FashionSEEDS

SUSTAINABILITY TEACHING MATERIALS

fashion
S E E D S

FASHION SOCIETAL,
ECONOMIC & ENVIRONMENTAL
DESIGN-LED SUSTAINABILITY

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FashionSEEDS

Fashion Societal, Economic & Environmental Design-led Sustainability

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Introduction

FashionSEEDS explores what a transformed education system in Fashion Design for Sustainability could look like and intends to develop a holistic framework to embed sustainability into the teaching and learning of fashion design in Higher Education.

The Handbook og Sustainability Teaching Materials forms a vital part of the FashionSEEDS Learning Resource Repository, housed on its digital platform. It offers applications of the FashionSEEDS framework that is designed for tutors to be able to activate curriculum related to the needs of society, within an ecological context. The term TOOLS is here broadly used and defined as "something that helps you in a particular activity" (Cambridge Dictionary). The Handbook has been developed from the insights gathered in the project's Benchmarking Report (Williams, D. et al. 2019), The FashionSEEDS Framework Document for Design-led Sustainability Education (Williams, D. et al. 2021), a series of additional interviews and workshops with tutors at a short-term staff training event, surveys and interviews with students.

Through this research it became clear; that while there exists an abundance of text-based knowledge, tools and information channels relating to Fashion Design for Sustainability, it is a challenge for tutors to find the necessary time to identify, study, select and apply what is the most relevant to their needs. And students expressed a strong wish to learn Fashion Design for Sustainability as an integrated part of practice from day one with clear progression supported by theory throughout the education.

With this in mind we have created a collection of tools and resources that can be employed in various combinations as well as separately. This body of knowledge can support tutors in planning and executing courses on three transformative levels referring to the four pillars of sustainability through new types of pedagogics.

Methodology

A mixed methods approach (combining qualitative and quantitative data) was taken to create the foundation for development of the toolkit.

Firstly, a qualitative analysis of the project content and findings to date was carried out with specific focus on identifying challenges and themes to support tutors in teaching design for sustainability in a transformative holistic perspective. This process included further reflections on the gaps identified by the Benchmarking Report, revisiting the findings in the Framework document for Design-led Sustainability Education, and discussions of what to include as references from the collection of existing tools and teaching materials gathered for the Learning Resource Repository.

Based on these analyses three thematic areas were identified as key topics to be addressed for the toolk it:

1. The need to teach and learn sustainability understanding and knowledge at a greater depth than currently offered within most HEIs.
2. The need to develop greater knowledge in key areas: materiality of fashion, disciplinary knowledge and research, design innovation and technological applications for sustainability.
3. The need to develop a set of graduate capabilities that support livelihoods in a dramatically changing world.

Secondly, a series of methods were used to create content responding to the three thematic areas:

- Mapping, classification and iterative analysis of publicly available tools and platforms.
- Review of literature on Fashion Design for Sustainability tools; their effectiveness and usability in teaching.
- Quantitative and qualitative studies of challenges in teaching sustainability, through tutor surveys and interviews at the four partner institutions.
- A quantitative and qualitative study of student's perception of sustainability teaching in the four partner institutions.
- Creative ideation on new ways to activate existing knowledge.
- Creative ideation for developing innovative teaching and learning tools, materials and formats.
- Prototyping and testing of tools and refinement for inclusion on the FashionSEEDS platform.

Outputs

The FashionSEEDS project has created a Learning Resource Repository consisting of a unique collection of teaching and learning materials that are hosted on the digital platform. All materials are open source and available as downloads from the online platform www.fashionseeds.org.

The teaching and learning materials are presented under three headlines:

- Tutor's Toolkit: Course Designer and FashionSEEDS Design Canvas, FashionSEEDS Cards, and the Learning Activity Tool.

- Resources: The Reader, Library, External Platforms, and Project Reports.

- How to Use.

