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Chapter 16. Engaging for Sustainability – Experiential Learning via Service Design Projects

16.1. COURSE SUMMARY

Table 16–1

Audience and level of studies	Students (Bachelor)	
Group size	26–50	
Course duration	12 weeks	
Credits	6 ECTS	
Workload	Presence: 66 h Self-study: 54 h Company experience 60 h[24]	Total: 180 h
Contents/primary topics	• Service design • Sustainable development • Ethics & responsibility	
Main course objectives	• Get acquainted with the methodology of service design. • Understand sustainability challenges, the concept of sustainable development and the sustainable development goals (SDGs). • Become aware of individual and corporate responsibility and get activated to engage for sustainability.	
Main teaching approaches	• Experiential learning • Collaborative learning • Active learning	
Main teaching methods	• Sustainability-related consulting project (service design methodology) • Reflection tasks • Lectures	
Learning environment	Classroom (face-to-face learning) (preferable) / virtual classroom (online learning) Beyond classroom (field trip for doing interviews with stakeholders and users for the solution that students work on in their project)	

24 Company experience is a specific feature of dual study programmes: Students learn within their practical phases by applying the learning of the theory phase in their practical work.

Link to Sustainable Development Goals (SDGs)	SDG 9 | Industry innovation and infrastructure | Build infrastructure, promote inclusive and sustainable industrialization and foster innovation SDG 12 | Responsible consumption and production | Ensure sustainable consumption and production patterns Other SDGs depending on the project and the challenge brought in by external partners (companies, Non-Governmental Organizations (NGO's)).

Table 16–2

Impact assessment	(None) Low/ Medium/ High	Explanation
1. Degree of student participation / activeness	High	Students work independently on their service design project; the process is facilitated by the teacher.
2. Degree of student collaboration / group work	High	Students work mostly in groups throughout the course to solve the service design challenge.
3. Degree of student emotional involvement	Medium	Students are asked to write down a sustainability-related experience that emotionally touched them at the beginning of the class and are asked in further reflections to think about ways how they personally or as a member of a company can contribute to the sustainability challenges they identified to be related to their experience. They also need to work and observe in the field, which aims at creating personal and emotional connection with stakeholders and the sustainability issue itself.
4. Degree of inter-/transdisciplinarity	Medium	The teaching team consists of a professor for service design / design thinking and a professor for Corporate Social Responsibility (CSR) and sustainability.
5. Degree of student (self-) reflection	High	Different reflection exercises make students reflect about their role for sustainable development, the needs of different parties, and the potential of their solution to contribute to sustainable development.
6. Degree of experience of real-life situations	High	Students provide a solution to a real-life problem of a given organisation, usually conduct a field trip to the organisation and do field work to observe and interview potential "users" of the solution.
7. Degree of nature-related experiences	None	Students deal with sustainability challenges, but there are no other outdoor activities than doing field trips to visit the organisation in question / do interviews.
8. Degree of stakeholder integration	Medium	Students are asked to integrate different stakeholder perspectives, however, with a focus on users of their solution.
9. Degree of integration between theory and practice	High	Students get short lecture inputs respective the sustainability and service design and apply them directly in their work on the real-life challenges brought in by external partners.

16.2. COURSE INTRODUCTION

Higher Education Institutions have a major responsibility for developing competencies that enable students to take sustainable decisions in their future roles within governments, society or business (Chalkley, 2006).

Learning needs go beyond transferring knowledge, but target also values, attitudes and emotions that engage students to act (e.g. Chalkley, 2006), hereby creating an interlinked set of knowledge, skills, attitudes, and values that enable effective, embodied sustainability-related action (UNESCO, 2017; Wiek et al., 2011). Shephard (2008) points out that teaching should create sensitivity to sustainability issues and make students appreciate that they have a responsibility to sustain their environment. Raising awareness for sustainability issues and the SDGs and mobilizing students to contribute seems to be at the core of sustainability related teaching (UNESCO, 2020).

