artistic profession of the future

Trash Designer

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RECOMMENDATIONS

Trash Designer - artistic profession of the future
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INTRODUCTION

Introduction

This brochure of recommendations is intended to serve as a guide to artistic and professional training centers that wish to incorporate the concept of Trash Design in its educational programs. Based on the experience of the European Trash project Designer : Artistic Profession of the Future , collects guidelines, models and good practices that facilitate the integration of this discipline in different academic contexts.

The Trash Design proposes a new approach to waste materials: instead of being considered waste, they become creative resources capable of generating artistic, functional, and socially meaningful objects. This perspective connects with major contemporary challenges: the ecological crisis, the urgent need to promote the circular economy, and the need to train professionals prepared for a sustainable future.

The relevance of this publication lies in its dual usefulness. On the one hand, it constitutes a practical tool for teachers and curriculum leaders seeking to innovate in the teaching of the arts. On the other hand, it provides a strategic framework for institutional leaders and educational policymakers interested in promoting pedagogical models aligned with sustainability and cultural innovation.

The booklet is designed for direct use in art schools, vocational training centers, and cultural institutions, offering recommendations that can be adapted to different educational levels. Each chapter combines conceptual foundations with applied examples, curricular integration models, and strategies for overcoming barriers, facilitating its implementation in diverse contexts.

About the project

Trash Project Designer : Artistic Profession of the Future (2024–2025), developed within the framework of the Erasmus+ programme, has explored the potential of trash Design as a new emerging profession at the intersection of creativity, sustainability, and education. Its purpose has been twofold: first, to define a professional profile capable of transforming waste materials into high-value artistic and functional proposals; and second, to generate methodologies and resources for its integration into artistic and professional education.

The initiative has been promoted by an international consortium composed of:

- Miejska Strefa Kultury (Poland, project coordinator)
- CIAPE – Centro Italiano per l'Apprendimento Permanente (Italy)
- Liceul de Arte “ Constantin” Brăiloiu ” (Romania)
- Ad Hoc Cultural Management SL (Spain)

Over the course of two years, this partnership has implemented international training sessions, thematic seminars, talks in educational centers, and cascading workshops. These activities have allowed for the testing of methodologies, the generation of evidence, and the validation of proposals in dialogue with students, teachers, and professionals from various artistic and creative sectors.

The role of schools and teachers has been central: their active participation has ensured that the recommendations presented here respond to the real needs of education systems. The pilot projects carried out in the four partner countries have allowed us to observe how waste Design can be integrated into different curricular frameworks, overcoming institutional barriers and demonstrating its applicability in both theoretical teaching and artistic practice.

This project confirms that educational innovation requires close collaboration between cultural institutions, educators, and policymakers. Only through these partnerships is it possible to consolidate the Trash. design as a profession with a future and, at the same time, as a pedagogical tool that reinforces ecological awareness and creativity in students.

What is Trash ? Design ?

The Trash Design is a creative and professional practice that transforms waste materials into artistic, functional, and culturally significant objects. Its essence lies in questioning the linear logic of production–consumption–disposal, proposing instead a circular approach that transforms waste into resources. It is an approach that combines aesthetic experimentation with environmental responsibility, situated at the intersection of contemporary art, sustainable design, and the circular economy.

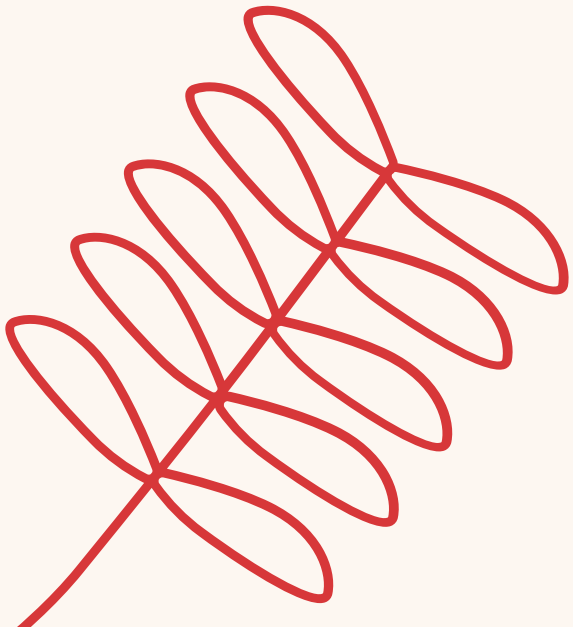
Fundamental principles

The Trash Design is based on a series of principles that define its identity:

- Creativity applied to sustainability: seeing waste not as a problem, but as an opportunity to generate innovative solutions.
- Material transformation: understanding the properties of plastics, textiles, metals, glass, and wood to give them a second life.
- Critical and social dimension: making problems such as consumerism, planned obsolescence, and environmental degradation visible through works and products.
- Interdisciplinarity: integrating artistic, technical and pedagogical knowledge in a single creative process.

Historical evolution

Although the term Trash Design is recent, but the creative reuse of materials has deep roots. In ancient times, Egypt and Rome already used recycled fragments in everyday objects. During the Middle Ages, furniture and metals were commonly reused, and in the 20th century, artists like Picasso and Duchamp incorporated waste into their works, setting a precedent for this practice. Today, in the 21st century, trash Design has established itself as a recognized discipline, with examples all over the world: from urban sculptures to sustainable fashion collections.



Examples in partner countries

The project has identified relevant experiences in the four participating countries, which illustrate the diversity of *Trash Design* :

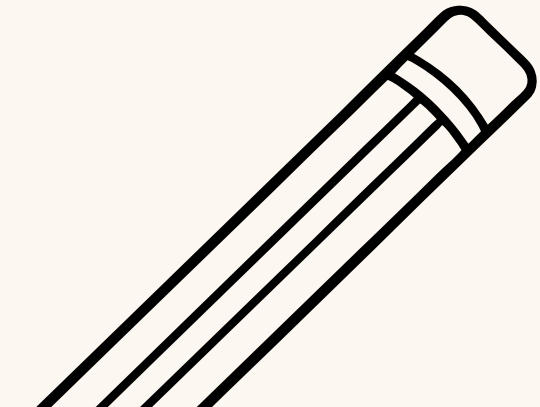
- **Poland:** Initiatives such as *Surindustralle* and *Bechann* show how metal and technological waste can be transformed into sculptures, furniture, and jewelry.
- **Romania:** Projects such as *Reciclat* and *Eco- Fashion and Harmony* have transformed recycled materials into fashion collections and educational events with great social impact.
- **Italy:** Creators such as Laura Buffa and Barbara Annunziata have developed artistic upcycling models linked to urban regeneration and ethical fashion.
- **Spain:** Experiences such as *Una Oca Loca* , *Río y Juego* or the works of Jorge Isla demonstrate the potential of textile, scenic and technological reuse in the artistic field.

Role in contemporary art and sustainable design

Beyond its experimental dimension, *Trash Design* is positioned as a profession of the future. It combines technical and creative skills with a clear focus on sustainability, offering career opportunities in fields such as fashion, interior design, stage design, art education, and materials innovation. Thus, it not only contributes to the preservation of natural resources but also generates new economic and cultural opportunities.

Impact testimonies

The project experience has demonstrated the pedagogical and professional value of Trash Design . In the talks given in Zaragoza, students noted that "I now see trash as a creative resource, not just as waste." In the seminars with professionals, teachers, and artists, they agreed that "the content covered is very useful to incorporate into my classes." These testimonials reinforce the evidence that trash Design not only motivates students, but also inspires educators to transform their practices.



Why Trash Design in professional art schools?

The integration of Trash Design in professional arts education responds to the need to align training with the environmental, cultural, and social challenges of our time. In a context marked by the climate emergency and the growth of the circular economy, it is essential to equip students with skills that combine creativity, ecological awareness, and innovative capacity.

Educational benefits

The Trash Design promotes the comprehensive development of students by:

- Stimulate creativity and innovation by proposing artistic challenges using unusual materials.
- Promote critical thinking by questioning the logic of consumption and generating new visual and cultural narratives.
- Enhance technical skills related to the handling of diverse materials, the use of tools, and the application of recycling and upcycling techniques.
- Develop transversal skills, such as teamwork, problem-solving, and communicating ideas through artistic projects.

