

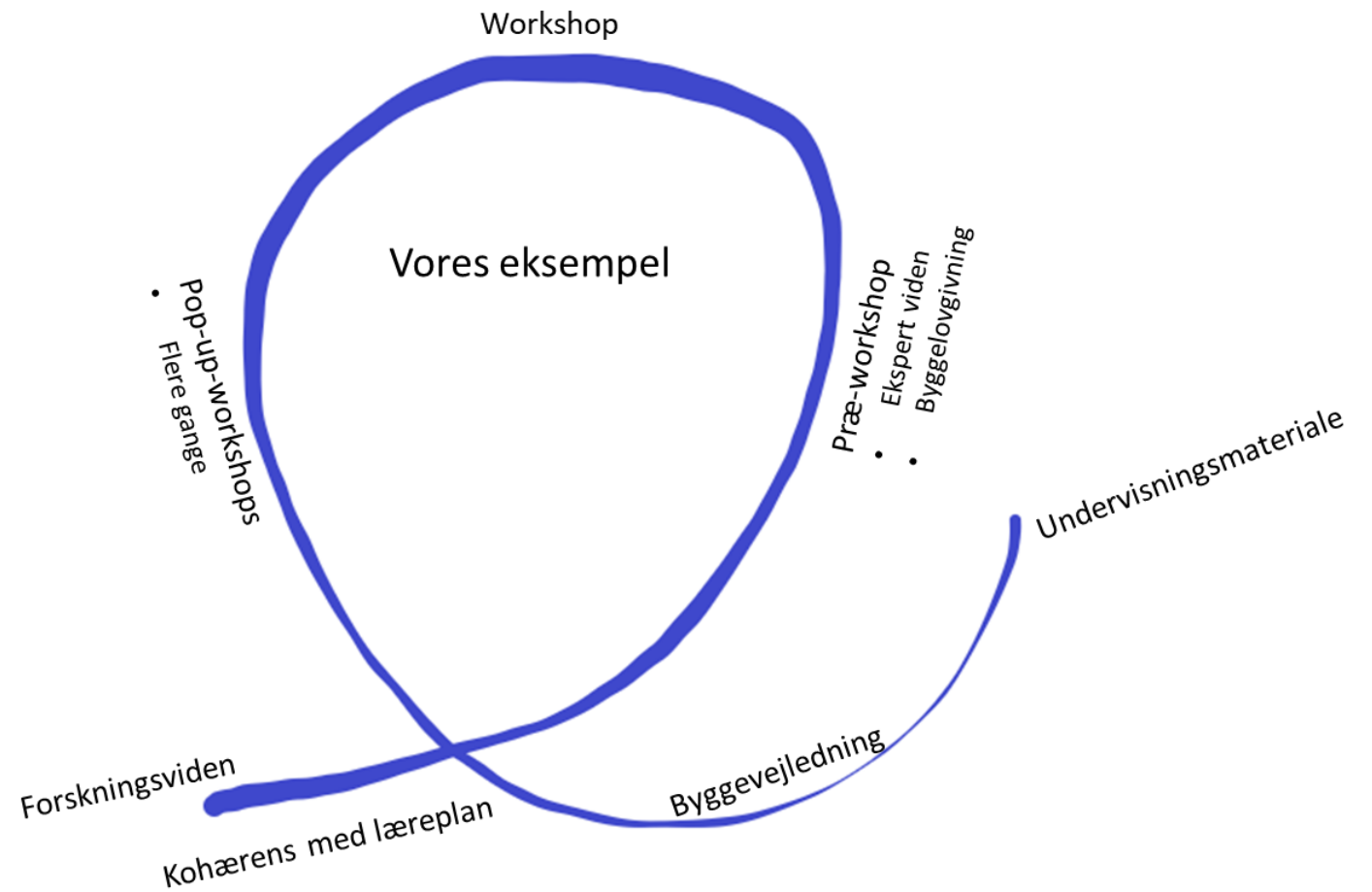
Lessons learned from pilot project for sustainability at NEXT Education CPH, from project Developing a Sustainable Didactic Together - Local to Global at Tradium, Mercantec and Learnmark.
and from UNESCO ASP- Denmark, and UNESCO – UNEVO, Bonn.