The course ”Engaging for Sustainability” therefore intends to create awareness for sustainability-related problems, make students question their values and behaviours and enable and motivate them to contribute to a more sustainable world. It is taught within the second year of a cooperative Bachelor programme in Business Administration where students already have experience in working for a company. Due to a tight curriculum with many already pre-determined courses, the course was created by linking two separate compulsory modules with two different lecturers: A module on service design with 5 ECTS and 44 in-presence teaching hours and a so called ”core competency module”[25] on responsibility for sustainability with 1 ECTS and 22 in-presence teaching hours. Hereby, Helmers & Ilchmann's (2019) recommendation to integrate sustainability-related teaching as compulsory courses within established degree programs was followed.

Within the course, student teams consisting of four to five persons work on a real-life challenge brought in by an external partner (company or NGO). Challenges are designed in a way that they refer to sustainability issues and aim at contributing to selected sustainable development goals. The methodology for working on the challenge is service design. Service design is suitable to solve so-called “wicked problems” (Morelli et al., 2021) and is increasingly used for facilitating social innovation (Yang et al., 2016) and sustainable business model innovation (Prendeville & Bocken, 2017). The two lecturers work as a team: one lecturer is facilitating the service design process, while the other lecturer provides short inputs on sustainability, sustainable development, ethics, civil

25 Core competency modules are modules that focus on the development of competencies rather than the imparting knowledge to students; they are not graded.

engagement and corporate responsibility and makes students reflect on their own responsibility and possibilities to contribute to the SDGs.

Students are asked to work and observe in the field and interact with stakeholders when possible, which aims at creating personal and emotional connection with stakeholders and the sustainability issue itself. The latter is supported by the requirement to analyze stakeholder needs and sustainability issues related to the project. Reflection tasks, beyond linking theoretical issues with project work, motivate students to question their beliefs and thoughts and think about their own role and capability to act responsibly.

16.3. LEARNING OBJECTIVES

The learning objectives of this course are aligned with its placement in the second year of studies. Students usually have only a superficial knowledge of sustainability and CSR, such that the major goal of this course is to create awareness for sustainability challenges, but not dig deep into their possible solutions. Instead, applying the idea of project-based learning, students are encouraged to design own solutions for very specific sustainability related challenges.

Table 16–3

Learning objective dimension (UNESCO, 2017)	Operationalisation	Competency referred to (Rieckmann, 2018)
Cognitive	Students increase their awareness for sustainability challenges and understand the role of individual and corporate engagement.	Systems thinking
	Students know about creativity and innovation methods and are familiar with the methodology and procedure of service design / design thinking.	Problem solving
Socio-emotional	Students learn to critically assess the role of different actors (companies, politics, the third sector, individual citizens) for sustainable development.	Critical thinking, normative competency
	Students develop their competency to understand viewpoints and needs of others.	Collaboration
	Students critically reflect their responsibility for the achievement of sustainability goals set in the Agenda 2030 as individual person and as employee of a company.	Self-awareness

Learning objective dimension (UNESCO, 2017)	Operationalisation	Competency referred to (Rieckmann, 2018)
Socio-emotional	Students refine and reassess their attitudes, beliefs and individual core values and question and change the ways they see and think about the world.	Self-awareness, critical thinking, normative competency
	Students develop communication, presentation and teambuilding skills.	Collaboration
Behavioural	Students apply their knowledge of sustainability and the service design method to solve a specific sustainability challenge.	Problem solving
	Students are able to take decisions in a participatory and collaborative way.	Problem solving, collaboration
	Students are activated to contribute to achieving the sustainability goals set in the Agenda 2030.	Self-awareness, problem solving

16.4. COURSE OUTLINE

Table 16–4

Structure		Session Focus (Specific exercises of the sessions can be found in subchapter 16.6)	Homework to next Session
Week 1	Session 1 (3 h)*	Sustainability challenges and SDGs, Reflection 1 (personal situation related to sustainability issue)	Get acquainted with one of the SDGs (Description and indicators for home country/ another selected country)
	Session 2 (5 h)	Intro User-Centred Innovation Management, Project Kick-Off, Teaming	Get acquainted with the project challenge
Week 2	Session 3 (3 h)	SDG Game / Discussion about SDGs	Reflection 2: SDGs touched by the challenge
	Session 4 (5 h)	1st phase Service Design: "Discover" – Understand, Preparation Observe	Plan observation phase
Week 3	Session 5 (2 h)	Responsible parties for sustainable development, idea of responsibility	Reflection 3: Own responsibility and motivations for contributing to sustainability issue described in first session; Individual sustainability challenge
	Session 6 (5 h)	1st phase Service Design: "Discover": Observe	Plan observation phase