Ecological and social impact

The teaching of Trash Design transforms classrooms into sustainability laboratories, where students learn to see waste as a valuable resource. Its benefits include:

- Environmental awareness: Future professionals understand the impact of waste and are trained as agents of change toward a more sustainable society.
- Civic engagement: By linking artistic creation with recycling, social responsibility and respect for the environment are strengthened.
- Community Connection: Many Trash Projects Design involves local groups in creative and awareness-raising processes, reinforcing the social dimension of art.

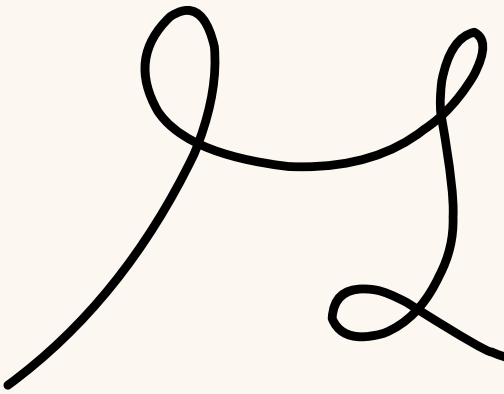
Employability and relevance in the green economy

The Trash Design is an emerging profession with increasing job opportunities in the context of the ecological transition:

- Creative sectors - fashion, interior design, performing arts, and visual arts - are increasingly incorporating the reuse of materials.
- Sustainable cultural and creative industries: the skills acquired will help meet the demand for specialized profiles in innovation and sustainability.
- International opportunities: Participation in European projects and artistic competitions related to recycling and design opens doors to mobility and transnational collaboration.

LESSON SCENARIOS

CLASS 1 – Introduction to Trash Design and Safety in the Workshop



Goals

- Understanding what Trash Design and upcycling are.
- Establishing health and safety rules in the workshop.
- Collecting first ideas and materials.

Theoretical Part

Short introduction:

- the difference between recycling, downcycling and upcycling,
- who a trash designer is – a designer working with waste / reclaimed materials,
- examples of projects (pallet furniture, cable jewelry, bottle lamps).

Discussion:

- what kind of waste students generate on a daily basis,
- which of these materials are most suitable for artistic transformation.

Health & Safety (H&S):

- working with knives, craft knives, hot glue guns, drills, soldering irons,
- rules for sorting and separating waste in the workshop.

Practical Part – Materials

- A3 sheets of paper, markers, sticky notes.
- Sample “waste” items: PET bottles, cardboard boxes, old packaging, newspapers, fabric scraps – for demonstration.

Step-by-Step Activity

1. Brainstorming: students individually write on sticky notes the objects they most often throw away.
2. Grouping: at the board they sort the notes into categories: plastic, paper, textiles, metal, electronics, other.
3. Mini-task: in groups of 3–4 they choose one category and on an A3 sheet draw/sketch:
    - possible products that could be made from this material (at least 5 ideas),
    - potential hazards when working with this material (e.g. sharp edges, dust).
4. Group presentations – each team presents its ideas to the class.
5. Homework: students are asked to bring several clean, safe waste items to the next class (from the list: textiles, paper, plastic, cardboard, small metal elements).

CLASS 1 – Theoretical Section

1. What Is Trash Design? – A New Way of Thinking About Waste

Trash Design is a design approach focused on transforming discarded materials into valuable functional or artistic objects. Instead of seeing waste as something useless, Trash Design encourages students to recognise it as a resource with hidden potential.

This field combines creativity, environmental awareness, craftsmanship, and problem-solving. Its philosophy is based on three key principles:

- Re-use – giving objects a second life with minimal processing.
- Upcycling – transforming waste into something of higher value or improved quality.
- Creative sustainability – designing responsibly with attention to ecological impact.

In Trash Design, the goal is not only to make something visually attractive but also to create meaningful products that challenge the throwaway culture.