UNGDOMSBYEN

Presentation of didactic model- template to implement sustainability and SDG`s in teaching, by Flemming Olsen YouthTown, Denmark

Loop as a learning model – Linking different forms of knowledge and exploratory studies together

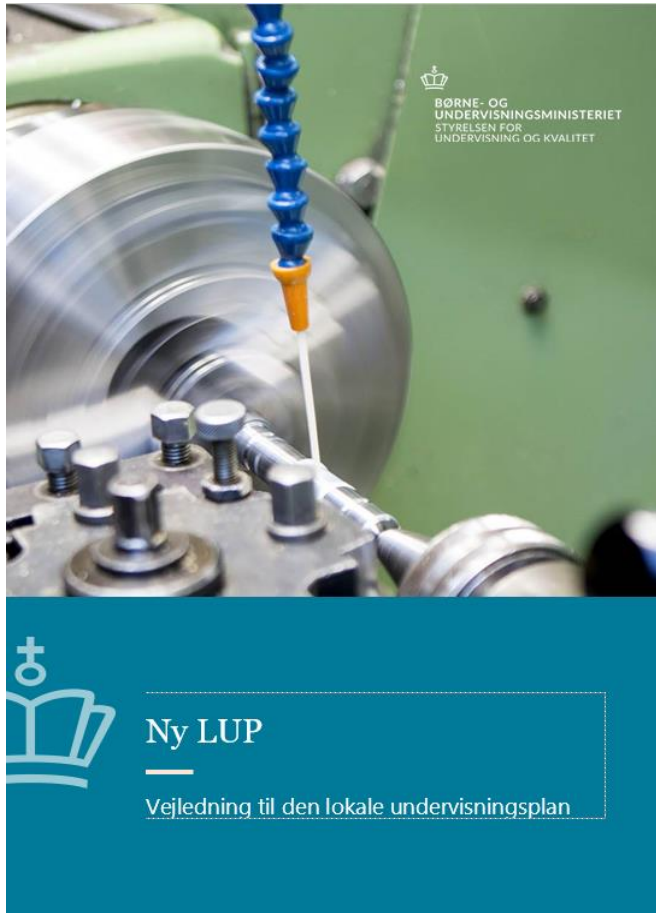




Pop-up workshop – We investigate together

Teacher's Planning Tool (1)

Academic goals from the executive order and the Local Learning plan/curriculum



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| Subject | Wall building envelope and wet room construction in a sustainable perspective. 4th school course of the main course of the carpentry education – 6 weeks. |
| Professional goals from the executive curriculum and the Local Learning Plan. Based on the Local Learning plan, executive order, etc., the topic of the lesson(s) is chosen. | The student must have knowledge of and be able to perform wall constructions, including knowledge of light external walls and windbreaks. The student must have knowledge of non-values and materials for insulation The student must have knowledge of and be able to build wet room construction, including knowledge of vapor barrier; The student must be able to construct a light wall structure as well as a wet room structure in accordance with requirements in the building regulations |

Teacher's Planning Tool (2)

Relevant SDGs and sub-goals

Which SDGs and sub-goals fit the topic based on what the subject can actively influence?

The 17 sustainable development goals and the three sustainability dimensions with partnership at the center.



SDG 3: Health and well-being

Target 9: Reduce deaths and health problems from chemicals and pollution of air, water and soil.

SDG 8: Decent work and economic growth

Target 3: support productive activities, innovation and creativity and support the growth of small and medium-sized companies.

Target 4: use global resources efficiently and decouple economic growth from environmental destruction.

SDG 12: responsible consumption and production- Sub-goal 2: use and manage natural resources sustainably

Target 4: Managing chemicals and waste products in an environmentally healthy manner

Target 5: Reducing waste through prevention, reduction, reuse and recycling

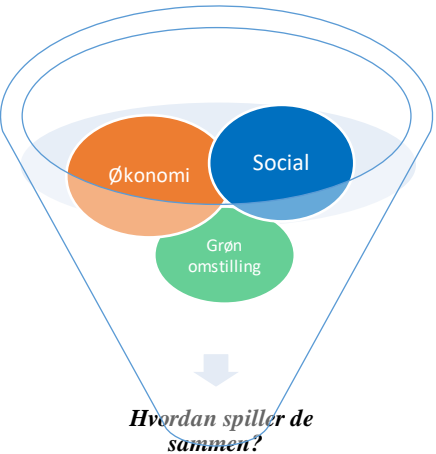
Target 6: Encourage companies to work sustainably

SDG 13: Climate action

Target 3 increase general knowledge and awareness of opportunities to slow down global warming

Teacher's Planning Tool (3)

Combination goals



- The student must:
- Be able to construct a light outer wall construction
- Be able to build a wind barrier
- Insulate the lightweight outer wall, so that it meets the requirements for insulation
- Use a wind barrier made of a wood fibre board rather than a traditional tablecloth, so the construction can breathe and thus provide a better indoor climate while reducing environmental impact
- Insulate with wood fiber granules and calculate u-value
- Construct vapor barrier with living board (wood product) against wet rooms
- Relate to the extent of waste from production
- Assess the impact of the choice of materials on the working environment
- Assess the impact of material choice on climate and environmental sustainability
- Consider the benefits of sustainable carpentry operations based on economic sustainability, social sustainability and the green transition
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Teacher's Planning Tool (4)