How to Use

The FashionSEEDS Learning Resource Repository has been designed with a range of tutors in mind – those that are new to considering sustainability in their teaching and learning, and those that are experienced or expert in their field. The Learning Resource Repository has been designed as an online platform of various tools and resources which can be returned to as needs evolve at different levels of teaching. To guide the use of the FashionSEEDS Learning Resource Repository three personas have been developed. These may support and inspire the tutor in selection of needed tools and resources.
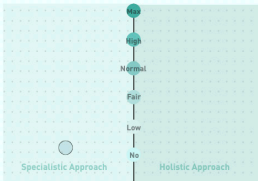
PERSONA 1

Persona 1 is a fashion educator teaching in a university on undergraduate fashion design courses. They have been teaching practice-based fashion design for some years but have limited or no experience of teaching sustainability topics or techniques. There is strong interest in sustainability from students, but little institutional support. They would like to develop their knowledge and practice to be able to respond to the students' needs and interests.

Level of expertise

Low

Teaching & Learning expertise

High
Normal
Fair
Low
No

Specialistic Approach   Holistic Approach

Summary

Personal 1 is a fashion educator who has little or no experience in teaching sustainability. They are accessing FashionSEEDS in order to develop knowledge and skills to teach sustainability in a University environment. They are extremely interested in learning more about fashion design for sustainability and testing new pedagogies or teaching methods to foster sustainable approaches and practices for students.

Core Needs

- To develop basic knowledge and skills in Fashion Design for Sustainability.
- To apply Fashion Design for Sustainability to create new teaching and learning for existing courses and learners.
- To increase literacy in Fashion Design for Sustainability to enable peer to peer learning within their university community.
- Acknowledge the complexity of Fashion Design for Sustainability

Frustrations

- Lack of time
- Initial difficulty in getting confident with the complexity of the platform
- Lack of support in the learning path
- Lack of interactive activities to get engaged
- Difficulty in understanding how to navigate resources
- Information overload
- Not knowing where to start

Challanges

- Handle Performance Pressure
- Balancing Diverse Learning Needs
- Maintenance of overall quality in the didactical outputs

Pedagogic Principles

Systemic thinking (ST)

Creative and critical thinking (CCT)

Participation and participatory learning (PPL)

Informed decision-making (IDM)

Futures thinking (FT)

Place-based learning (P-BL)

Interdisciplinarity (I)

Learning through making (LTM)

Collaboration across network

Expertise towards each of the pillars

Environmental ● ● ● ● ●

Economic ● ● ● ● ●

Social ● ● ● ● ●

Cultural ● ● ● ● ●

FashionSEEDS Tutor's Toolkit

The Tutor's Toolkit has been developed as a result of three years of research, reflection and discussion through the FashionSEEDS project. The following documents can be used as Reference Points that offer detailed explanations and explorations of the field of study:

- FashionSEEDS Benchmarking Report
- FashionSEEDS Framework Document for Design-led Sustainability Education

The key terms we will be referring to throughout the Tutor's Toolkit are listed below. Definitions for these terms can be found in the FashionSEEDS Reader:

- The Four Pillars of Sustainability
- Pedagogic Principles of Fashion Design for Sustainability
- Fashion Education System
- Scales of Transformation
- Fashion Design for Sustainability

The Tutor's Toolkit introduces to the Resources developed and curated by FashionSEEDS and will support and enhance curriculum development work.

The Tutor's Toolkit has been developed in reference to taxonomies on education (Bloom, 1956; Krathwohl & Henderson, 2001), and education for sustainability (Sterling, 2010; Stibbe, 2009 ; Wiek, et al, 2011 ; Williams, 2016), and the key concepts and tools of FashionSEEDS.

A comparison and analysis of existing toolkits for educators was undertaken to highlight best practices in communication and design.

Who is the Tutor's Toolkit for?

Academics and practitioners teaching fashion design, communication and business including tutors, course leaders, programme leaders and academic leaders. It is applicable across undergraduate and postgraduate levels of study.