2. Recycling, Downcycling, Upcycling — Understanding the Difference

To begin the course, students must clearly understand the terminology:

a) Recycling

- Mechanical or chemical process returning materials to the production cycle.
- Example: paper turned into new paper pulp.
- Often requires energy and industrial processing.

b) Downcycling

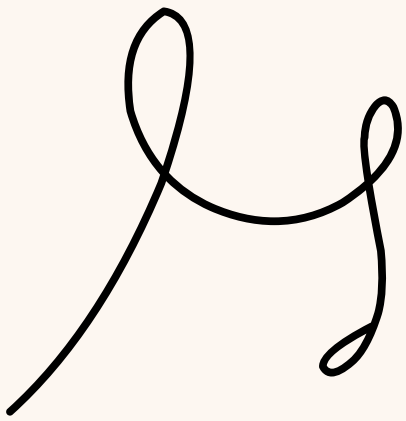
- Recycling that results in lower-quality materials.
- Example: high-grade plastics turned into lower-grade plastic pellets.
- Material loses properties and can be reused fewer times.

c) Upcycling

- Creative transformation of waste into a product of higher value, quality, or usefulness.
- Example: turning a T-shirt into a stylish tote bag; turning a bottle into a lamp.
- Key principle in Trash Design.

These definitions help students understand that Trash Design is not just “crafting with waste,” but a structured design methodology aligned with sustainability.

3. Who Is a Trash Designer? – A Modern Creative Profession



A trash designer is:

- a designer who works primarily with waste materials,
- an eco-conscious creator who values resource efficiency,
- a researcher of material properties,
- an innovator seeking alternative design solutions.

Examples of their work include:

- lamps made from bottles or jars,
- jewelry from old cables and electronic components,
- furniture created from pallets or reclaimed wood,
- fashion accessories made from scrap textiles.

Trash designers play an important role in shaping future sustainable industries, reducing environmental impact, and inspiring new aesthetic trends.

4. Examples of Trash Design Applications

Trash Design spans many creative disciplines. Students are introduced to examples such as:

a) Furniture from pallets or crates

- durable, inexpensive, easy to customise.

b) Jewelry from electronic components

- small, visually striking, often unique due to irregular elements.

c) Lamps from PET bottles or glass jars

- simple construction, beautiful lighting effects.

d) Bags and accessories from old textiles

- useful, strong, and environmentally responsible.

Seeing real examples helps students understand the scope of possibilities and inspires them for their own semester projects.

5. Why Trash Design Matters – Sustainability and Culture

Trash Design carries educational and environmental significance:

- reduces the volume of waste sent to landfills,
- extends the life cycle of existing materials,
- encourages conscious consumption,
- develops creativity through constraints,
- teaches appreciation for craftsmanship and manual skills.

Students learn that design is not only about aesthetics, but also about responsibility, innovation, and social impact.

6. Safety in the Workshop (H&S) – Essential Rules

Before starting practical work, students must learn safe handling of tools and materials.

Key principles include:

a) Tool Safety

- Using scissors and craft knives correctly (cutting away from the body).
- Using hot glue guns safely to avoid burns.
- Handling drills or soldering irons only under supervision.
- Keeping tools clean and in designated places.

b) Workspace Organization

- Keeping tables tidy and free of unnecessary items.
- Maintaining clear pathways around the classroom.
- Wearing gloves when handling sharp or dirty materials.

c) Material Safety

- Avoiding hazardous components (batteries, broken glass, chemicals).
- Properly storing sharp or heavy objects.

d) Waste Sorting in the Classroom

- separating plastics, paper, textiles, and metal scraps,
- keeping a “clean waste box” for creative use.

Respecting safety guidelines ensures that Trash Design activities are enjoyable and secure for everyone.

7. Summary for Students

By the end of the theoretical section, students should understand:

- what Trash Design is and why it is important,
- how upcycling differs from recycling,
- what creative possibilities waste materials offer,
- what safety rules must be followed in the workshop.

This prepares them for the brainstorming and hands-on activities that follow in the practical part of Class 1.

CLASS 2 – Analysis of Waste Materials and Their Potential

Goals

- Identifying the properties of reclaimed materials.
- Assessing which types of waste are suitable for different kinds of reuse.

Theoretical Part

Types of materials:

- textiles (elasticity, ability to sew or dye),
- paper/cardboard,
- plastic (hard/soft plastics),
- metal,
- glass,
- electronics.

Evaluation criteria:

- strength,
- safety (whether it is sharp, brittle, breakable),
- ease of processing (cutting, gluing, sewing, shaping).

Practical Part – Materials

- Waste materials brought by students.
- Protective gloves, scissors, masking tape, markers.
- Sticky labels or adhesive paper for descriptions.