Task description

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| <p>Task description</p> <p>The content should help motivate the students. Feel free to make the tasks practical. The type of assignment and teacher management are determined by the students' level of competence</p> | <p>Build a muck-up of a wall structure as well as a wet room structure.</p> <p>The construction should be carried out as a light outer wall construction with wind barrier. Insulation must also be carried out. Inside, a wet room structure with vapor barrier must be built against wet rooms.</p> <p>You must take as a starting point the requirements that apply in the building regulations, and at the same time consider in what way these requirements can be met by applying sustainable principles as stated in Compendium 1 "Intro to sustainability in the wood trades" and 2 "Wood as a sustainable building material".</p> <p>Get info from the following:</p> <p>Tree information https://www.traeinfo.dk/</p> <p>Frøslev Tree https://www.froeslev.dk/da/vores-trae</p> <p>In your presentation, you must explain the following:</p> <p>How does your construction meet the requirements of the building regulations?</p> <p>What makes your building solution sustainable?</p> <p>How can a carpentry business be economically, socially and climate and environmentally sustainable?</p> |
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Teacher's planning tool (5)- assessment

Vurdering of students' attitudes towards sustainability based on the course of study

Students' attitudes are developed through perspectives focusing on the 3 sustainability dimensions

Students are invited to explain how their assignment/project relates to the 3 sustainability dimensions.

The teacher challenges the students' learning through dialogue, as well as by assessing and evaluating the task performed in relation to the UN Sustainable Development Goals.

Apprentices explain their sustainable wall construction at NEXT-uddannelse Copenhagen.

Photo David Rangan.

Students showcase their wall and wet room construction made from sustainable building materials. It is important that the dialogue is nuanced in relation to both the academic requirements and the SDGs

It explains how the structure meets the requirements of the building regulations.

The students talk about how they have investigated and gained knowledge about the use of wood for wind and vapor barrier and for insulation.

We talk about the solution in relation to the 3 sustainability dimensions:

Climate and environment – the environmental impact of wood in relation to conventional materials, etc.

Social sustainability – importance for the working environment and the personal satisfaction of doing work sustainably, etc.

Economic sustainability – market opportunities in sustainable production, etc.



The project has changed the culture

- David Rangan: In general, we have experienced that the opportunity to gain competences to be part of sustainable development has added a new little bit to the culture at the school. Other human qualities have been given room to fill and this has led to changes that we had not foreseen. An important example of this is the increased interest in the carpentry profession among women. We have received a phone call from abroad from a woman who has heard about the programmes, and a woman has moved vocational school to be part of the project, even though it requires considerable extra transport on her part. The "changed culture" has led to women in woodworking education coming together to describe conditions in the "existing culture" of education that they do not experience as up-building and integrityful. This has affected the project, so goal 5 – gender equality – has become central to the project.

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Results from the projects

The apprentices/student have been a driving force in the project – interest and demand for knowledge and skills for sustainable construction and the motivation to acquire new knowledge has been crucial. The apprentices themselves have arranged after-work visits to companies that build sustainably

The project has given the apprentices/students the power to act for sustainable development – the ability to do something for the environment has motivated and created energy

A holistic sustainability didactic is under development – the project has focused on craft knowledge, process knowledge for organizational development and holistic understanding

The project has changed the culture and recruitment to the programme – apprentices/students and trainers have together explored new ways of building in an exploratory learning process. More girls have applied for the education, which has given rise to reflections on the culture in the education and in the industry

Apprentices/students are ambassadors in the sustainable transition – There are several examples of masters being inspired by the apprentices and starting to use the sustainable construction methods, or changing a wrong practice to a more professionally correct construction practice based on the apprentices' professional skills from the project.

Perspectives in the development of a business sustainability didactic

- The project has identified the need to develop a proper vocational sustainability didactic.
- Three important questions that can be asked in the development of such could be:
- ESD didactics; How do you plan learning paths that support the development of drive toward sustainable development?
- Specialist professional knowledge of sustainable methods; Which subject-specific craft methods best benefit sustainable development, and how do you create a connection with the subject's educational learning goals?
- Knowledge of a holistic concept of sustainability; How is sustainability understood in its entirety - globally and locally, and how is it made relevant to the issues that you, within the profession, can help solve?

4 perspectives that together create drive for sustainability



Helhedsorienteret viden om bæredygtig udvikling.

epistemologisk

Viden om global problematik deres og muligheder



Læreproces der fordrer bæredygtig Handlekraft



Viden om UBU-Didaktik relateret til den konkrete kontekst

Procesmæssig viden

Fagfaglig viden

Konkret faglig viden om lokale bæredygtige løsninger






From local to global-
Primed for Sustainability –
a new narrative about
Vocational Education and
Training, UNESCO Danmark



Recommendations

Collaboration between the education sector and private companies should lead to a new narrative in Vocational Education and Training providing qualifications within the creative, productive and sustainable sectors.