Reasons for using the Tutor's Toolkit

- To adapt a course or piece of existing curriculum to enhance its sustainability content / approach.
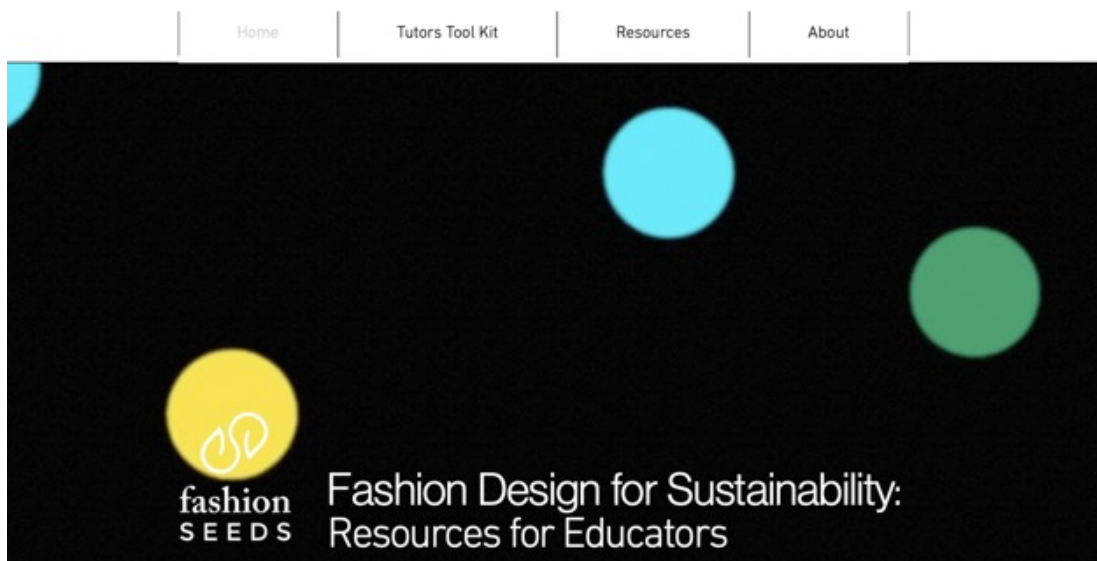
Example from the digital platform

- To create a new course or piece of curriculum with Fashion Design for Sustainability as its starting point.
- To develop your own or your team's knowledge, understanding and application of Fashion Design for Sustainability.

Expected outcomes

- To develop an understanding of the key concepts of FashionSEEDS, and enable agency of fashion educators in teaching fashion design for sustainability.
- To apply these key concepts to existing learning and teaching of fashion in a higher education setting
- To develop new learning and teaching of fashion for a transformed fashion education system.
- To enable a values-led approach to developing teaching and learning in fashion.
- To access the FashionSEEDS tools and library of resources with a holistic understanding of Fashion Design for Sustainability.

The Course Designer

The Course Designer is a set of steps to take the user through a holistic analysis of why, what, how with whom you are teaching fashion using the key terms, principles and resources of Fashion Design for Sustainability, leading you to identifying a values-led set of ambitions from which to develop curricula.

These steps are intended to complement institutional processes such as validation and reapproval and will be useful to course leaders and teams alike who want to devise or revise their courses to consider what to teach, how to teach, and how far they can change or transform their teaching through the discipline of Fashion Design for Sustainability.

The overall aim of the Course Designer is to equip educators and course teams with a tool to foreground and apply Fashion Design for Sustainability principles and practice in their teaching and learning design.

The Course Designer can be used individually or in a group setting and, through a series of steps, guides users through the FashionSEEDS Reader and Resources to design a learning experience that foregrounds Fashion Design for Sustainability.

Example from material download.
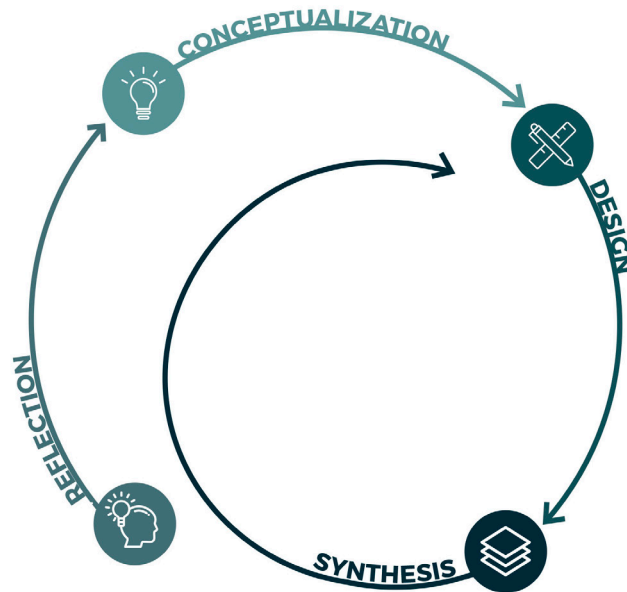
Methodological approach

