FAIR FASHION

Championing Digital, Diverse & Sustainable Futures

DIGITAL TOOLBOX

For Teaching Green and Digital Skills in Fashion and Textile Education

March 2025
Digital Toolbox

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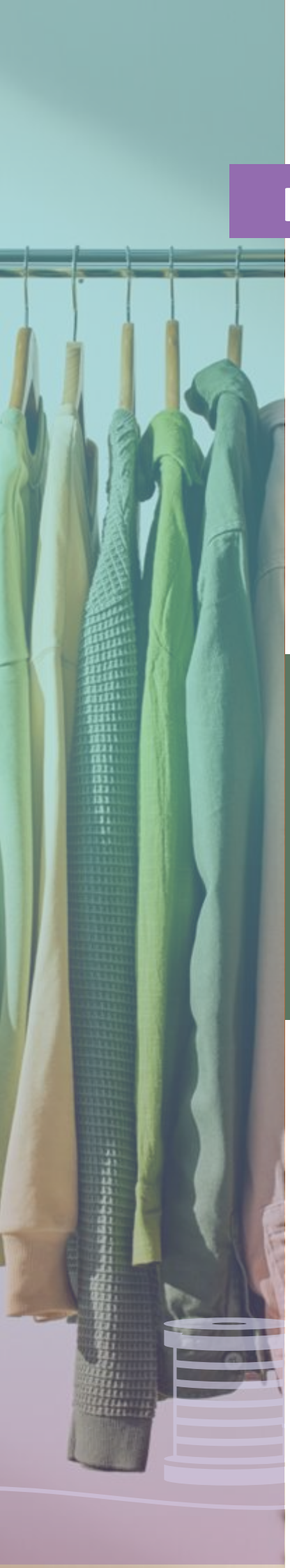
INTRODUCTION

01



Introduction

As the fashion and textiles sector faces profound environmental, technological, and ethical challenges, there is a growing urgency to prepare students with the skills and mindsets needed for a more sustainable and digitally enabled industry. Educators play a central role in shaping this transformation—yet many report a lack of accessible, practical tools that support the integration of green and digital competencies into their teaching.

The FAIR FASHION Digital Toolbox was created in response to this need.

This resource offers a curated selection of digital tools, platforms, and teaching strategies, recommended by educators and experts across Europe. It is designed to support learning and teaching in higher education, vocational training, and adult learning contexts—whether delivered in-person, online, or in hybrid settings.

Each tool included in this guide is accompanied by:

- A clear description and access link
- Accessibility notes
- Practical classroom applications
- Ethical and sustainability considerations
- Links to tutorials or further support

By providing this information in a user-friendly, structured format, the Toolbox enables educators to make informed decisions about which tools best suit their needs and teaching goals.

The tools have been organised into three levels—Beginner, Intermediate, and Advanced—allowing educators to identify appropriate entry points based on their own digital confidence and the needs of their students.

This Toolbox is one output of the wider FAIR FASHION project, an Erasmus+ co-funded initiative that aims to foster innovation, inclusion, and sustainability in fashion and textiles education. It reflects our belief that equipping educators is essential to equipping future professionals with the capacity to lead the twin transition—toward a greener and more digital fashion industry.

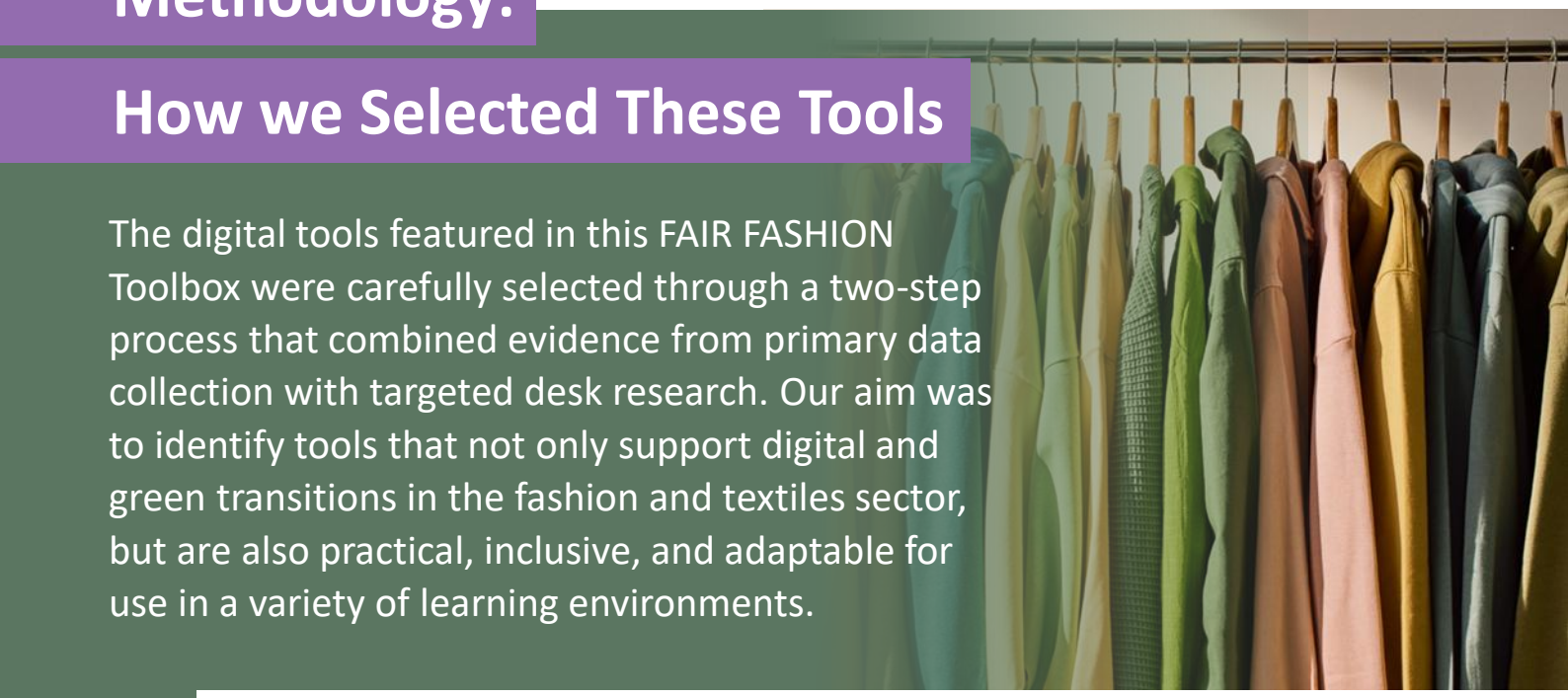
We hope this Toolbox will inspire educators to experiment, collaborate, and co-create the future of fashion education—one that is ethically grounded, digitally skilled, and environmentally responsible.