Structure		Session Focus (Specific exercises of the sessions can be found in subchapter 16.6)	Homework to next Session
Week 4	Session 7 (2 h)	Ethical theories – overview	Individual sustainability challenge
	Session 8 (5 h)	2nd phase Service Design: "Define"	--
Week 5	Session 9 (2 h)	Responsibility as individual (e.g., consumer) – CO2 challenge	Individual sustainability challenge
	Session 10 (5 h)	3rd phase Service Design: "Develop"	--
Week 6	Session 11 (2 h)	The role of NGOs for sustainable development	Reflection 4: How could solution contribute to SDGs
	Session 12 (5 h)	4th phase of Service Design: "Deliver"; Interim Presentations	--
Week 7	Session 13 (2 h)	Sustainable innovation/social business	Reflection 5: Impact of solution on other stakeholders; potential conflicts of interest
	Session 14 (5 h)	4th phase Service Design: Iteration based upon testing	Preparation of final presentation
Week 8	Session 15 (2 h)	Corporate Social Responsibility: Issue analysis and implementation	Reflection 6: Corporate Responsibility for sustainability issue described in first session
	Session 16 (2h)	Corporate Social Responsibility (II): Greenwashing vs. CSR	Individual sustainability challenge
Week 9	Session 17 (5 h)	Pitching of project results	--
	Session 18 (2 h)	Reflection 7: Sustainability impact, trade-offs, risks of solution	--
Week 10	Session 19 (4 h)	Debriefing	

* Sessions highlighted in grey refer to the core competency course, while the others refer to the service design course.

16.5. TEACHING APPROACHES AND METHODS

The course presented here centres on experiential, collaborative and active learning. These pedagogies are decisive for changing awareness and conceptions about environmental and sustainability issues and activating an interdisciplinary and holistic way of thinking (Biasutti, 2015). Many studies emphasise the importance of experiential learning via real world experiences (e.g. Brundiers et al., 2010; Heiskanen et al., 2016; Molderez & Fonseca, 2018), and the positive effects of active and learner-centred learning (e.g. Brandt et al., 2021) and collaborative learning (e.g. Biasutti, 2015) on sustainability related competencies.

Among the learning methods that are suggested to support these learning approaches are collaborative real-world projects and reflective journals / refection tasks (UNESCO, 2017). Accordingly, and in alignment with the learning objectives of the course, the main teaching method of the course is a sustainability-related consulting project focused on a real–life challenge brought in by companies or NGOs (see subchapter 16.2 "Course Introduction"). Heiskanen (2015) showed, that confronting students with real life problems and engaging them as "consultants" fostered especially communication and collaboration as well as action skills related to strategic and problem-solving competencies. Examples of challenges we used in the course presented include:

- (Re-)Design the recycling experience for the city's households so that the (re)supply of valuable materials into the circular economy becomes more attractive
- (Re-) Design the sales experience of office farms to support companies in their engagement for sustainability
- (Re-) Design how users of the "Handprint" tool (developed by the German non-profit organization "Brot für die Welt") can be supported in the (very) first steps of their engagement

Students worked on the project using the service design methodology, a service-specific application of Design Thinking and design methodologies (Clatworthy, 2017). Service design can be defined as "*an approach to designing services that balances the needs of the customer with the needs of the business, aiming to create seamless and quality service experiences. […] (It) is rooted in design thinking, and brings a creative, human-centered process to service improvement and designing new services." (Miller, 2015 in* Stickdorn, 2018)*).* Due to its creative, participatory and human centred approach Service Design is particularly suitable for social innovation (Yang et al., 2016) and sustainable business model innovation processes (Prendeville & Bocken, 2017). At the same time, Design Thinking techniques and their service-specific applications are perceived as promising teaching methods for complementing the analytic perspectives predominantly taught at business schools and preparing graduates to deal with the numerous, complex, ill-defined problems in our today's world (Glen et al., 2014). The use of the service design methodology within sustainability related teaching therefore seems to be highly recommended.