FashionSEEDS Design Canvas

The FashioSEEDS Design Canvas is a follow-on tool that further supports the planning and design of teaching and learning using the FashionSEEDS key concepts and resources. It offers an intuitive, project-based approach to mapping out and setting visions, values, goals and decisions throughout the planning process of educational curricula and to access the FashionSEEDS tools and library of resources.

The FashionSEEDS Design Canvas is a meta-design tool (Van Onck, 1964) that offers a methodological approach based on four consecutive phases: Reflection, Conceptualisation, Design, and Synthesis that inform each other in a continuous process of knowledge enhancement in the field of Fashion Design for Sustainability.

According to this structure, the FashionSEEDS Design Canvas is organised in two worksheets. The first one encloses Reflection, Conceptualisation, and Design phases, and aims at defining the contents through the support of the resources and tools available in the FashionSEEDS platform. The second one, that covers Synthesis phase, aims at synthesising in a final document the syllabus and the planning of an educational curriculum developed with a holistic understanding of Fashion Design for Sustainability.

Reflection, is intended in defining the vision, values and intentions on which to develop educational curricula. As a reflective practice (Schön, 1987), it is based on the information observed and learnt during the previous Course Designer, and it aims in supporting tutors in defining a holistic statement as a result of the learning process on principles and resources of FashionSEEDS.

Conceptualisation, is a phase of abstraction of FashionSEEDS-related principles and key concept. Tutors are encouraged to develop a systemic reasoning on the four pillars, to frame contents, scales of transformation and pedagogical principles, and to define the duration of the study path and its educational level.

Design, is a reflection-in-action phase (Schön, 1987) where tutors design their own curricula through a holistic approach of the discipline. In this phase, they are encouraged in developing the course brief identifying the thematic scope, the objectives to be pursued, the learning activities and the expected outcomes. Finally, they are encouraged to define the profiles and roles attributed to the faculty; to identify the disciplinary competences that the learners involved have to possess, and the assessment and/or evaluation criteria.

Synthesis, encourages tutors to synthesise the contents of the three previous phases into a concluding document consisting of syllabus, planning, reference case study and literature key resource. The curriculum thus defined is further enriched by a final reflection highlighting the commitment to change and/or transformation with respect to the principles of Fashion Design for Sustainability.
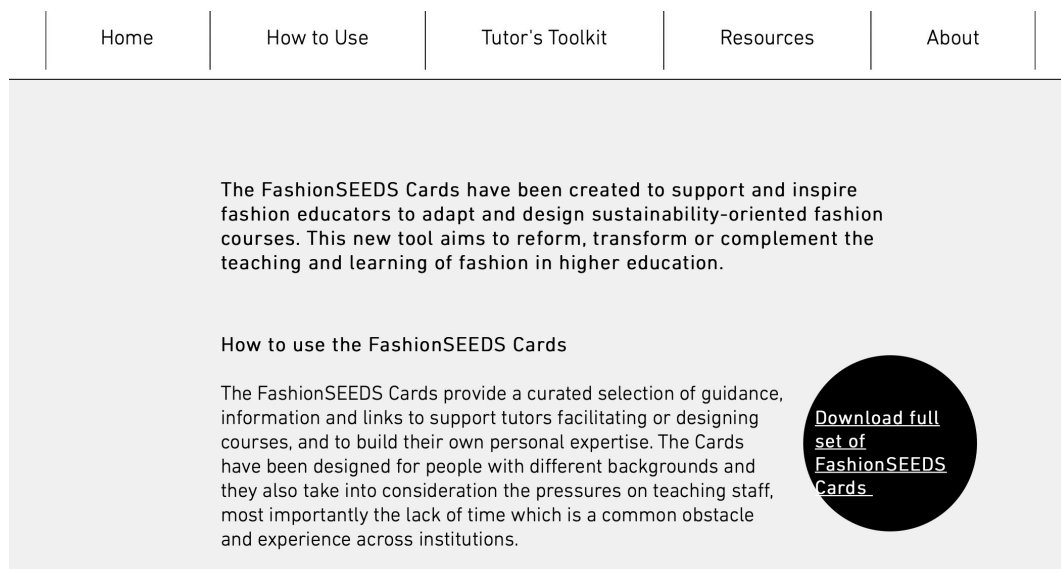
The main FashionSEEDS Design Canvas expected outcomes are:

- Understanding the potentiality offered by the FashionSEEDS project with respect to design, remodel, or review new holistic approaches in FDfS education;

- Experiencing the scalability, flexibility and modularity of the FashionSEEDS Tutor Toolkit in heterogeneous and interdisciplinary teaching environments in order to enrich a holistic approach to FDfS educational path.

- Experimenting with the validity the FashionSEEDS key resources and tools stored in the FashionSEEDS platform.

FashionSEEDS Cards

The aim of the FashionSEEDS´ Cards is to invite and inspire teachers and academic staff to build up sustainability-oriented fashion courses. This new repository tool will help to reform, transform or complement current ways of teaching.

Based on the growing interest and need for sustainable commitments in Higher Education Institutions and other educational institutions, the cards provide a curated selection of guidelines, information and instruments for tutors to use in teaching and in course validation and management. The cards offer time-poor tutors the ability to concentrate on specific content in the preparatory process of making curricula.

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The FashionSEEDS Cards have been created to support and inspire fashion educators to adapt and design sustainability-oriented fashion courses. This new tool aims to reform, transform or complement the teaching and learning of fashion in higher education.

How to use the FashionSEEDS Cards

The FashionSEEDS Cards provide a curated selection of guidance, information and links to support tutors facilitating or designing courses, and to build their own personal expertise. The Cards have been designed for people with different backgrounds and they also take into consideration the pressures on teaching staff, most importantly the lack of time which is a common obstacle and experience across institutions.

Download full set of FashionSEEDS Cards

Example from digital platform

The cards have been designed for flexible application by people with different disciplinary, geographic and cultural backgrounds, encouraging use across levels and pillars. The cards, 15 in total, are designed to present exemplar content, but are not fixed, so that unexpected opportunities can be created from a combining of different levels of transformation and sustainability pillars to better fit diverse user needs. The cards offer directions for course content, applicable to a range of formats and modes of delivery. Whether a tutor, or group of tutors are planning a new online course, a practice-based studio workshop or a lecture, the cards can be used as inspiration, guidance and reference points. Tutors are expected to adapt the course cards content according to the institutional limits and focuses, whilst offering them a holistic design for sustainability framework.

The cards propose a gradual development through 3 transformative levels, or Scales of Transformation (Williams et al. 2019). The first level seeks to be the introductory unit, followed by a second level aiming to deepen the understanding of the main discussions and discourses around sustainability. The second level also encourages students to begin to explore and work in a professional context, whereas the third level refers to experimental approaches or radical interventions outside the usual study environment. Supplemented by keywords, pre-requisite skills and capabilities, learning goals, pedagogical approach, and key resources in the form of suggested literature, the cards form a full set of guidelines for the tutors to put into action.

The system is designed so that elements from different levels can be combined with each other or extracted and merged into/ adapted to already existing courses.

Learning Activity Tool

The Learning Activity Tool consists of 25 learning activities that have been designed to supplement teaching in fashion design for sustainability. The collection of activities provides a repertoire designed for tutors to use in planning teaching.

The activities have been developed for tutors to integrate into existing courses or to be used as inspiration for building new course content within different topics. The intention is that each activity can stand alone, but also that activities can be combined and build on each other within specific themes and for specific teaching contexts. They can be used to inform the application of the FashionSEEDS Cards.

The individual activity is developed with the intention of a scalable format where the progression of the activity can be adjusted to the time available, as well as the level of education. For example, in the learning activity 'Wardrobe stories' students can start by studying their own wardrobes, and go on to increase the level of complexity, by studying other users' wardrobes, in order to understand different age groups, preferences, needs and wants.

Each activity is described through a formalised structure including the overall sections:

- Description. This includes a scope for and objective with the activity and a guiding question.

