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FOR HOME ECONOMICS



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ProfESus

FOCUS ON SUSTAINABILITY - EDUCATION FOR

Chapter

Integrating case studies and scenarios in education for sustainable consumption and production

1. Significance of Case Studies

As an instructional strategy, case studies have a number of virtues. They “bridge the gap between theory and practice and between the academy and the workplace” (Barkley, Cross, and Major 2005, p.182).

They also give students practice identifying the parameters of a problem, recognizing and articulating positions, evaluating courses of action, and arguing different points of view.

Case studies vary in length and detail, and can be used in a number of ways, depending on the case itself and on the instructor’s goals.

- They can be short (a few paragraphs) or long (e.g. 20+ pages).
- They can be used in lecture-based or discussion-based classes.
- They can be real, with all the detail drawn from actual people and circumstances, or simply realistic.
- They can provide all the relevant data students need to discuss and resolve the central issue, or only some of it, requiring students to identify, and possibly fill in (via outside research), the missing information.
- They can require students to examine multiple aspects of a problem, or just a circumscribed piece.
- They can require students to propose a solution for the case or simply to identify the parameters of the problem.ⁱ

1.1 Finding or creating cases

It is possible to write your own case studies, although it is not a simple task. The material for a case study can be drawn from your own professional experiences from current events (e.g., a high-profile medical ethics case or a diplomatic conundrum), from historical sources (e.g., a legal debate or special predicament), etc. It is also possible to find published cases from books and on-line case study collections. Whatever the source, an effective case study is one that, according to Davis (1993):

- tells a “real” and engaging story (it must be realistic)
- raises a thought-provoking issue
- has elements of conflict
- promotes empathy with the central characters
- lacks an obvious or clear-cut right answer
- encourages students to think and take a position



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- portrays actors in moments of decision
- provides plenty of data about character, location, context, actions
- is relatively concise.

1.2 Using case studies

How you use case studies will depend on the goals, as well as on the format, of your course. If it is a large lecture course, for example, you might use a case study to illustrate and enrich the lecture material. (An instructor lecturing on principles of marketing, for example, might use the case of a particular company or product to explore marketing issues and dilemmas in a real-life context.) Also in a large class you might consider breaking the class into small groups or pairs to discuss a relevant case. If your class is a smaller, discussion-format course, you will be able to use more detailed and complex cases, to explore the perspectives introduced in the case in greater depth, and perhaps integrate other instructional strategies, such as role playing or debate.

Regardless of the format in which you employ case studies, it is important that you, as the instructor, know all the issues involved in the case, prepare questions and prompts in advance, and anticipate where students might run into problems. Finally, consider who your students are and how you might productively draw on their backgrounds, experiences, personalities, etc., to enhance the discussion.

1.3 Six aspects how to use case studies

While there are many variations in how case studies can be used, these six steps provide a general framework for how to lead a case-based discussion:

- 1.3.1 Give students ample time to read and think about the case. If the case is long, assign it as homework with a set of questions for students to consider (e.g., What is the nature of the problem the central character is facing? What are some possible courses of action? What are the potential obstacles?)
- 1.3.2 Introduce the case briefly and provide some guidelines for how to approach it. Clarify how you want students to think about the case (e.g., “Approach this case as if you were the presiding judge” or “You are a consultant hired by this company. What would you recommend?”) Break down the steps you want students to take in analyzing the case (e.g., “First, identify the constraints each character in the case was operating under and the opportunities s/he had. Second, evaluate the decisions each character made and their implications. Finally, explain what you would have done differently and why.”). If you would like students to disregard or focus on certain information, specify that as well (e.g., “I want you to ignore the political affiliation of the characters described and simply distinguish their positions on stem-cell research as they are articulated here.”)



