

Toning courses with sustainability

Mette Lindahl Thomassen

VIA University College, Denmark,

melt@via.dk

Hanne Løje

Technical University of Denmark, Denmark

halo@dtu.dk

ABSTRACT

Keywords - three to five keywords describing your submission: sustainability, entrepreneurship

Please indicate clearly the type of contribution you are submitting: hands-on, explore, poster.

Your abstract is limited to **maximum two pages** and should include:

Background (learning problem or –aims to be solved in specified target group)

Climate change, pollution and inequality can no longer be ignored. Thus sustainability and regeneration is ever present in the media, in policy and in extension education. Universities around the globe strive to become a part of the solution through action and education. With a key role to play in societal change engineers too hold a great responsibility for making the world a better place. Through education they must be prepared to take leadership of sustainable changes, therefore sustainability have become an active learning objective in most educations.

However there is not always a clear agenda for how to incorporate sustainability into the different courses and/or educations, and today it is very broad how sustainability integrated. Some courses have focus on SDG's while others have more focus on that the final solution should create sustainable value.

Sustainability is not only the SDG's. System thinking, cradle to cradle and the triple bottom line (people, profit and planet) are just some examples of how sustainability it attempted to be made an actionable. But the challenge of education for sustainability still prevails.

Entrepreneurship and innovation can be the engine for transforming our world and overcome the diversity of the global sustainable challenges (Lans et al., 2014).

In a previous work, Løje and Thomassen (2018) explored how sustainability influence learning objectives in entrepreneurship and innovation courses at higher education in Denmark, it was found that most learning objectives were focus on management and strategy rather than on leading and developing sustainable solutions. Moreover, Brandi and Thomassen (2020) has suggested a conceptual model for how sustainability can become a practice in organisations through corporate entrepreneurship and organisational learning. Both studies will briefly be introduced to inspire the hands-on activity.

Explanation (how this learning activity contributes to activate students and support their learning – incl. theoretical explanation and references (optional for hands-on, mandatory for explore sessions))

Sustainability is defined and measured in different ways. This calls for a contextualization of sustainability education, but also for a discussion of if all courses should have the same focus and understanding of sustainable. Furthermore, we need to discuss how can we measure that we have incorporate sustainability into our courses and educations? When is it sustainable enough?

Hands on activity Set-up (activities and materials, assessment, evaluation)

10 minutes Introduction (setting the scene)

In the introduction, the participants will be presented to an introduction to sustainability in engineering (use learning goal contribution) and an example of how sustainability can be included in an entrepreneurial/innovation process in different ways. Moreover, the effects on student motivation will also briefly be addressed.

60 minutes Hands-on Activity (incl. summing-up)

The 60 minutes of hands-on activities will be scaffolded with a poster and work sheets for the educators.

Part 1: In groups, the participants will be asked to identify how sustainability is relevant in your education and students future career opportunities.

In groups participants will discuss their ideas.

Part 2: The participants will be asked to choose one of their learning design to work with. Based on inspiration materials educators are asked to identify relevant learning objectives and learning activities that can support toning their courses with sustainability can be activated in their course. To sum up, each group should prepare a short presentation to present at the plenum part at the end of the hands-on session.

20 minutes Discussion & Evaluation & Conclusions

Based on the educators work, there will be a plenary discussion about challenges with and benefits of working with sustainability in education, at the end of the session. Questions like, when is it sustainable enough? The authors will discuss the results of the hands-on activity and develop questions for further inquiry.

Expected outcomes/results (possibly data/experience from own practice).

The hands-on session is designed to inspire educators to work with a contextualized activation of sustainability education.

REFERENCES

Brandi, U., Lindahl Thomassen, M. (2020) Sustainable organizational learning and corporate entrepreneurship: a conceptual model of sustainability practices in organizations *Journal of Workplace Learning* Vol. 33 No. 3, 2021pp. 212-228

Lans, T., Blok, V., & Wesselink, R. (2014). Learning apart and together: towards an integrated competence framework for sustainable entrepreneurship in higher education. *Journal of Cleaner Production* 62 (2014) 37-47

Løje, H. & Lindahl Thomassen, M., (2020). The influence of the sustainability agenda on learning objectives in innovation courses for engineering students? *Proceedings of the 48th SEFI Annual Conference 2020*, pages: 1346-1353. Presented at 48th Annual Conference, Enschede, the Netherlands 20 – 24 September 2020