- Delivery. This includes a proposed structure for execution as well as suggestions for preparatory material and formal outputs.

- Resources. This links the activity to one or more of the open-source curated tools described on the FashionSEEDS platform, to other activities in the activity collection and offers additional reading.

To enable the user to easily navigate between and adjust the learning activities for specific contexts, the structure is supported by four filter options illustrated with icons or colours:
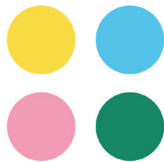
Each activity links to the four pillars of sustainability (Yellow: Social pillar / Blue: Cultural pillar / Green: Environmental pillar / Pink: Economic pillar)

Guiding timeframes that can support framing a learning activity are provided for each activity (Less than 1 hour / 1-3 hours / 1-2 days / More that 2 days)
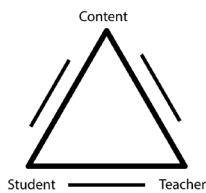
Applied teaching approaches for each learning activity are outlined. (Individually / Group / Discussion / Artefact or material-driven)
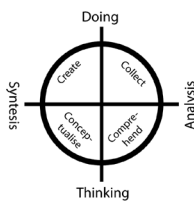
Activity formats describe a learning activity's applied mode(s) of learning (Collect / Comprehend / Conceptualise / Create)

Resources

The Resources holds four categories of knowledge generated within the FashionSEEDS project and curated content from other actors, acknowledging this by clear references:

- The Reader – a pocket book to the FashionSEEDS platform.
- Library – a curated selection of Books, Articles, Chapters, Reports and Glossary.
- External Platforms – a curated selection of information and tools covering the 4 pillars.
- Project Reports – documenting the different parts of the FashionSEEDS project.

The Reader

The Reader is a pocket book to the platform and a stand-alone reference in fashion design education for sustainability in higher education. It connects conceptual foundations of holism, ecology and equity, explored through participatory design practice, to theory and practice in education for sustainability. It draws on a substantial body of published work and the lived experience of teaching and learning education for sustainability inside and outside of academia.

Whilst the body of knowledge in education for sustainability is directly applicable to fashion, there is a paucity of work that explores the distinction of fashion, or indeed wider art and design education for sustainability. FashionSEEDS is based in art and design education, with a focus on fashion. It offers new knowledge that can inform Higher Education practice, with practical applications for teaching and the development of educators' own learning.

Library

The Library holds key references for teaching FDfS which we have also used to develop the teaching and learning materials in the FashionSEEDS project. The criteria for this selection of books, chapters, reports and articles have been to cover issues related to the four pillars of sustainability supplemented by a few introducing the topic in general. Furthermore, we have included as many open-source documents as possible having in mind that not all HEI's and tutors have the same resources to purchase literature.

The texts also aim to cover the progression of the three transformational levels and to support FashionSEEDS pedagogics. Due to the fast-paced changes in the

rate of new publications, the Library is composed of foundational works that are assessed as able to stand the test of time. Additionally, it seeks to support tutors in deepening their understanding on specific topics and holding consistent grounds for content production. While not exhaustive, it suggests paths for further references.

Glossary

The critical need for sustainability literacy was identified through the FashionSEEDS research and with reference to wider research undertaken by project team members. Whilst many publications offer short descriptions of terms, it was apparent that there was an education and industry wide gap that required in-depth research in order to create valid descriptions for use in academia and industry. The project lead partnered with Conde Nast International, outside of the FashionSEEDS project, to create an in-depth study comprising over 250 fashion design for sustainability terms. These terms are available via the FashionSEEDS platform and form a distinctive part of the library area of the platform, thus making the Glossary available to tutors.

The glossary is also available on the Conde Nast website: https://www.condenast.com/glossary

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The Library is a curated selection of Books, Articles, Chapters, and Reports. The list of resources is not an exhaustive nor comprehensive list. It has been curated to provide a starting point for users who may be new to the field of fashion design education for sustainability in higher education, whilst also pointing to more advanced texts for those who wish to delve further.

Every effort has been made to provide links to downloadable articles, books, and reports that are free of charge and on accessible platforms. Where this is not possible we have tried to choose content that is behind membership walls rather than pay walls.