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- 1.3.3 Create groups and monitor them to make sure everyone is involved. Breaking the full class into smaller groups gives individual students more opportunities for participation and interaction. However, small groups can drift off track if you do not provide structure. Thus, it is a good idea to make the task of the group very concrete and clear (e.g., “You are to identify three potential courses of action and outline the pros and cons of each from a public relations standpoint”). You may also want to designate roles within each group: for example, one individual might be charged with keeping the others on task and watching the time; a second individual’s role might be to question the assumptions or interpretations of the group and probe for deeper analysis; a third individual’s role might be to record the group’s thoughts and report their decision to the class. Alternatively, group members could be assigned broad perspectives (e.g., liberal, conservative, libertarian) to represent, or asked to speak for the various “stakeholders” in the case study.
- 1.3.4 Have groups present their solutions/reasoning: If groups know they are responsible for producing something (a decision, rationale, analysis) to present to the class, they will approach the discussion with greater focus and seriousness. Write their conclusions on the board so that you can return to them in the discussion that follows.
- 1.3.5 Ask questions for clarification and to move discussion to another level. One of the challenges for a case-based discussion leader is to guide the discussion and probe for deeper analysis without over-directing. As the discussion unfolds, ask questions that call for students to examine their own assumptions, substantiate their claims, provide illustrations, etc.
- 1.3.6 Synthesize issues raised. Be sure to bring the various strands of the discussion back together at the end, so that students see what they have learned and take those lessons with them. The job of synthesizing need not necessarily fall to the instructor, however; one or more students can be given this task.

Some variations on this general method include having students do outside research (individually or in groups) to bring to bear on the case in question, and comparing the actual outcome of a real-life dilemma to the solutions generated in class.

1.4 Case Study in the ProfEsus Project

Starting points for implementing sustainable consumption and production in Household and Guest orientated businesses might be:

- New awareness of the management
- New approach of the tourism area
- New guidelines from the local government

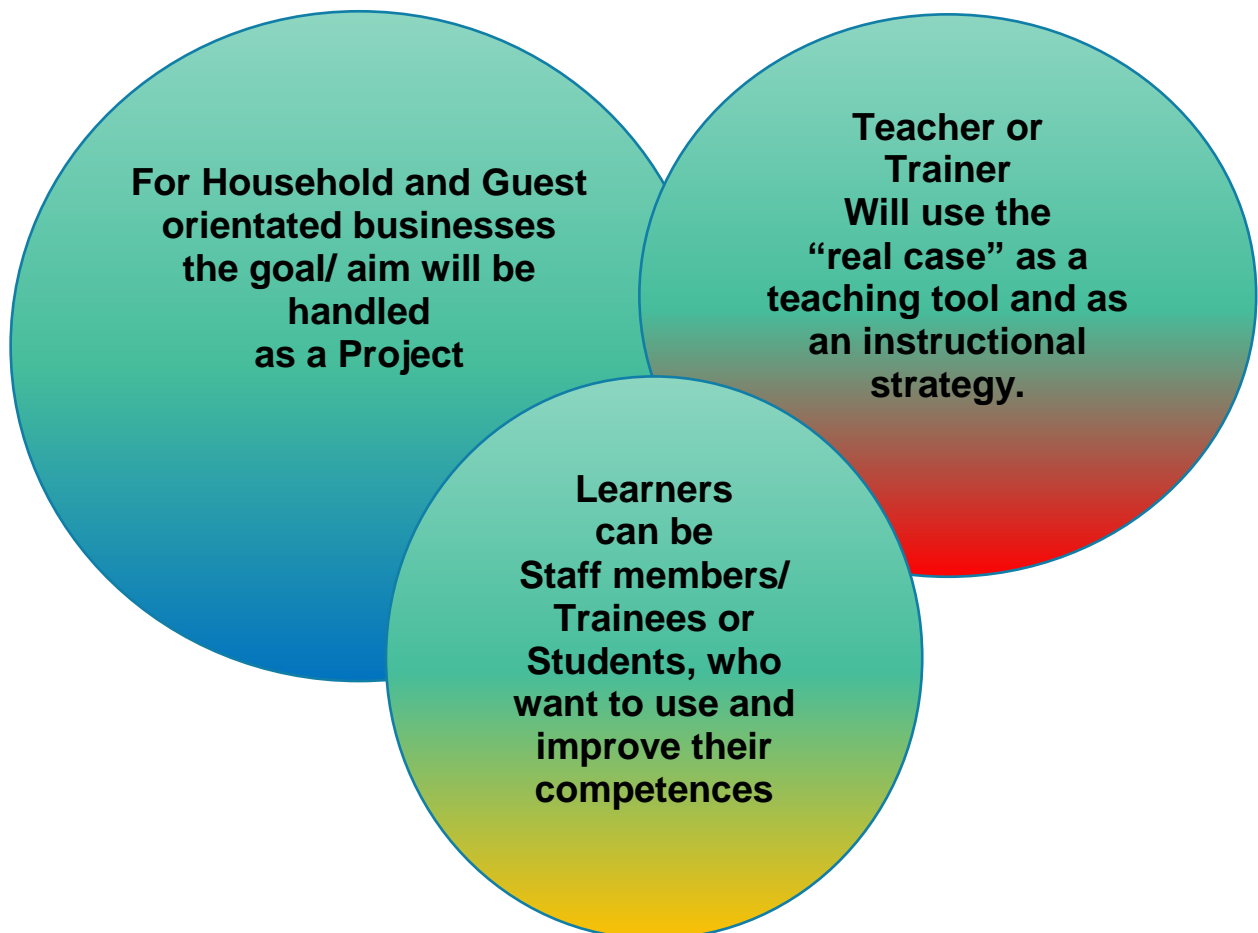
Based on the starting point the case studies can have different complexities.