METHODOLOGY

02

Methodology:

How we Selected These Tools



The digital tools featured in this FAIR FASHION Toolbox were carefully selected through a two-step process that combined evidence from primary data collection with targeted desk research. Our aim was to identify tools that not only support digital and green transitions in the fashion and textiles sector, but are also practical, inclusive, and adaptable for use in a variety of learning environments.

Educator Survey:
Insights from the Field

01

As part of our research, we conducted an online survey in March 2025 that gathered input from 36 educators, researchers, and professionals across Europe with expertise in sustainable fashion, digital learning, and textiles education.

The survey was designed to understand:

- ❑ The professional roles and backgrounds of respondents
- ❑ The learners they work with (e.g., higher education, vocational, adult learners)
- ❑ Which digital tools they currently use in their teaching
- ❑ How these tools are applied to green and/or digital learning
- ❑ The features they value most in digital tools
- ❑ Challenges faced in implementing these tools
- ❑ Recommendations for fellow educators

Scan QR code to view survey results

The survey revealed that:

- ✓ **63.9%** of respondents were fashion/textile educators, and 25% were sustainability educators
- ✓ **82.9%** primarily worked with higher education students
- ✓ **79.4%** had already used digital tools to support green or digital skills
- ✓ The most commonly used tools included **Canva, Padlet, Miro, Moodle, Clo3D**, and **ChatGPT**
- ✓ Key uses included collaboration (**71.4%**), presentation (**74.3%**), and digital fashion design (**48.6%**)
- ✓ Most valued features included real-time collaboration (**57.1%**), 3D/visual capabilities (**54.3%**), and sustainability tracking (**37.1%**)
- ✓ Common challenges included steep learning curves, tool complexity, and uncertainty about the environmental impact of certain platforms

Desk Research:
Mapping Existing Solutions

01

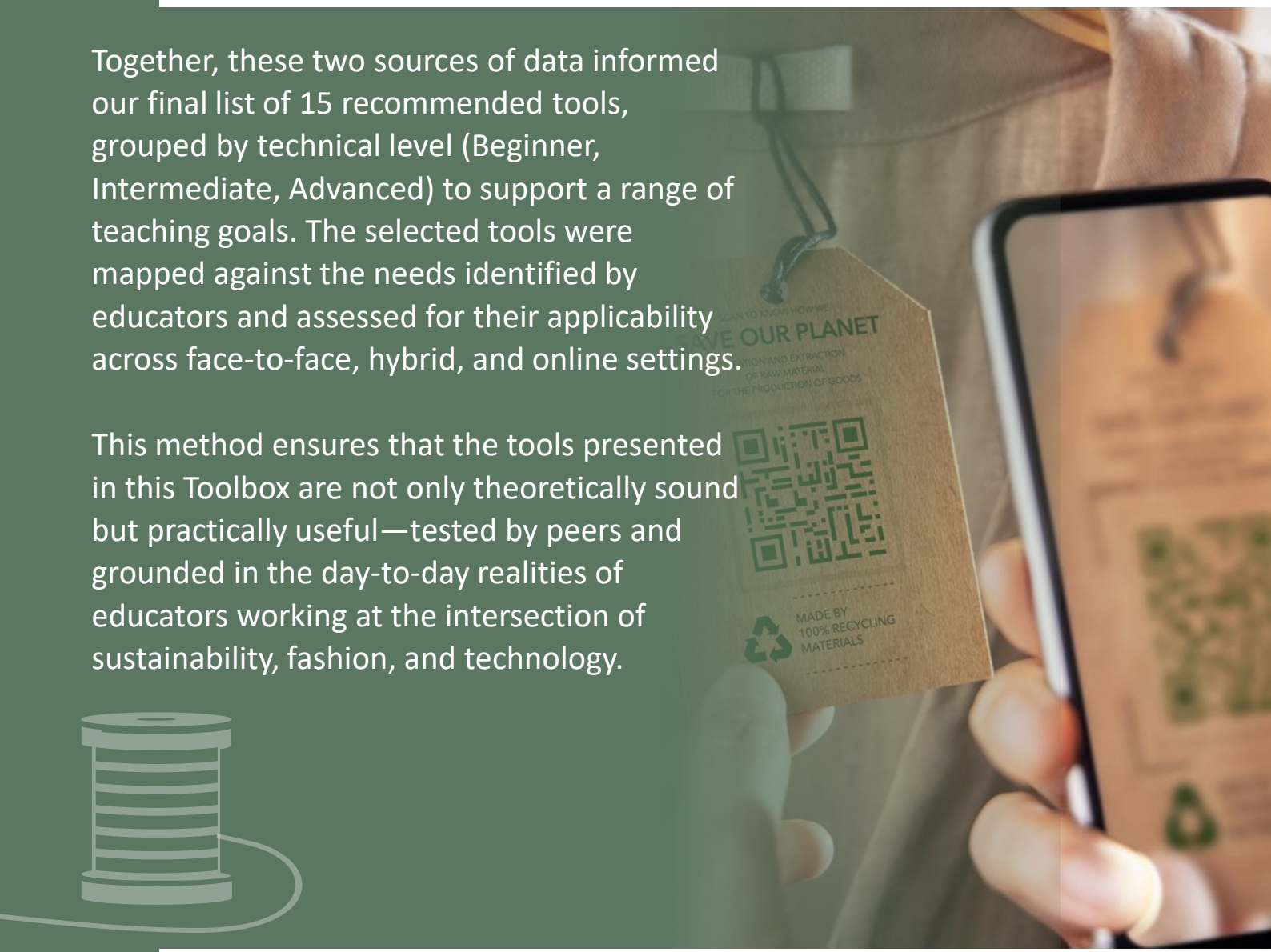
To complement the survey findings, we undertook structured desk research to identify best-in-class tools that are either widely adopted in education or emerging as innovative solutions for sustainable fashion learning.