Step-by-Step Activity

1. Spread all materials on the tables and sort them into categories (students help with sorting).
2. Students in small groups choose several items from different categories.
3. For each item they create a short label including:
    - name (e.g. “1.5 L PET bottle”),
    - properties (flexible/rigid, light/heavy),
    - potential use (e.g. lampshade, plant pot, jewelry element).
4. Groups rotate between tables, read the other labels, and add 1–2 new ideas to each.
5. Summary: students collectively choose 3–5 of the most promising waste materials to work with during the semester.

CLASS 2 – Theoretical Section

1. Introduction: Why Material Analysis Matters

Before starting any Trash Design project, it is essential to understand the characteristics of the materials we work with. Different types of waste behave differently during processing, have different environmental impacts, and offer different design possibilities. A well-chosen material can dramatically improve the durability, aesthetics, and functionality of the final product.

This lesson teaches students to look at waste not as garbage, but as valuable raw material with specific properties and creative potential.

2. Categories of Reclaimed Materials

Below is an overview of the most common materials used in Trash Design:

a) Textiles

- Examples: old T-shirts, jeans, curtains, leftover fabric.
- Key properties:
  - flexible or stretchable,
  - can be cut, sewn, dyed, braided,
  - soft and safe for beginners.
- Typical applications:
  - bags, accessories, soft decorations, clothing elements.

b) Paper and Cardboard

- Examples: magazines, packaging cardboard, corrugated cardboard.
- Key properties:
  - lightweight,
  - easy to cut and fold,
  - can be strengthened by layering.
- Typical applications:
  - lampshades, small sculptures, storage boxes, prototypes.

c) Plastic

- Examples: PET bottles, HDPE detergent bottles, food containers.
- Key properties:
  - lightweight, durable,
  - varies in hardness (soft vs rigid plastics),
  - waterproof.
- Typical applications:
  - containers, organizers, lanterns, decorative elements.

d) Metal

- Examples: cans, wire, screws, bottle caps, metal scraps.
- Key properties:
  - strong and durable,
  - requires careful handling due to sharp edges,
  - can be shaped, twisted, drilled.
- Typical applications:
  - jewelry, structural elements, frames.

e) Glass

- Examples: jars, bottles, glass fragments (safe, not sharp).
- Key properties:
  - fragile but elegant,
  - heat and chemical resistant.
- Typical applications:
  - lamps, candle holders, decorative objects.

f) Electronic Waste (E-waste)

- Examples: cables, keyboards, PCB boards, connectors.
- Key properties:
  - small but visually interesting components,
  - can contain hazardous parts (batteries — not used in class),
  - good for jewelry or detail work.
- Typical applications:
  - small sculptures, jewelry, decorative details, mixed-media objects.
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3. Criteria for Evaluating Material Potential

When choosing a material for a project, students should assess it using the following criteria:

a) Strength

- Will the material support weight or pressure?
- Will it maintain shape or collapse?

b) Safety

- Is the material sharp or brittle?
- Could it cause cuts, splinters, or other injuries?

c) Ease of Processing

- Can it be cut with scissors or does it require special tools?
- Can it be glued, sewn, sanded, or shaped?
- How much time and energy does processing require?

d) Aesthetics

- Does the material have an interesting color, texture, or shape?
- Does its “waste origin” add character to the design?

e) Environmental Value

- Does reusing this waste significantly reduce trash (e.g., PET bottles, textile scraps)?
- Can the material be recycled again later?

4. Why Waste Materials Have Creative Potential

Students should realise that materials often have unique properties not found in new resources:

- unusual textures,
- surprising shapes,
- unexpected color combinations,
- marks of previous use that create storytelling value.

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5. Summary for Students

By the end of the theoretical component, students should understand that:

- Each type of waste has specific strengths and limitations.
- Choosing the right material affects the success of the entire project.
- Upcycling is not only ecological, but also fosters creativity and problem-solving.

This knowledge prepares them for hands-on exploration during the practical part of the lesson.

CLASS 3 – Designing in Trash Design: Moodboard and Inspirations

Goals

- Learning the basics of design (form, function, ergonomics).
- Creating moodboards inspired by waste materials.

Theoretical Part

Short introduction:

- form vs function – an object should be both aesthetically pleasing and useful,
- ergonomics – is it comfortable and easy to use or wear?,
- “less waste” principle – design in a way that does not generate new waste.