The Case studies in training and education processes can be considered under

- A) The perspective of the business management as a project and should be planned, organized, conducted and evaluated related to project management guidelines

- B) The perspective of a trainee or student, who are part of the project but in addition they have the aim to learn and develop additional competencies, which will be evaluated.
- C) The perspective of the teacher, who uses the business project as a case study in the learning process relates sustainable consumption and production, with different competence areas such as
 - a. Teaching to achieve transformation) people, pedagogy / education system
 - b. Reflecting/Visioning to envisage change) past, present / future)
 - c. Networking as a holistic approach with integrative thinking & practice. T

Perspectives to Case Studies





2. Role and meaning of Scenarios

2.1 Scenarios for assessments or forecasting of projections

Scenarios describe possible future developments. They can be used in an exploratory manner or for a scientific assessment in order to understand the functioning of an investigated system. (Carpenter et al., 2005)

(http://ipcc.ch/publications_data/ar4/wg3/en/ch3s3-1-1-.html)

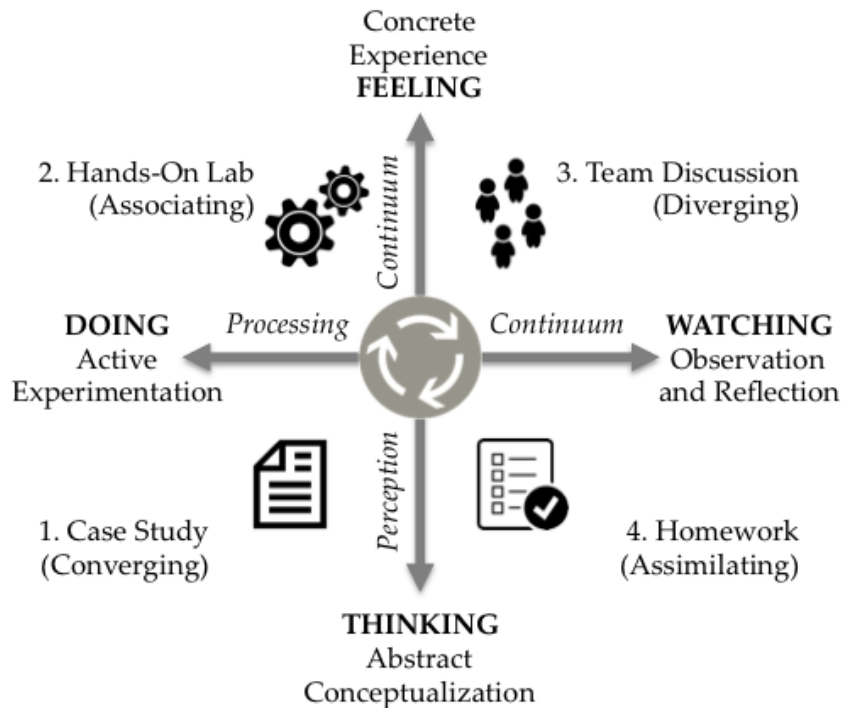
IPCC intergovernmental panel on climate change wmo unep