Our evaluation considered:

- ❑ Relevance to the FAIR FASHION project themes (digitalisation, sustainability, inclusivity)
- ❑ Technical requirements and ease of use across different learner profiles
- ❑ Energy efficiency and environmental impact where data was available
- ❑ Accessibility (including language, price, and user interface design)
- ❑ Availability of tutorials and support materials
- ❑ Pedagogical value in supporting project-based, hybrid, and participatory learning models

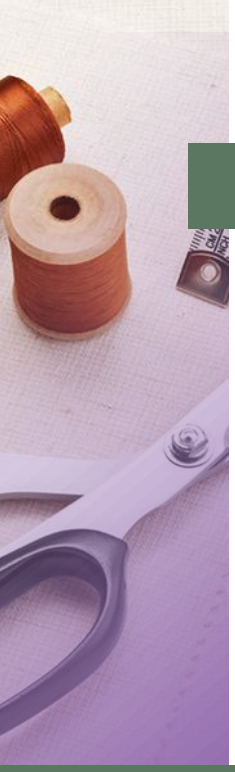
Together, these two sources of data informed our final list of 15 recommended tools, grouped by technical level (Beginner, Intermediate, Advanced) to support a range of teaching goals. The selected tools were mapped against the needs identified by educators and assessed for their applicability across face-to-face, hybrid, and online settings.

This method ensures that the tools presented in this Toolbox are not only theoretically sound but practically useful—tested by peers and grounded in the day-to-day realities of educators working at the intersection of sustainability, fashion, and technology.



USER GUIDE

03



User Guide

How to Navigate and Use This Toolbox

This Toolbox has been designed to be intuitive and actionable for educators, trainers, and education professionals teaching sustainable and digital skills in fashion and textiles. Its contents are based on extensive desk research and the insights of 36 fashion educators, sustainability trainers, digital learning specialists, and industry professionals from across Europe, collected via survey. Their experiences and recommendations have shaped the selection, categorisation, and presentation of tools in this guide.

Each tool featured in this guide is presented using a consistent format, designed to support quick understanding and informed classroom integration:

What You'll Find

01

Tool Description:

A short overview of what the tool is, its core functionality, and relevance to sustainability or digital fashion.

02

Link to the Resource:

A direct hyperlink to the tool's website, platform, or download page.

03

Accessibility Notes:

Information on whether the tool is free, freemium, paid, or institutionally licensed, as well as any accessibility features (e.g., multilingual interface, screen reader compatibility).

04

Sustainability or Pedagogic Relevance:

A brief explanation of the sustainability principle or pedagogic objective the tool supports—e.g., lifecycle analysis, ethical design, digital collaboration, or 3D virtual prototyping.

05

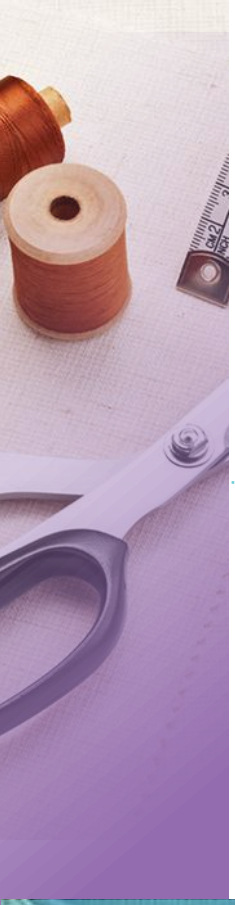
Classroom Guidance:

Suggestions on how the tool can be applied in teaching—such as assignment ideas, collaborative projects, workshop formats, or use in flipped/hybrid classes.

06

Tutorials or Support:

Links to user guides, video walkthroughs, educator case studies, or online communities that support implementation.



Tool Levels

To support usability across a wide range of educators and contexts, tools are categorised by skill level and complexity:

01.

Beginner

Bachelor level or elective interest - little to no expertise is required to understand and/or use these tools.

02.

Intermediate

Bachelor or Master level -some computer programming or technical expertise is required to understand and/or use these tools.

03.

Advanced

Master or other post-graduate level - a great deal of computer programming or AI-specific expertise is required to understand and/or use these tools.

Teaching Formats

This guide supports use across multiple teaching formats:

- **Face-to-Face –** classroom or studio-based sessions where tools support live collaboration or digital enrichment.
- **Online –** asynchronous or synchronous virtual teaching where tools provide flexible, accessible learning environments.
- **Hybrid –** blended teaching contexts that combine in-person and online learning, supported by shared digital platforms**.**

Using the Toolbox

This Toolbox can be used in several ways:

- **Browse by Level** – to identify tools appropriate for your teaching context or learner readiness.
- **Search by Function –** use the index or digital PDF search to locate tools that support specific activities (e.g., co-design, prototyping, sustainability analysis).
- **Share and Adapt –** we encourage educators to share this resource with peers, integrate it into curriculum planning, and adapt the suggested activities to suit their context.

This Toolbox is a living resource. As technologies evolve and educator needs shift, we welcome feedback and new tool suggestions through the FAIR FASHION website.

Disclaimer on Energy Usage and Sustainability

As sustainability is one of the core pillars of the FAIR FASHION project, we are committed to promoting responsible and informed digital practices in fashion and textiles education. This Digital Toolbox highlights digital tools that support the green and digital transition in higher education — but we also acknowledge that all digital tools, platforms, and technologies consume energy and have an environmental footprint.

While several tools included in this resource are hosted on cloud infrastructure and may rely on energy-intensive processes (e.g., AI computation, 3D rendering, or cloud-based collaboration), we encourage educators and students to:

- ❑ Prioritise sustainable practices when using digital tools, such as optimising usage time, avoiding redundant uploads, and minimising storage demands.
- ❑ Be mindful of the potential environmental impact of high-energy platforms and explore greener or low-energy alternatives where possible.
- ❑ Consider using tools with green hosting credentials or those that offer guidance on reducing digital carbon footprints.
- ❑ Reflect with students on the sustainability implications of digital design, remote collaboration, and virtual prototyping as part of wider learning goals.

Where information on energy usage, sustainability policies, or green alternatives was publicly available, we have done our best to include it in this guide. However, data transparency remains a challenge, and we encourage educators to stay informed and critical of evolving digital sustainability standards.

The FAIR FASHION partnership does not endorse or promote excessive use of digital technologies, but rather aims to equip educators with options that enable thoughtful integration of digital tools into meaningful, responsible pedagogy.

If you have further insights or recommendations on energy-saving educational tools, we welcome your feedback via the project website

RECOMMENDED DIGITAL TOOLS

Beginner Level

04

Beginner

Canva

01

Visual storytelling & communication for sustainability education

Canva is a free, browser-based design tool that enables users to easily create visually engaging content such as posters, lookbooks, infographics, social media posts, and presentations. With its drag-and-drop interface and wide selection of templates, it is particularly suited for educators and students with no prior graphic design experience. In the context of FAIR FASHION, Canva is valuable for supporting visual storytelling around sustainability themes, documenting design projects, and presenting outcomes in an accessible, professional format.