A key is provided to show how each resource relates to the pillars of sustainability.

Books   Articles & Chapters   Reports   Glossary

Example from platform; Library.

External Platforms

The selection of External Platforms is based on literature studies related to educational tools (Connor-Crabb 2018; Kozlowski et al. 2019; Tham and Jones 2008; Smal and Harvey 2018). This was supplemented by further online research of platforms supporting sustainable actions at various levels from the design phase throughout products lifecycle within the fashion and textile industry and beyond. Following these steps, we made a mapping based on the 4 pillars in combination with iterative analyses of each platform content. This process also included finding tools to cover some of the gaps identified in the Benchmarking Report and the Framework Document, which could also be used as reference points for developing the unique collection of FashionSEEDS Tools and Activities. Some of the platforms were also selected due to educational material that supports the general understanding of sustainability and design methods directed towards foundation and cross disciplinary courses.

The curated collection of 16 external platforms contains a wide range of tools developed by business associations, organisations, companies, consultancies, NGO's, Research Centers and Higher Education Institutions. This collection has been selected through the lens of the 4 pillars and it offers a multi-dimensional material for teaching and learning FDfS. However, whilst a majority of the platforms focus on environmental and economic aspects, some include or even emphasize the social but few consider cultural issues in the fashion industry. Also included in this set are platforms offering general approaches to design for sustainability, systems thinking and circular economy. A number of them presents business cases, which is constantly updated as well as new innovations and technology in fashion, fiber and textile production and certification.

The introduction to each platform offers a common structure providing overview that can assist tutors to quickly identify relevant tools matching subjects and themes for specific courses.

Home	How to Use	Tutor's Toolkit	Resources	About

The introduction to each platform offers a common structure providing overview that can assist tutors to quickly identify relevant tools matching subjects and themes for specific courses. Together the collection covers knowledge and tools related to the creative design process, design activism, design for closed loops in a circular economy and business understanding. They also function as reference points for the FashionSEEDS Cards and The Learning Activity Tool thus connecting to teaching and learning tools developed by HEI's, business and organisations for a real-world professional context.

CFDA

Circle Economy

Close the Loop

Fashion Futures 2030

Fashion Revolution

FutureLearn: Fashion and Sustainability

Gain Power

Make Fashion Circular

Material Pathways

Example from platform; External Platforms.

Together the collection covers knowledge and tools related to the creative design process, design activism, design for closed loops in a circular economy and business understanding. They also function as reference points for the FashionSEEDS Cards and The Learning Activity Tool thus connecting to teaching and learning tools developed by HEI's, business and organisations for a real-world professional context. The file for download offers a list of the 16 external platforms with links, essential information, connection to pillars and cues to content.

Project Reports

Over three years of research, reflection and co-design by a group of fashion tutors from across four universities in Europe, the FashionSEEDS team have published their work through a set of reports which may be downloaded from the platform:

- The Benchmarking Report; maps existing good practice in fashion and sustainability across the European fashion education system. It also identifies gaps and possible points of intervention that can enable subsequent outputs to be of greatest benefit in realising change towards sustainability within HEIs.

- The Framework Report; proposes an outline for Design-led Sustainability Education that spans levels (BA to MA) encompassing a design-led sustainability approach.

- The Future Skills Foresight 2030 Report; provides insights into the type of sustainability skills future graduates will require in order to meet the changing needs of the fashion and textile industry. Following an analysed dialogue between academia, industry, design professionals and relevant policymakers, this report seeks to offer tutors evidence-based knowledge upon which to develop teaching and learning for a new generation of design graduates—to equip them with the skills and competencies they need to contribute to the future sustainability of the fashion and textile industry.

- Including this report of Sustainability Teaching Materials; providing an introduction and overview of the content of the FashionSEEDS Learning Resource Repository.

Accessibility

All content on the FashionSEEDS platform will be made accessible to agreed digital standards. All of the content on the digital platform has been backed up into folders and made into accessible, printable formats.

The online platform increases visibility and accessibility of the tool, while the physical versions can be used as low tech and hands-on course development. The activities are structured according to the four pillars of sustainability, the timeframe and the teaching approach of the individual activity, as well as what activity format is proposed.