Scenario definitions in the literature differ depending on the purpose of the scenarios and how they were developed. The SRES report (Nakiceovic et al. 2000) defines a scenario as a plausible description of how the future might develop, based on coherent and internally consistent set of assumptions ('scenario logic') about the key relationships and driving forces (e.g. rate of technology change or prices). Some studies in the literature apply the term 'scenario' to 'best-guess' or forecast types of projections. Such studies do not aim primarily at exploring alternative futures, but rather at identifying 'most likely' outcomes. Probabilistic studies represent a different approach, in which the range of outcomes is based on a consistent estimate of the probability density function (PDF) for crucial input parameters. In these cases, outcomes are associated with an explicit estimate of likelihood, albeit one with a substantial subjective component. Examples include probabilistic projections for population (Lutz and Sanderson, 2001) and CO₂ emissions (Webster et al., 2002, 2003; O'Neill, 2004).

2.2 Scenario Based Learning

The Scenario Based Learning (SBL) approach also supports David Kolb's Experiential Learning model. Kolb asserts that learning is "the process whereby knowledge is created through the transformation of experience" and happens along two continuums – a perception continuum and a processing continuum. Effective learning occurs when the student shifts internal cognitive processes along these continuums. The perception continuum encourages the learner to transition between "thinking," a process of abstract conceptualization and "feeling," largely based on experiences. The process continuum encourages the learner to shift between "watching," a process of observation and reflection and "doing," an active stage of experimentation. Kolb also posits that students have a "learning preference" – converging, associating, diverging and assimilating – and this learning preference can be used to identify differences in the learning process by discipline.

The SBL curriculum attempts to touch on each learning quadrant - converging, associating, diverging and assimilating. Research with students who have experienced the SBL curriculum shows good overall satisfaction with the curriculum and higher satisfaction among students with an associating or diverging learning style.



source https://web.stanford.edu/group/design_education/wikiupload/3/35/Kolb.png

SCENARIO-BASED LEARNING CURRICULUM



Scenario/
Story



Hands-On
Lab



Team
Discussion



Homework
Decision Making

Scenario-based learning curriculum moves beyond previous case method curricula by incorporating a four-module pedagogical process. This begins with the scenario or story, a four to six page description of the situation. The scenario features protagonists (engineering students or recent graduates) who are struggling with a real world problem and contains relevant information required to solve the challenge. The scenario does not include core engineering content, as this is covered in regular class sessions, but it does include instruction in key entrepreneurial concepts.

In class, student teams participate in a hands-on lab, illustrating the relevant engineering concepts. These labs require about 50-60 minutes of class time and includes team discussion where students must explore various ways of completing the lab tasks. The final step in the process is a homework assignment that requires students to synthesize their learning and make a choice for how they would proceed as a character in the story. The labs are supported by short videos showing



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the lab activities and a video lecture explaining the entrepreneurial content in each scenario.

Source: [http://web.stanford.edu/group/design_education/cgi-bin/mediawiki/index.php/Scenario Based Learning](http://web.stanford.edu/group/design_education/cgi-bin/mediawiki/index.php/Scenario_Based_Learning)

3. Conclusion for the ProfEsus Course

Based on these findings related to the role and significance of case studies and different scientific approaches and use of scenarios the ProfEsus blended learning course will integrate both as well as case studies and scenarios.