Note on Accessibility:

Canva offers a free version with significant features and is accessible on desktop and mobile. It complies with WCAG 2.1 AA accessibility guidelines and includes screen reader support. Templates with good colour contrast and readable fonts can be selected to improve accessibility.

Ethical Criteria the Tool Addresses .

- ✓ Promotes inclusive and accessible learning
- ✓ Encourages visual communication of sustainability concepts
- ✓ Supports low-carbon alternatives to printed material
- ✓ Empowers students to express values through ethical storytelling

Guidance for Classroom Implementation.

Canva can be integrated into lessons or assessments in various formats. Suggested activities include:

- ❑ Creating a visual sustainability pledge board
- ❑ Designing upcycling instructions or ethical brand storyboards
- ❑ Crafting infographics on lifecycle analysis or circular systems
- ❑ Documenting the evolution of a sustainable fashion concept
- ❑ Producing presentations for final critiques or exhibitions

Students can collaborate in teams, with teachers providing visual frameworks or brand guidelines that mirror industry practices. Canva can also be used for portfolio creation and peer review activities.

Alternative Tools:

- **Adobe Express, Visme, Piktochart, Figma (for advanced design collaboration)**

Special Discounts:

- **Canva offers Canva for Education — a free premium subscription for verified teachers and students, including access to premium templates, tools, and classroom collaboration features.**

User Tutorials:

- **Canva Design School:** https://www.canva.com/designschool/
- **Canva for Education Getting Started:** https://www.canva.com/education/

Beginner

Padlet

02

Visual pinboards for creative collaboration

Padlet is an interactive digital bulletin board that allows users to post and organise content—including text, images, links, audio, and video—on a shared visual canvas. It's especially useful for promoting creative thinking, group collaboration, and visual documentation in real time. In the context of FAIR FASHION, Padlet supports the co-creation of mood boards, peer-to-peer feedback, sustainability reflections, and digital storytelling activities within fashion and textiles education.

Note on Accessibility:

Padlet works across devices and browsers, with mobile-friendly design and some screen reader support. Accessibility can be enhanced by using readable fonts, alt text for images, and high-contrast layouts. Some accessibility limitations may remain for certain screen readers.

Ethical Criteria the Tool Addresses .

- ✓ Encourages inclusive, student-driven co-creation
- ✓ Facilitates accessible, paperless collaboration
- ✓ Supports reflective and values-based storytelling
- ✓ Enables visibility of diverse voices and contributions

Guidance for Classroom Implementation.

Padlet can be embedded in face-to-face, hybrid, or online classrooms. Suggested activities include:

- ❑ Building collective mood boards around sustainable fashion trends
- ❑ Gathering visual inspiration for inclusive design briefs
- ❑ Creating reflection walls for sustainable design processes
- ❑ Documenting each stage of an upcycling or zero-waste project
- ❑ Hosting asynchronous peer feedback on ethical fashion concepts

Educators can scaffold Padlets with columns, timelines, maps, or canvases to structure interaction. Student contributions can be anonymous or named, allowing for low-pressure engagement.

Alternative Tools:

- **Miro, Lino, Wakelet, Jamboard (deprecated)**

Special Discounts:

- **Padlet offers a free version with limited boards and storage. Padlet Backpack is a discounted education plan for schools, universities, and teachers, which includes custom branding, LMS integration, and privacy controls.**

User Tutorials:

- **Getting Started with Padlet (Official):** https://padlet.help/l/en/article/9j9aadt8tn-how-do-i-get-started-with-padlet
- **How do I use Padlet for teaching?:** https://askus.northampton.ac.uk/Learntech/faq/186128

Beginner

Miro

03

Whiteboarding for design thinking & visual collaboration

Miro is a digital whiteboard platform that enables real-time collaboration through sticky notes, diagrams, templates, mind maps, and visual planning tools. It allows teams to brainstorm, co-create, and structure complex ideas visually. In the context of FAIR FASHION, Miro is particularly valuable for systems mapping, lifecycle thinking, and collaborative sustainable design processes in both physical and virtual classrooms.

Note on Accessibility:

Miro is browser-based and compatible with mobile devices. While it offers keyboard navigation and screen reader support, some accessibility features (like drag-and-drop interactions) may be limited for users with visual or motor impairments. Accessibility can be enhanced by structuring boards clearly and using high-contrast visuals.

Ethical Criteria the Tool Addresses

- ✓ Encourages collaborative, values-based thinking
- ✓ Reduces need for printed whiteboards or post-its
- ✓ Supports transparency and inclusive input
- ✓ Enables systems-level sustainability exploration

Guidance for Classroom Implementation

Miro can be embedded in face-to-face, hybrid, or online courses. Suggested applications include:

- ❑ Visualising fashion supply chains and circularity systems
- ❑ Conducting digital workshops on inclusive design principles
- ❑ Mapping ethical fashion business models using canvas templates
- ❑ Group brainstorming for sustainable product ideation
- ❑ Hosting asynchronous critique and feedback walls

Educators can pre-structure boards to scaffold activities and assign breakout rooms or columns for group work. Students can use colour coding, icons, or images to differentiate contributions.

Alternative Tools:

- **Mural, Jamboard (deprecated), FigJam, Conceptboard**

Special Discounts:

- **Miro offers a free education plan for students and educators with access to core features. The Miro Education plan includes unlimited boards and collaboration tools for verified academic institutions.**

User Tutorials:

- **How to use Miro (Official):** https://miro.com/how-to-use-miro/
- **Getting Started Guide:** https://help.miro.com/hc/en-us/categories/360001415214-Getting-Started

Beginner

Moodle

04

Flexible learning management for hybrid & sustainability education

Moodle is a widely used open-source learning management system (LMS) that allows educators to create customisable, interactive online courses. It supports a wide range of teaching methods including self-paced learning, blended delivery, and flipped classrooms. In the context of FAIR FASHION, Moodle helps educators organise resources, track student progress, and deliver learning activities focused on green and digital skills within fashion and textiles education.

Note on Accessibility:

Moodle complies with WCAG 2.1 AA accessibility standards and includes screen reader support, keyboard navigation, and alternative text options. Accessibility depends on both system setup and educator-created content, so careful design is needed to maintain inclusive access.

Ethical Criteria the Tool Addresses

- ✓ Promotes equitable access to green and digital education
- ✓ Reduces print dependency and supports remote learning
- ✓ Encourages structured learning pathways for sustainability topics
- ✓ Enables learner-centred progress tracking

Guidance for Classroom Implementation.

