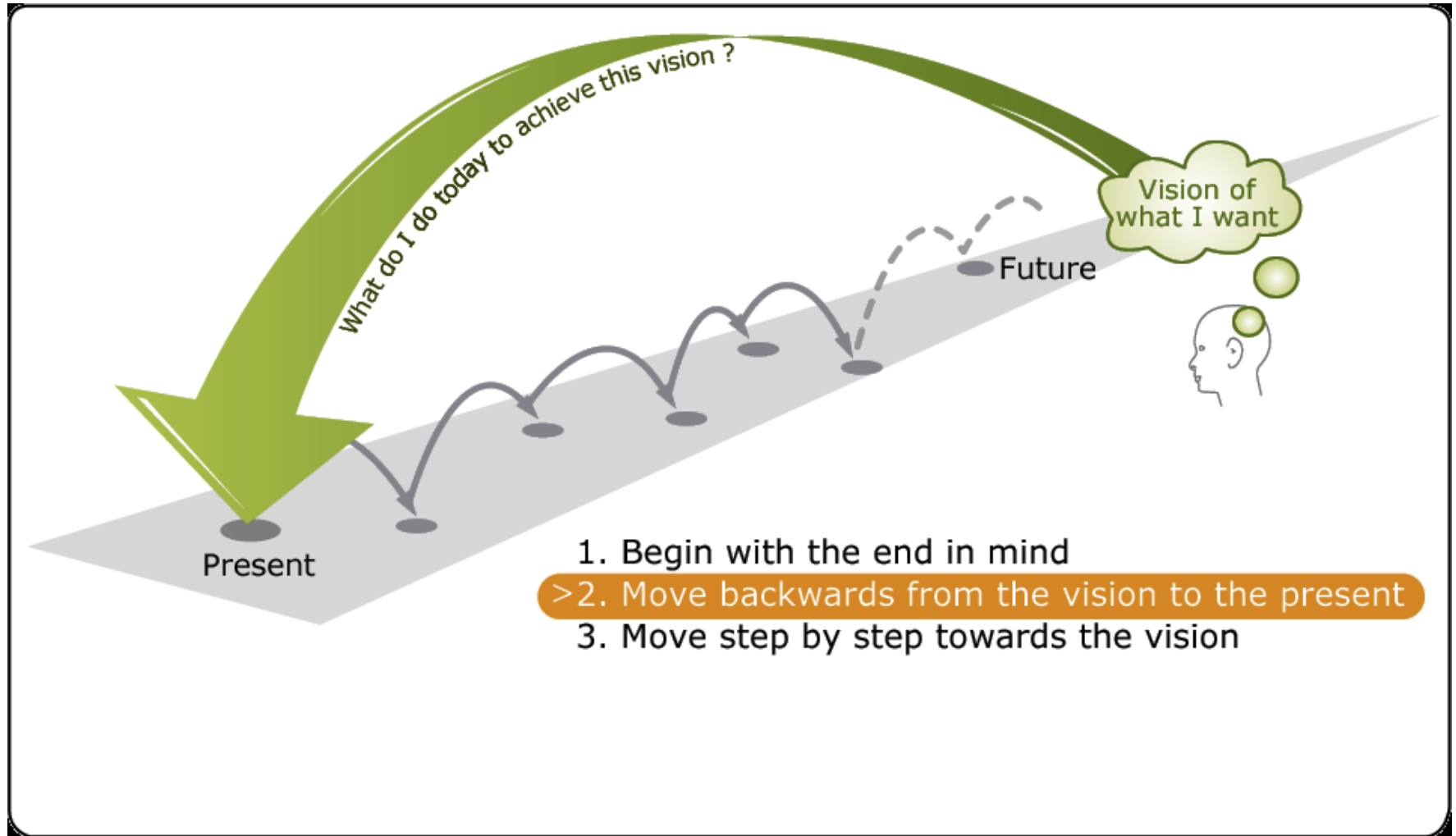
Group assignment: Design a Sustainable Future 2050

https://youtu.be/3eJfS1QFrjg

Backcasting to build scenarios

Group assignment: Designing a Preferable Sustainable Future

Week 1:

1. Analyze a selected sustainability problem
2. Develop a preferable future vision for sustainable technology

Week 2:

3. Assess the social and technical implications of their vision
4. Formulate a strategy to reach their goals over the years

Week 3:

5. Analyze and compare their niche proposal with contemporary projects in the Netherlands (group excursion)

Final Result:

- paper of about 20 – 25 pages
- presentation

Learning Outcomes ENP 38303

Students are able to:

- **design** socio-technological niches for sustainable technology development;

- **evaluate** present day socio-technological experiments in terms of their contribution to technological transitions;

- **discuss, report, present and defend** a case of sustainable technology development within a chosen field;

and have strengthened their **skills** in:

- literature search;

- reading and summarizing social scientific literature on technology development and innovation;

- academic writing.

Group assignment:
Designing a Sustainable Future

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Assignment themes

- In allignment with Transition Theory: Long term and fundamental change in a sector of society

- Sectors to choose from:

  - Mobility

  - Sustainable Building and Retrofitting,

  - Urban Infrastructures (water, energy, sanitation, waste)

  - Food

- Cases from all over the world!

Group assignment:
Designing a Sustainable Future,
compare with present innovations

Some details

- Groups of 5-6 students

- Excursions: tailor made for each group:
  - Students make a plan and budget and discuss with the supervisor

- Students hand in draft assignments Thursdays week 1,2 and 3

- 3 feedback sessions on Friday mornings

- Final Grade = grade group paper based on Rubric which includes presentation (10%)

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Teaching activities

- Project based group work - 2.5 credits (70h)

- Excursion – 0.3 credits (8h)

- Tutorial – 0.2 credits (6h)

Assessment / Testing

- Contents: is it complete? Does the essay give a correct overview of the theme? Composition clear? - 15%

- Theory: Did they made relevant relation between more than one theories and the topic - 14%

- Methodology: relation of paper with methodologies of technology forecasting, back casting, niche management etc. - 14%

- Reflection: Quality of reflection on own work in relation to course contents and to current projects in the field - 14%

- Creativity: Shown creativity and originality in discussing the topic - 14%

- Sources: Use of scientific sources and referencing - 7%

- Report lay-out: Clear structure, captions, headings, table of content, pictures - 5%

- Presentation - 10%

- Academic English writing style - 7%

Reflective questions

- What do you recognize? And what is new?

  Share your insights and experiences

- What change is needed to implement the new?

  i.e. Role of the student, teacher, organisation

Any questions?

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