Sustainability should be understood as the interplay between social/cultural, economic and environmental sustainability

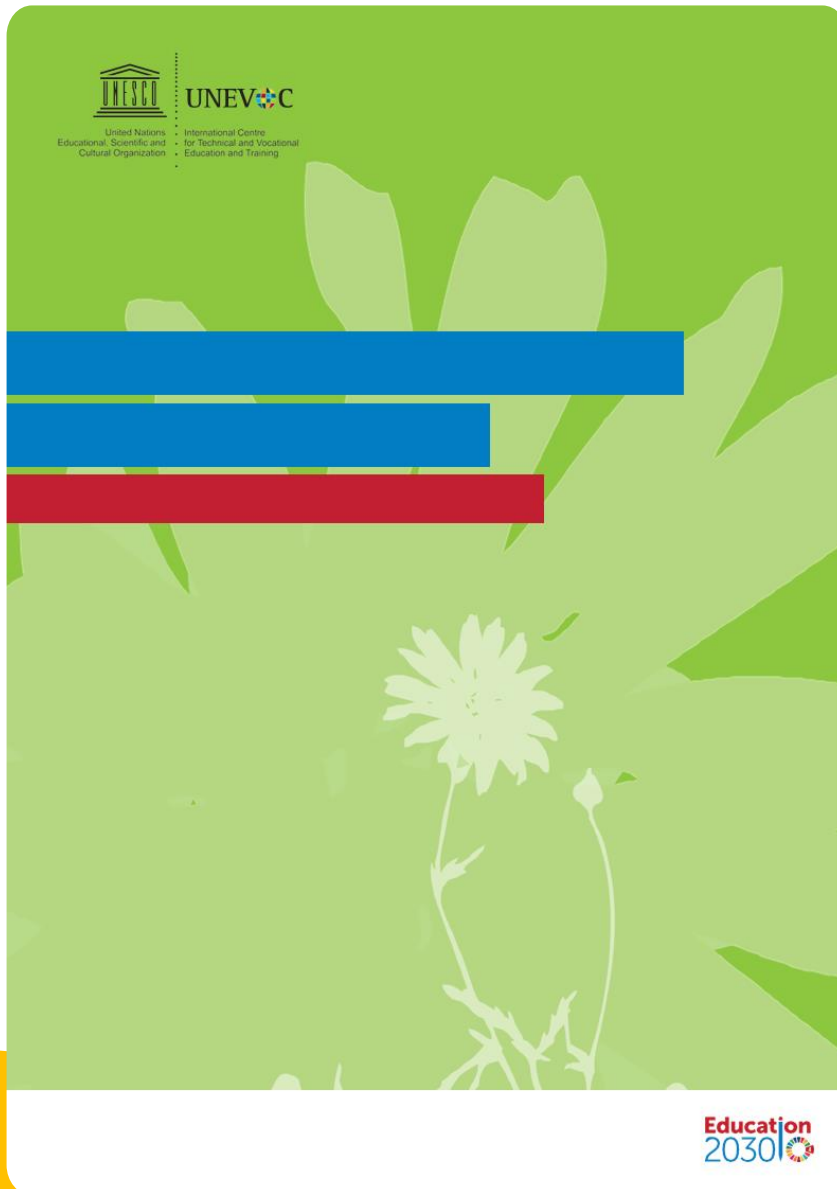


Recommendations

- Efforts towards sustainability must take place in collaboration with actors across the education sector at all levels incl. municipalities, trade union confederations, industries, vocational colleges, primary schools, businesses and not least UNESCO
- A didactic and methodological approach should be applied to the development of teaching processes, ensuring that students acquire the skills they need to contribute to the creation of sustainable solutions

Recommendations

- More research into the ways in which the focus on a narrative about sustainability can impact upon educational choices should be conducted
- VET stakeholders should seize the opportunity that UNESCO provides to help support a new narrative: This would imply to translate and disseminate the key messages from UNESCO's guide, "Greening Technical and Vocational Education and Training", and inspire more members of UNESCO's "Learning Cities" and "Creative Cities" Networks to disseminate the positive outcomes in relation to VET and sustainability in order to recruit more members.



- **Greening Technical and Vocational Education and Training**
- A practical guide for institutions
- Unesco-Unevoc International Centre

UNESCO – UNEVOC, 2021.

New qualifications and competencies for future-oriented TVET

TVET delivery

Providing innovative
solutions

Volume 3