Moodle can be used in all teaching formats—face-to-face, hybrid, or online. Suggested activities include:

- ❑ Upload modules on circular design or lifecycle analysis
- ❑ Create quizzes to assess sustainability knowledge
- ❑ Embed videos, forums, or shared docs for collaboration
- ❑ Deliver certificates for digital fashion skill milestones
- ❑ Integrate external tools (e.g., Padlet, CLO 3D) into activities

Teachers can organise Moodle by topic, week, or skill progression. Forums and feedback tools enable formative assessment and peer exchange.

Alternative Tools:

- **Blackboard, Brightspace, Canvas LMS, Google Classroom**

Special Discounts:

- **Moodle is free and open source. MoodleCloud offers affordable managed hosting plans for institutions or small groups. Many universities already host Moodle in-house.**

User Tutorials:

- **Moodle Educator Guide:** https://docs.moodle.org/402/en/Teaching_with_Moodle
- **Quickstart Guide (Official):** https://moodle.com/solutions/quickstart/

Beginner

BBC Redressed Calculator

05

Explore the environmental impact of everyday fashion choices

The BBC Redressed Calculator is a free, browser-based interactive tool designed to help users understand the carbon, water, and waste footprint of their clothing habits. By answering a series of questions about how they shop, wear, and care for clothing, users receive a personalised sustainability score along with insights and tips. In FAIR FASHION, this tool is ideal for raising awareness, sparking discussions, and encouraging reflection among fashion students on the environmental consequences of consumer behaviour.

Note on Accessibility:

The calculator is mobile-friendly and web-accessible. While visual and interactive, accessibility is limited for screen readers. Teachers may need to support learners with additional explanations or alternative formats.

Ethical Criteria the Tool Addresses

- ✓ Raises awareness of environmental impact
- ✓ Encourages behavioural change through education
- ✓ Supports values-based learning and climate literacy
- ✓ Enables personal reflection on fashion habits

Guidance for Classroom Implementation

- ❑ Use as a warm-up activity in sustainability units
- ❑ Discuss results in small groups to compare behaviours
- ❑ Pair with lifecycle analysis assignments
- ❑ Reflect on findings in learning journals or blogs
- ❑ Use to introduce metrics of water, carbon, and textile waste

This tool works well in introductory or awareness-building lessons and can be integrated into both online and in-person settings.

Alternative Tools:

- **Close-the-Loop.be, BAwear Score, The True Cost Calculator, Fashion Footprint Calculator**

Special Discounts:

- **Free to use with no account required. Publicly available as part of the BBC's "Fashion Redressed" campaign.**

User Tutorials:

- **No formal tutorials available, but teachers can preview the tool here:** https://www.bbc.com/storyworks/specials/fashion-redressed-calculator/
- **Suggested classroom walk-through:** Demonstrate use on screen and provide a printed or digital worksheet to support student input and reflection

RECOMMENDED DIGITAL TOOLS

Intermediate Level

04

Intermediate

CLO 3D

06

3D fashion design for sustainable prototyping

CLO 3D is a professional 3D fashion design software that enables users to create, visualise, and simulate garments in a true-to-life digital environment. It offers advanced pattern drafting tools, fabric physics, and virtual fitting features that support more sustainable fashion workflows. Within FAIR FASHION, CLO 3D empowers learners to explore low-waste construction methods, reduce physical sampling, and develop digital skills aligned with industry expectations.

Note on Accessibility:

CLO 3D is available for both Windows and macOS. It requires installation on a compatible desktop or laptop and basic digital literacy. While it is highly visual and intuitive, it currently offers limited accessibility support for screen readers or alternative navigation tools.

Ethical Criteria the Tool Addresses .

- ✓ Promotes sustainable practices through virtual prototyping
- ✓ Reduces textile waste by replacing physical samples
- ✓ Supports inclusive design through diverse avatars and sizing
- ✓ Enhances digital readiness and industry-relevant skill development

Guidance for Classroom Implementation.

CLO 3D can be embedded into digital design or sustainability modules. Suggested activities include:

- ❑ Creating virtual prototypes of upcycled or zero-waste garments
- ❑ Comparing digital vs. physical production resource use
- ❑ Using avatars to explore size inclusivity in fashion
- ❑ Conducting virtual critiques or exhibitions of sustainable collections
- ❑ Documenting digital workflows for lifecycle transparency

Students can work in pairs or small teams to co-design garments. Educators can scaffold learning by using CLO's built-in templates and assigning challenges that focus on environmental or ethical criteria.

Alternative Tools:

- **VStitcher, Style3D, Browzwear, Marvelous Designer**

Special Discounts:

- **CLO offers discounted educational licenses for students, teachers, and institutions. Many universities can access CLO via institutional agreements. A 30-day free trial is also available.**

User Tutorials:

- **CLO Academy:** https://www.cloacademy.online/
- **Learn CLO (Official):** https://www.clo3d.com/en/learning

Intermediate

Blender

07

3D design & visualisation for immersive storytelling

Blender is a powerful open-source 3D creation suite used for modelling, animation, rendering, and simulation. In fashion and textiles education, it enables students to build and visualise digital garments, generate lifelike textures, and create immersive scenes or narratives to support sustainability storytelling. Blender supports experimentation with virtual environments, product visualisation, and alternative design methods that reduce material waste and environmental impact.

Note on Accessibility:

Blender is free to download and runs on Windows, macOS, and Linux. Its interface supports customisation for visual accessibility, but it has limited screen reader integration and may present a learning curve for users new to 3D design. Numerous tutorials help support onboarding.

Ethical Criteria the Tool Addresses

- ✓ Promotes virtual prototyping and reduced material waste
- ✓ Enables creative communication of sustainability narratives
- ✓ Supports open-access learning and skill development
- ✓ Facilitates digital alternatives to physical sample production

Guidance for Classroom Implementation

Blender can be integrated into upper-level fashion modules focused on innovation or sustainability. Suggested activities include:

- ❑ Creating immersive visual narratives for ethical fashion campaigns
- ❑ Simulating design concepts to reduce the need for physical samples
- ❑ Rendering 3D visualisations of sustainable materials or textures
- ❑ Producing videos that explore environmental impact or social messages

Blender can be used independently or as part of interdisciplinary storytelling, animation, or digital marketing projects. Educators should scaffold initial training and link output to real-world applications.