In order to ensure that both the navigation and content design are accessible to a range of tutors in different locations, a testing phase was undertaken as follows:

- Through direct tutor testing at partner institutions
- Through user testing with tutors across the EU.
- Through workshopping with a diverse group of tutors at the international online seminar: Digital Multilogue on Fashion Education, organised by The American University in Paris.

Responses to the testing phase were analysed and amendments to the content of the tools were made before making the content publicly available via the digital platform.

The content on the platform will be monitored by the project lead institution for the next 5 years. Application and use of the Sustainability Teaching Toolkit will be encouraged through a series of dissemination activities as well as through a programme to embed platform content at institutional level across the partner institutions.

Conclusion

The FashionSEEDS Sustainability Teaching Toolkit offers a complex and diverse selection of teaching and learning materials, that is free of charge, accessible online and as files for download. The tools have first and foremost been developed to meet the needs of tutors in teaching and learning design for sustainability in a holistic perspective at different levels. Furthermore, the toolkit covers the gaps identified in earlier stages of the project through surveys, interviews and workshops with a large group of participants representing tutors and students, as well as companies.

As stated in the introduction the identified gaps, from previous stages of the project, were divided in three themes expressed in needs, which the toolkit addresses in the following ways:

1. *The need to teach and learn sustainability understanding and knowledge at a greater depth than currently offered within most HEIs.*

This need is covered through combining the elements of the FashionSEEDS Sustainability Teaching Toolkit which build on a structure of progression furthering three levels of transformation of knowledge, skills and capabilities. A holistic and pragmatic approach is taken through connecting key concepts in the Reader, with chapters on core principles and subject related discourse, applications outlined in the developed range of Resources, the FashionSEEDS Course Designer and FashionSEEDS Design Canvas, and practical course content in The FashionSEEDS Cards, and Learning Activity Tool.

2. *The need to develop greater knowledge in key areas: materiality of fashion, disciplinary knowledge and research, design innovation and technological applications for sustainability.*

This need is addressed by several of the FashionSEEDS Course Cards and the Learning Activity Tool. The later present mostly activities that are practice based and encourage innovative creative fashion and textile design exploring materiality in a disciplinary context and beyond. Both tools reference academic research literature, industry reports and strategies for sustainable innovation, thus stimulating further reading and knowledge building. A number of the External Platforms cover new material innovation, recycling processes, new production technologies and digitalisation e.g., in reports based on collaborative research projects between companies and HEI's, podcasts and videos with industry stakeholders. Several of

these sources are constantly updated by the external organisations and therefore secure future needs on these topics.

3. *The need to develop a set of graduate capabilities that support livelihoods in a dramatically changing world.*

This need is covered by the holistic approach taken to develop all teaching and learning materials covering the four pillars of sustainability: environmental, economic, social and cultural. The FashionSEEDS outputs described above offer structured ways of planning and executing teaching and learning related to real life situations securing a strong focus on how to support graduate's livelihoods. Throughout the project connection to industry has been a priority and insights have been gathered by interviews and surveys with companies (The Benchmarking Report and the Future Skills Report).

Among other things the Future Skills Report presents business cases focusing on design and production for circularity as part of business models for circular economy as well as new digital business models based on customization, 3D visualisation and user participation. Furthermore, feedback from the Advisory Board members has supported discussions on how to best develop graduate capabilities.

The Library offers link to relevant newsletters and the list of literature includes books and articles presenting new business models and entrepreneurship illustrated by case studies. Furthermore, seven of the External Platforms presented on the FashionSEEDS platform are developed by the industry, business organisations and NGO's to support new business models, entrepreneurship, design and production for closed loops as well as guidelines on how to develop sustainable fashion business strategies etc. Some of the platforms have a substantial number of company cases and all resources are constantly updated securing future information. This mean that the FashionSEEDS tools, teaching and learning materials are connected to innovation, progress and changes in the industry.

Although the FashionSEEDS platform content is developed for tutors, the surveys and interviews with students indicate that this may as well be a relevant go to platform for them as a source for developing own projects and later as graduates to lean on as fashion professionals be it as employees or entrepreneur's starting their own business.

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