Service design in teaching is based on experiential, collaborative and active approaches recommended also for sustainability teaching (Pimpa 2019; Earle & Leyva-de la Hiz, 2020). This teaching method is accompanied by short lecturing inputs, reflection tasks, group discussions as well as the use of "weekly challenges" (see exercises) to engage students to integrate sustainability into their daily life. The use of lectures is seen very critical in literature, as

lectures potentially negatively impact student's activeness (e.g. (Abdel Meguid & Collins, 2017; Erickson et al., 2020) and collaboration (e.g., Frick et al., 2020; Rissanen, 2018). However, it seems to be an appropriate method when it is used carefully and as means to initiate discussion and reflection. Konrad et al. (2021) argue that reflection and (lecturing) inputs complement experience and experimentation within an effective learning process. Reflection can be described as a "process of internally examining an issue, triggered by an experience which creates and clarifies meaning in terms of self …" (Ayers et al., 2020, p.2); it potentially changes students' perspective (Ayers et al., 2020). In this course, reflections are used by making students write or talk about experiences and there implications (see subchapter 16.6 "Exercises"). In addition, group-discussions were used to support reflection and foster students capabilities to listen to others and critically reconsider own viewpoints.

16.6. EXERCISES

Reflection Tasks About a Sustainability-Related Experience

The objective of this exercise is to get emotionally involved, activate values and norms and motivate personal engagement. It comprises a series of three reflections:

1. Students are asked to reflect about a sustainability-related experience, which personally touched them and identify the sustainability issues / SDGs that are involved. The results should be written down, recorded in a video / podcast or documented in a picture (session 1 – Sustainability challenges and SDG's).
2. Students are asked to reflect about own responsibility and motivations for contributing to sustainability issues related to experience described in the first session. They should document their ideas and present them to peer/ peers (session 5 – Responsible parties for sustainable development).
3. Students are asked to reflect in groups how companies can contribute to sustainability issues related to the experience described in the first session. They should document their ideas and comment on ideas of one other group (Session 15/16 – CSR).

Discussion SDG-Related Postulations (Card Play)

The objective of this exercise is to create awareness for sustainability issues, viewpoints, and SDGs. Students should play this game in the first session in groups of 5–10. They receive cards with statements related to SDGs; players

can either agree or reject the statement and should discuss about their viewpoints.

Weekly challenges

Students are asked to form groups and decide on a sustainability-related challenge for their own behaviour in the next week (e.g. eat one week only vegan food). In the next class they discuss and reflect within the group how well they were able to comply with the challenge and what have been obstacles for the according behaviour.

Persona

This exercise is one of a series of exercises used in the service design teaching process. It takes place in the second phase of the service design process and aims gaining a richer understanding of the audience and expanding empathy for the users for which groups design their solution. A persona is a tool for representing, summarizing, and communicating about a (potential) user that has been researched. By distilling the knowledge about a specific user, one can create a model for the person for which to design a solution. Clearly defining personas gives the team the fuller understanding of the potential users that then helps to make better product / service and marketing decisions.

16.7. ASSESSMENT

Table 16–5

Evaluation type	Percentage (%)
Reflection tasks (all in all six)	20
Oral presentation / pitching of the service design solution	30
Documentation of the service design process and the solution	50
Total	**100**

Reflection tasks can be provided in different forms: as mind maps, podcasts, short videos or just written documentations. For each one of the activities, an assessment rubric is created and handed to the students. The assessment of the project work includes two deliverables: a presentation of the project work to the project partners as well as written project reports. For both types of examination standards have been defined, which enable a uniform assessment of the students' competencies.

16.8. PREREQUISITES

Required prior knowledge from students:

- The course takes place at the beginning of the second study year. Basic knowledge of service management and marketing is required.

Required core competencies for instructors:

- Sustainability, responsibility, and ethics and design thinking/service design methodology.

Required tools:

- Online collaboration platforms (e.g., Zoom, Miro/Mural) in case the class is held online.