Alternative Tools:

- **CLO 3D, Adobe Dimension, SketchUp, Cinema 4D**

Special Discounts:

- **Blender is fully open-source and free for all users. No subscription or education account is required.**

User Tutorials:

- **Beginner Blender Tutorial:** https://youtu.be/B0J27sf9N1Y?si=keCOPowLdxob51z8
- **Complete Beginner's Guide to Blender:** https://www.premiumbeat.com/blog/blender-software-guide/

Intermediate

Adobe Creative Cloud

08

Design tools for digital fashion & sustainable visualisation

Adobe Creative Cloud is a suite of industry-standard design tools including Illustrator, Photoshop, and InDesign. These applications support fashion and textile education by enabling students to develop digital prototypes, create garment flats and technical drawings, visualise concepts, and prepare professional communication materials. When applied through a sustainability lens, these tools can help reduce reliance on physical sampling and foster impactful storytelling around ethical fashion practices.

Note on Accessibility:

Adobe tools are available for desktop (Windows/macOS) and include accessibility features such as keyboard navigation, screen reader compatibility (especially in InDesign and Acrobat), and high-contrast display options. While powerful, the software may present a learning curve for beginners.

Ethical Criteria the Tool Addresses

- ✓ Supports digital prototyping and reduces material waste
- ✓ Enables visual storytelling around sustainability themes
- ✓ Fosters accessible and professional-quality design work
- ✓ Prepares students for industry-standard digital workflows

Guidance for Classroom Implementation

Adobe Creative Cloud tools can be integrated into both design and communication-based modules. Suggested activities include:

- ❑ Creating technical flats and garment specifications in Illustrator
- ❑ Editing campaign imagery or lookbooks to support sustainable branding
- ❑ Designing fashion infographics and product lifecycle visuals
- ❑ Creating awareness posters on textile waste or ethical production
- ❑ Developing digital moodboards or portfolio assets

Educators can introduce individual tools progressively, tailoring tutorials to sustainability-focused tasks. Students can also use Adobe Express for simpler web-based projects.

Alternative Tools:

- **CorelDRAW, Affinity Designer, Canva, Figma**

Special Discounts:

- **Adobe offers discounted student and teacher pricing through Adobe Creative Cloud for Education, providing access to the full suite of applications at a reduced monthly rate.**

User Tutorials:

- **Adobe Learn & Support Centre:** https://helpx.adobe.com/support.html
- **Adobe for Education:** https://edex.adobe.com/

Intermediate

VStitcher

09

3D garment design for sustainable sampling

VStitcher is a professional-grade 3D apparel design and development software by Browzwear, used extensively in the fashion industry. It allows users to build, drape, and simulate garments in a virtual environment using real-life fabrics and trims. In educational contexts, VStitcher supports learning in digital prototyping, fit testing, and material experimentation, reducing physical sampling and enabling more sustainable design decisions.

Note on Accessibility:

VStitcher is a desktop-based application for Windows and macOS. While not built with comprehensive accessibility features, usability can be supported through adjustable interface elements and external assistive tools. It requires relatively high system performance and prior digital design experience.

Ethical Criteria the Tool Addresses .

- ✓ Promotes sustainable sampling through digital garment simulation
- ✓ Facilitates informed decision-making around materials and fit
- ✓ Supports reduction of textile waste and overproduction
- ✓ Builds student readiness for responsible industry practices

Guidance for Classroom Implementation.

VStitcher can be introduced through advanced modules or digital fashion electives. Suggested classroom applications include:

- ❑ Designing and testing virtual garments using sustainable fabric presets
- ❑ Comparing fit and drape simulations of different design iterations
- ❑ Conducting digital material traceability exercises
- ❑ Creating visual content for sustainable fashion portfolios
- ❑ Collaborating on zero-waste or modular fashion challenges

Educators may scaffold learning by combining VStitcher with tutorials, sample projects, or team-based design briefs. The tool can be paired with Adobe Illustrator for pattern drafting.

Alternative Tools:

- **CLO 3D, Browzwear Lotta, Style3D, TUKA3D**

Special Discounts:

- **Browzwear offers academic licenses for fashion schools and students, including educational packages and certification opportunities through its Browzwear University platform.**

User Tutorials:

- **VSticther 101 (Official):** https://university.browzwear.com/path/path-vstitcher-101
- **Browzwear University:** https://browzwear.com/browzwear-university/

Intermediate

Notion

10

Flexible workspace for teaching & tracking sustainability

Notion is an all-in-one workspace for note-taking, project management, databases, and team collaboration. Its flexible and intuitive interface allows educators to design digital hubs for course content, organise learning resources, embed media, and track progress. Within FAIR FASHION, Notion can be used to document sustainable fashion projects, share ethical design briefs, and facilitate co-learning and research among students.

Note on Accessibility:

Notion is available via browser, desktop, and mobile apps. It supports keyboard navigation, dark mode, and alt text for images. However, some accessibility limitations remain, especially for screen readers, and may require supplementary tools.

Ethical Criteria the Tool Addresses .

- ✓ Encourages transparent, inclusive collaboration
- ✓ Enables paperless workflows and accessible resource sharing
- ✓ Supports sustainable project management practices
- ✓ Fosters documentation of values-driven design processes

Guidance for Classroom Implementation.

Notion can be used in both in-person and hybrid classrooms. Suggested classroom applications include:

- ❑ Creating a digital course hub with lesson plans and resources
- ❑ Hosting a shared sustainability glossary or toolkit
- ❑ Documenting research for sustainable design assignments
- ❑ Tracking learning goals linked to SDGs or GreenComp
- ❑ Facilitating reflective journals or co-created reading lists

Educators can create templates for students or encourage them to personalise their workspaces. Notion's database and calendar functions are especially useful for managing long-term group projects.

Alternative Tools:

- **Trello, Airtable, Microsoft OneNote, Google Docs/Sheets**

Special Discounts:

- **Notion offers a free Education Plan for students and teachers, with premium features unlocked after email verification from a qualifying academic institution.**

User Tutorials:

- **Getting Started with Notion:** https://www.notion.so/help/guides
- **Notion for Education:** https://www.notion.so/education

RECOMMENDED DIGITAL TOOLS

Advanced Level

04

Advanced

Rhino + Grasshopper

11

Algorithmic design for sustainable fashion systems

Rhino is a powerful 3D modelling software used across design disciplines, while Grasshopper is its integrated visual programming environment. Together, they allow for parametric and algorithmic design—ideal for teaching digital pattern engineering, modular garment systems, or the simulation of sustainable production models. In FAIR FASHION, these tools can support exploration of zero-waste patterning, customisable clothing structures, and innovative material use.

Note on Accessibility:

Rhino and Grasshopper are desktop-based tools primarily used on Windows (and increasingly macOS). Accessibility features are limited compared to browser-based tools, and no screen reader compatibility is documented. Interfaces are technical and may present barriers for some users.