Real or realistic case studies or stories related to the professional field of home economic and guest orientated businesses can be starting points for a diversity of learning situations and relevant for most of the professional competences. In addition to the case studies different scenarios as a plausible descriptions of how the future might develop, or should be developed in these professional field to support sustainable development. The scenarios will be described based on coherent and internally consistent set of assumptions ('scenario logic') can be valuable and to develop a sustainable mind set. In the blended learning course both case studies and scenarios will be introduced and integrated for the teacher training and to enable them to use case studies and scenarios in their lesson planning to improve their competences in teaching sustainable consumption and production in the vocational education in the field of home economics and guest orientated businesses.



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4. Case study in the subject “Textiles”

Topic of the lesson “New Work Clothes for the Staff in a Hotel with Restaurant which fulfil the criteria of:

- **Sustainable Textiles including sustainable washing processes,**
- **Health and safety protection at the workplace**
- **Comfortable wearing quality and fashionable**
- **Corporate Identity of the Hotel and Restaurant of the Household and Guest orientated businesses “Sengelmanshof”**
- **Economicalness.**

5. Real Case Study Sengelmans Hof, Essen, Germany: situated nearby the river Ruhr



Restaurant: with two rooms

Hotel: with 9 single rooms and 18 twins

Staff members:

- ▶ Restaurant:
 - Kitchen: 6
 - Restaurant/Service: 9
- ▶ Hotel:
 - Reception: 5
 - Housekeeping including room service: 6

The Management of the Sengelmanshof will use the goal as a training project for trainees and staff members.

The trainee or student or a team of three trainees or student of the Sengelmanshof who are studying hotel management, Hospitality management or similar courses has / have the task

- to develop a proposal for new staff clothes, which fulfil the requirements
 - of sustainable development especially sustainable consumption and production as well as
 - for staff clothes in the related working fields
 - of the management of the Sengelmanshof

From the Perspective of the Management the project can be divided in several milestones, which should be planned, organized, conducted and evaluated: separately see Column 2.



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Teachiing subject: Textiles including purchase and washing

Aim of the Sengelmanshof: New clothes for the staff in all areas should be purchased or rent which fulfil the requirements of sustainable consumption and production as well as other professional aspects.

From the perspective of the teacher the learners should work on the tasks and questions in Column 3 and for to provide the management of the Sengelsmannshof with the required data and suggestions.





Real Case Study – possible approaches

	Case study Sengelmanshof	Teacher	
		Teaching Subject specific Competences	Promoting a Sustainable Mindset
C O M P L E X I T Y H I G H	<p>New Work Clothes for the Staff in the Hotel with Restaurant Sengelmanshof which fulfil the criteria of:</p> <ul style="list-style-type: none"> ➤ Sustainable Textiles including sustainable washing processes, ➤ Health and safety protection at the workplace ➤ Comfortable wearing quality and fashionable ➤ Meet the Corporate Identity of the Hotel and Restaurant ➤ Value for money 	<ul style="list-style-type: none"> ➤ Clarify, what the manager of Sengelsmanns Hof or the responsible housekeeping person should consider? ➤ Define main aspects of the decision process ➤ Determine milestones for the project ➤ Plan how to conduct the necessary processes ➤ Define data, which must be collected ➤ Determine possible challenges 	<ul style="list-style-type: none"> ➤ Clarify the nature of the problem the manager of Sengelmanshof is facing related to sustainable consumption and production ➤ Define possible courses of actions to fulfil the criteria for sustainable textiles and washing and outline the pros and cons of each. ➤ Collect sources, which might be supportive for the decision processes ➤ Define a priority list of criteria for the evaluation of the options.