16.9. RECOMMENDED RESOURCES

Sustainable development goals:

- Barbier, E. B., & Burgess, J. C. (2017). The Sustainable Development Goals and the systems approach to sustainability. *Economics: The Open-Access, Open-Assessment E-Journal*. Advance online publication. https://doi.org/10.5018/economics-ejournal.ja.2017-28
- Hickel, J. (2020). *The World's Sustainable Development Goals Aren't Sustainable*. Foreign Policy, September 30th. https://foreignpolicy.com/2020/09/30/the-worlds-sustainable-development-goals-arent-sustainable/
- Leal Filho, W., Tripathi, S. K., Andrade Guerra, J. B. S. O. D., Giné-Garriga, R., Orlovic Lovren, V., & Willats, J. (2019). Using the sustainable development goals towards a better understanding of sustainability challenges. *International Journal of Sustainable Development & World Ecology*, 26(2), 179–190. https://doi.org/10.1080/13504509.2018.1505674
- Naidoo, R., & Fisher, B. (2020). *Reset Sustainable Development Goals for a pandemic world*. Nature Publishing Group. https://www.nature.com/articles/d41586-020-01999-x
- SDGCAfrica (2018, May). The Sustainable Development Goals: 17 Goals to Transform Our World [Video]. YouTube. https://www.youtube.com/watch?v=HW76iOQ7qVQ
- SDG card game/UN Global Compact Dilemma Game/other SDG Game

Responsibility and ethics:

- Becker, C. (2011). *Sustainability ethics and sustainability research*. Springer Science & Business Media.
- Crane & Matten, D. (2019). *Business Ethics: Managing Corporate Citizenship and Sustainability in the Age of Globalization*. Oxford University Press, New York.
- Rainforest Alliance (2012, September). Follow the frog [Video]. YouTube. https://www.youtube.com/watch?v=3iIkOi3srLo
- Better Future (n.d.). Have we really lost our minds [Video]. Vimeo. https://better-future.com/

Role of NGOs:

- Chen, S., Zhang, Q., & Zhou, Y. P. (2019). Impact of supply chain transparency on sustainability under NGO scrutiny. *Production and Operations Management*, 28(12), 3002–3022.
- Ferragina, E. (2012). *Social Capital in Europe*. Edward Elgar, Cheltenham/ Northhampton.

Social innovation and social business:

- Mulgan G., Tucker S., Rushanara A., Sanders B. (2007). *Social Innovation. What it is, why it matters and how it can be accelerated*. London: The Young Foundation.
- Bruder, I. (2020). A Social Mission is Not Enough: Reflecting the Normative Foundations of Social Entrepreneurship. *Journal of Business Ethics*, 1–19. https://doi.org/10.1007/s10551-020-04602-5

Corporate Social Responsibility:

- Auld, G., Bernstein, S., & Cashore, B. (2008). The New Corporate Social Responsibility. *Annual Review of Environment and Resources*, 33(1), 413–435. https://doi.org/10.1146
- Latapí Agudelo, M.A., Jóhannsdóttir, L. & Davídsdóttir, B. (2019). A literature review of the history and evolution of corporate social responsibility. *International Journal of Corporate Social Responsibility*, 4(1). https://doi.org/10.1186/s40991-018-0039-y
- Rasche, A., Morsing, M., Moon, J. (2017). *Corporate social responsibility: Strategy, communication, governance*. Oxford University Press, New York.

Service Design:

- Buchanan, R. (1992). Wicked Problems in Design Thinking. *Design Issues*, 8(2), 5–21.

- Morelli, N., de Götzen, A. & Simeone, L. (2021). *Service Design Capabilities*. Springer, Cham.
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16.10. GENERAL TIPS FOR TEACHERS

It is essential to integrate lecture inputs, reflections and project work in a way that makes sense to the students. Respective reflection tasks, teachers need to decide whether to place an emphasis on reflections respective the project work (e.g., impact of the solution on SDG's other stakeholders, potential barriers etc) or on personal experience the students were reporting on – doing both in a comprehensive manner may overburden students.

The teaching format usually is conducted in presence. However, in time of COVID-19, an online format for the project work based on Miro or Mural is a good option to engage teams to actively work together.

The course took place within a dual-study programme. For programmes that do not integrate additional company experience in their programme design, self-study hours should be increased to be able to allocate six ECTS.

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