Ethical Criteria the Tool Addresses

- ✓ Promotes sustainable design innovation through digital simulation
- ✓ Enables exploration of circular and modular fashion systems
- ✓ Encourages advanced digital craftsmanship and precision
- ✓ Supports data-informed environmental optimisation

Guidance for Classroom Implementation

Rhino + Grasshopper can be used in upper-level or postgraduate studio-based modules. Suggested activities include:

- ❑ Creating parametric clothing designs with adaptable features
- ❑ Modelling material efficiency using zero-waste patterns
- ❑ Simulating fit and function for custom or inclusive sizing
- ❑ Exploring bio-inspired design and regenerative geometries
- ❑ Visualising modularity for repairable or transformable fashion

Educators should provide students with templated scripts or starting models to reduce barriers. Projects can integrate sustainability KPIs, enabling students to assess design choices in real time.

Alternative Tools:

- **CLO 3D, Blender, Autodesk Fusion 360, Marvelous Designer**

Special Discounts:

- **Educational licences for Rhino are available at a significantly discounted price for students and teachers. Grasshopper is included with Rhino at no extra cost.**

User Tutorials:

- **Rhino Learn Page:** https://www.rhino3d.com/learn/
- **ThinkParametric Grasshopper Courses:** https://thinkparametric.com/

Advanced

Python

12

Creative coding for sustainable design exploration

Python is a versatile, open-source programming language widely used in education, data science, and creative applications. In FAIR FASHION, Python can support students to explore environmental analytics, interactive storytelling, and digital experimentation. Combined with creative libraries like Processing or P5.js, it empowers learners to visualise sustainability data, simulate systems, or prototype digital fashion concepts in innovative ways.

Note on Accessibility:

Python is accessible across platforms (Windows, MacOS, Linux) and can be run in browser-based environments like Google Colab. While its syntax is beginner-friendly, accessibility depends on the coding environment used—some IDEs are more accessible than others. Using browser-based editors can enhance accessibility with screen reader support and font adjustment.

Ethical Criteria the Tool Addresses

- ✓ Builds foundational digital literacy for sustainable innovation
- ✓ Enables exploration of environmental data and impact modelling
- ✓ Supports open, transparent, and reproducible design workflows
- ✓ Encourages algorithmic thinking for ethical decision-making

Guidance for Classroom Implementation

Python can be introduced in fashion and sustainability courses where data, logic, or interactivity is explored. Suggested activities include:

- ❑ Visualising lifecycle or material impact data using charts or animations
- ❑ Programming interactive infographics or circular system visualisations
- ❑ Simulating sustainable supply chain scenarios or logistics
- ❑ Exploring AI-assisted design concepts with ethical frameworks
- ❑ Using code to creatively map user behaviours or design feedback

Educators can use simplified libraries like P5.js (for creative visuals) or Pandas (for data) and begin with browser-based editors like Google Colab or Replit. Pre-written code templates and collaborative walkthroughs support accessibility for first-time coders.

Alternative Tools:

- **P5.js, Processing, Google Colaboratory, Jupyter Notebook, R**

Special Discounts:

- **Python is free and open source. Platforms like Replit and Google Colab offer free plans with classroom collaboration features.**

User Tutorials:

- **Python for Beginners:** https://www.learnpython.org/
- **Processing Creative Coding:** https://processing.org/tutorials/
- **P5.js Web Editor:** https://editor.p5js.org/
- **Google Colab Intro:** https://colab.research.google.com/notebooks/intro.ipynb

Advanced

FlexSim

13

Simulation software for sustainable manufacturing systems

FlexSim is a 3D simulation tool used to model, visualise, and analyse production and logistics systems. In FAIR FASHION, FlexSim can support learners to understand sustainable supply chains, test circular production models, and explore the environmental impact of different manufacturing strategies. It enables realistic system modelling, scenario analysis, and data-driven decision-making—skills that are increasingly important in sustainable fashion and textile industries.

Note on Accessibility:

FlexSim is a Windows-based desktop application with a free Student version. It offers a visual, drag-and-drop interface, but has limited screen reader compatibility and no official accessibility certification. Accessibility can be improved by pairing with verbal explanation and guided walkthroughs.

Ethical Criteria the Tool Addresses

- ✓ Facilitates modelling of circular and low-impact production systems
- ✓ Supports data-driven decision-making for ethical operations
- ✓ Enables critical analysis of system efficiency and sustainability trade-offs
- ✓ Helps visualise complex supply chain structures and their impacts

Guidance for Classroom Implementation

FlexSim is best suited for advanced learners in courses on manufacturing, logistics, or sustainable production. Suggested classroom uses include:

- ❑ Simulating a zero-waste production line or closed-loop system
- ❑ Comparing CO_2 emissions between traditional and localised supply chains
- ❑ Modelling worker flow in an ethical fashion manufacturing unit
- ❑ Exploring impact of batch size, material choice, or workflow design
- ❑ Visualising waste points or energy hotspots in a factory setup

Teachers may provide pre-built models or modify examples from FlexSim's online library. Scenario-based projects or group simulations promote collaborative learning and systems thinking.

Alternative Tools:

- **AnyLogic, SIMUL8, Autodesk Process Analysis, Arena Simulation**

Special Discounts:

- **FlexSim offers a free Student version and educational licenses for teachers and institutions.**

User Tutorials:

- **FlexSim Basics Tutorial (Official):** https://docs.flexsim.com/en/23.1/Tutorials/FlexSimBasics/BasicsOverview/BasicsOverview.html
- **Tutorials Archives:** https://www.flexsim.com/series/tutorials/

Advanced

Browzwear FAB

14

Textile physics capture for digital material traceability

FAB (Fabric Analyzer Box) by Browzwear is an advanced hardware-software solution that digitises the physical properties of textiles—such as drape, stretch, and texture—for use in 3D garment simulation. In FAIR FASHION, FAB enables students to work with authentic digital materials, explore traceability and lifecycle data, and prototype sustainable fashion pieces more accurately. It connects real-world textiles with digital workflows to support environmentally conscious design education.

Note on Accessibility:

FAB requires physical hardware and specialised software (Lotta/VStitcher). It is not broadly accessible for all classrooms and should be used in equipped labs or partnered institutions. Educational use may rely on shared access or pre-digitised fabric libraries provided by instructors.