	Case study Sengelmanshof 1. Milestone	Teacher Approach	
		Teaching Subject Specific Competences	Promoting a Sustainable Mindset
C O M P L E X I T Y L E S S	Description of Textile Labels and classify under sustainable aspects	<p>What kind of labels are available related to washing, kind of material etc.;</p> <ul style="list-style-type: none"> ➤ Online research, considering the neutrality of the label and the acknowledgement by consumer organisations. ➤ Compile all relevant labels in the fields of textiles in a table adding the most important aspects and background of the labels. ➤ Ordering the labels in a table indicating the institution/organization, which award the label and the criteria they confirm. 	<p>One important aspect for the decision can be labels indicating a sustainable production process (e.g. for cotton).</p> <ul style="list-style-type: none"> ➤ Clarify the different eco- and textile labels related to their meaning. ➤ Discuss the meaning of social sustainability in relation to the textiles production chains ➤ Describe possible bounds of their meaning from a consumer perspective (Discuss limits of the monitoring of the production chain) ➤ Determine the labels, which the materials for the staff clothes should be marked with! ➤ Clarify the options of influence of consumers for social and environmental sustainability related to textiles?
	Case study		



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	Sengelmanshof 2. Milestone	Teacher approach	
		Teaching Subject Specific Competences	Promoting a Sustainable Mindset
C O M P L E X I T Y L E S S	Recommendation for suitable materials, which fulfil the required criteria for the staff clothes.	<ul style="list-style-type: none"> ➤ Conducting a market research and collect materials and samples of working clothes produced out of different materials. ➤ Clarifying objective criteria for the selection of suitable materials for staff clothes in Sengelmanshof? ➤ Checking requirements regarding staff cloths in the different working areas related to the materials and the fit of the clothes 	<ul style="list-style-type: none"> ➤ Identifying possible constrains and inconsistencies related to sustainable textiles and the requirements for the staff of Sengelmanshof? ➤ Clarifying the best materials for staff clothes with the best effect for sustainable consumption and production. ➤ Discuss what would be the effects if all consumers would only buy sustainable textiles?



	Case Study Sengelmanshof 3. Milestone	Teacher	
		Teaching Subject Specific Competences	Promoting a Sustainable Mindset
C O M P L E X I T Y	Presentation of the individual requirements such as stylish and practical as well as the requirements regarding professional demands such as fireproofed, hygiene.	<ul style="list-style-type: none"> ➤ Define possible demands of staff members from an individual and professional perspectives ➤ develop questionnaire and conduct a survey addressing all staff members ➤ present the evaluation results to the staff members ➤ reflection of all regulations or instructions related to staff clothes in Hotels and Restaurants 	<ul style="list-style-type: none"> ➤ Develop an information leaflet for the staff of the Sengelmanshof about the impact of their answers regarding sustainability. ➤ Highlight possible contradictions
	Case Study Sengelmanshof 4. Milestone	Teacher	
L E S S	Evaluation of suppliers, collections including production chains	Developing Subject Specific Competences	Promoting a Sustainable Mindset
		<ul style="list-style-type: none"> ➤ Define requirements for the staff clothes with view to usage and utility value, wearing as well as washing quality and the materials based on the results of Milestone 3 to request for quotes ➤ Analyze quotations from different suppliers ➤ Evaluate samples which fulfil all defined requirements 	<ul style="list-style-type: none"> ➤ Clarify with the suppliers the social and environmental conditions of the production for the staff clothes ➤ As the head of Sengelmanshof, which arguments are important for the selection of a supplier of the staff clothes related to sustainability.

Integrating scenarios

Based on this case studies several scenarios can be defined and the consequences and effects for the businesses and for sustainable consumption and production or sustainable development could be discussed and described.

- Scenario 1.: Sengelmanshof decides that also table cloth or bedlinen, which must be replaced should fulfil the requirements of sustainable consumption and production
- Scenario 2.: Sengelmanshof will change its consumption and production all areas with the focus on sustainability
- Scenario 2.: All Restaurants and Hotels in the area decide to manage their businesses related to sustainable consumption and production
- Scenario 3.: All Staff members decide to buy only those clothes, which fulfil the requirements of sustainable production.

ⁱ <https://www.cmu.edu/teaching/design/teach/design/instructionalstrategies/casestudies.html>