Ethical Criteria the Tool Addresses

- ✓ Promotes material transparency and traceability
- ✓ Reduces physical sampling and associated textile waste
- ✓ Connects real-world fabrics with ethical digital workflows
- ✓ Enhances sustainable design accuracy through material realism

Guidance for Classroom Implementation

FAB can be used in advanced or postgraduate classrooms with access to digital fashion labs. Suggested activities include:

- ❑ Comparing the sustainability impact of different fabric types
- ❑ Creating traceable digital fabric libraries with sustainability tags
- ❑ Digitising upcycled or deadstock fabrics for digital design
- ❑ Evaluating the fit and flow of garments in zero-waste design
- ❑ Integrating digital fabric data into lifecycle assessment exercises

Educators may pair FAB use with lessons in fibre origin, material innovation, and transparency. Collaboration with industry or research labs may be necessary for access.

Alternative Tools:

- **Vizoo XRite, CLO Fabric Kit, Adobe Substance, Swatchbook**

Special Discounts:

- **Educational pricing is available through Browzwear's academic programme. Institutions may request licences and hardware access.**

User Tutorials:

- **Using the FAB (Official):** https://help.browzwear.com/hc/en-us/articles/4921221957529-Using-the-FAB
- **FAB 2.0 Manual:** https://help.browzwear.com/hc/en-us/articles/4921192627353

Advanced

Triple Layer Business Model Canvas

15

Tool for mapping environmental, social & economic impact

The Triple Layer Business Model Canvas (TLBMC) is an innovation of the traditional Business Model Canvas that adds two additional layers—Environmental and Social—to the Economic layer. It helps students analyse and redesign business models with sustainability and ethics at the core. In FAIR FASHION, TLBMC enables learners to explore circular fashion systems, stakeholder inclusion, and sustainable value creation across fashion and textile enterprises.

Note on Accessibility:

The TLBMC is an open-access visual tool, available online and printable in various formats. It can be used with physical templates or digitally using platforms like Miro, Canva, or Google Jamboard. The visual structure makes it suitable for students with a range of learning styles.

Ethical Criteria the Tool Addresses

- ✓ Encourages systems thinking and sustainable innovation
- ✓ Supports values-driven entrepreneurship and ethical business design
- ✓ Integrates triple-bottom-line thinking into fashion education
- ✓ Promotes critical reflection on inclusion, impact, and transparency

Guidance for Classroom Implementation

TLBMC can be used in business, entrepreneurship, or sustainability modules. Suggested activities include:

- ❑ Analysing case studies of sustainable or circular fashion businesses
- ❑ Redesigning traditional brands using all three TLBMC layers
- ❑ Co-creating ethical start-up models in group workshops
- ❑ Comparing mainstream vs. inclusive business approaches
- ❑ Mapping the impact of a student-led fashion concept across all layers

Educators can scaffold TLBMC use through guided exercises, worksheets, or by pairing it with lifecycle assessment and stakeholder mapping tasks.

Alternative Tools:

- **Business Model Canvas (BMC), Flourishing Business Canvas, Circular Business Model Cards**

Special Discounts:

- **The TLBMC is freely available under Creative Commons licensing. Print templates and guides are available online.**

User Tutorials:

- **Circular Business Model Innovation Toolkit:** https://sustainablebusinessmodel.org/

GLOSSARY OF TERMS

05

Glossary of Terms

- **Accessibility:** The design of tools, platforms, and resources to ensure usability by all people, including those with disabilities. In digital education, this includes compatibility with screen readers, keyboard navigation, and high-contrast design.
- **AI (Artificial Intelligence):** The simulation of human intelligence processes by machines, particularly computer systems. In fashion education, AI is increasingly used for forecasting trends, analyzing data, and supporting design processes.
- **Circular Economy:** An economic model aimed at minimizing waste and making the most of resources. In fashion, it involves designing products for longevity, reuse, and recyclability.
- **Cloud-Based Tools:** Digital platforms and software that run on internet servers rather than local computers, allowing access and collaboration from any device with an internet connection.
- **Collaborative Learning:** An educational approach that involves students working together to solve problems, complete tasks, or create projects. Many of the tools in this Toolbox support collaborative learning online and in person.
- **Digital Literacy:** The ability to effectively and critically navigate, evaluate, and create information using a range of digital technologies. Essential for both educators and students engaging with digital tools in fashion education.
- **Digital Prototyping:** The use of digital tools (e.g. 3D modeling) to create and simulate fashion products before physical production. This reduces waste and supports sustainable design practices.
- **EdTech (Educational Technology):** Technology tools and platforms used to enhance teaching, learning, and academic administration. EdTech supports blended, hybrid, and online learning experiences.
- **Environmental Impact:** The effect of a product, process, or activity on the natural environment. In fashion, this includes carbon emissions, water usage, waste production, and pollution.
- **Ethical Design:** A design approach that considers the broader impact of products on people, communities, and the environment. In fashion, this includes fair labor practices, material sourcing, and responsible production.
- **Green Hosting:** Web hosting that uses renewable energy sources or energy-efficient infrastructure to minimize environmental impact. Tools hosted on green servers are considered more sustainable.
- **Hybrid Learning:** A combination of face-to-face and online instruction, allowing flexibility in how and where students engage with learning content.
- **Inclusivity:** The practice of ensuring all individuals—regardless of background, identity, or ability—are welcomed and represented. Inclusive fashion education values diverse voices and experiences.
- **Lifecycle Assessment (LCA):** A method to assess the environmental impacts associated with all stages of a product's life—from raw material extraction through to disposal.
- **Low-Code / No-Code:** Software tools that allow users to create applications or automate workflows with minimal or no programming knowledge. These support accessibility and rapid prototyping.
- **Open Educational Resources (OERs):** Freely accessible, openly licensed educational materials that can be used for teaching, learning, and research. Many digital tools in this Toolbox support the creation or delivery of OERs.
- **Pedagogy:** The method and practice of teaching. Digital tools should support pedagogically sound practices that enhance learning outcomes.
- **Sustainability:** Meeting present needs without compromising the ability of future generations to meet theirs. In fashion education, sustainability encompasses environmental responsibility, ethical production, and circular design.
- **Systemic Thinking:** A holistic approach to understanding the complex interconnections between systems. In sustainable fashion, this involves analyzing supply chains, stakeholder relationships, and ecological impacts.
- **Triple Bottom Line:** A sustainability framework that includes social, environmental, and financial performance indicators—often summarized as People, Planet, Profit.
- **User Experience (UX):** The overall experience a user has with a tool or platform, especially in terms of ease of use, efficiency, and satisfaction.
- **Visual Storytelling:** The practice of using visuals—images, infographics, videos—to communicate messages or ideas. It is a key skill in sustainable fashion marketing and design communication.

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