Inspirations: typical product categories in Trash Design:

- lamps,
- furniture,
- jewelry,
- fashion accessories,
- interior decorations.

Practical Part – Materials

- Newspapers, catalogues, old magazines, printed inspirations.
- A3 sheets of paper, glue, scissors, markers.

Step-by-Step

1. Students choose one product category (e.g. lamp, jewelry, bag).
2. From magazines and printouts they cut out shapes, colors, and textures that they associate with this category.
3. They glue everything onto an A3 sheet, adding their own drawings.
4. At the bottom of the moodboard they write:
    - which types of waste they would like to use,
    - what emotions the product should evoke (e.g. humour, elegance, nostalgia).
5. Short moodboard presentations (2–3 minutes per group).

CLASS 3 – Theoretical Section

1. Why Moodboards Are Essential in the Design Process

A moodboard is a visual collage that helps designers define the direction of their project before creating sketches or prototypes.

It allows students to:

- explore aesthetic possibilities,
- identify the emotional tone of the project,
- collect visual references that inspire the final design,
- communicate ideas clearly to others.

In Trash Design, moodboards play a unique role by helping students connect reclaimed materials with creative potential.

2. Understanding Core Design Principles

Before starting the creative process, students should know the three fundamental principles of product design:

a) Form vs Function

A well-designed object balances appearance and utility.

An object that looks beautiful but cannot be used effectively is not considered successful design.

Examples:

- A lamp made from a bottle must still provide proper light.
- A bag made from textiles must be strong enough to carry weight.

b) Ergonomics

Ergonomics focuses on user comfort and practicality.

Students should ask:

- Is the object comfortable to hold or wear?
- Is it intuitive to use?
- Does the shape support the intended function?

Even in Trash Design, ergonomics is crucial for creating functional, user-friendly objects.

c) The “Less Waste” Principle

A key part of sustainable design is reducing waste at every stage.

Students learn to:

- use existing materials rather than buying new ones,
- avoid unnecessary decorations,
- plan designs efficiently to minimize leftovers,
- use recycled or recyclable elements whenever possible.

This principle ensures that the design process itself remains environmentally conscious.

3. Exploring Inspiration Through Product Categories

To help students generate ideas, the teacher presents inspiration within typical Trash Design categories:

a) Lighting

- lampshades from bottles,
- lanterns made from jars or metal scraps.

b) Furniture
- pallet tables,
- stacked-crate shelves.

c) Jewelry
- earrings from electronic components,
- pendants made out of scrap metal or plastic.

d) Fashion Accessories
- tote bags from T-shirts,
- pouches from denim scraps.

e) Interior Decorations
- wall art from cardboard,
- organizers from containers and packaging.

By exploring these categories, students begin to understand that waste materials can be transformed into a wide range of functional and aesthetic products.

4. The Role of Materials in Concept Development

Students should learn that the choice of waste material directly influences:
- the style,
- the usability,
- the form,
- and the limitations of the design.

Working with waste requires flexibility and imagination.

For example:
- PET plastic suggests transparency or modular forms,
- fabric scraps allow softness and movement,
- metal components suggest structure or jewelry.

5. Using Moodboards to Support Creativity

A strong moodboard typically includes:
- colors and textures connected to the chosen material,
- examples of upcycled designs,
- typographic or emotional keywords,
- shapes or silhouettes that could influence the final product.

Students should think not only about what they want to design, but also why, and what feeling the object should evoke.

For example: elegance, nostalgia, humour, minimalism, futurism.

6. Summary for Students

By the end of the theoretical part of Lesson 3, students should understand:
- what a moodboard is and why it is used in design,
- the difference between form, function, and ergonomics,
- how the “less waste” principle shapes sustainable design,
- how to gather visual inspiration based on product categories,
- how reclaimed materials influence creative decisions.

This prepares them to create their own moodboards in the practical part of the lesson.

CLASS 4 – Individual Project: Sketching and Action Planning

Goals

- Creating an individual Trash Design product concept.
- Learning how to plan and structure the work process.

Theoretical Part

Example of a simple project sheet:

- product name,
- function,
- target user group,
- reclaimed materials to be used,
- steps of execution.

Discussion on the importance of a prototype:

- the first version does not need to be perfect — its purpose is to test the idea.

Practical Part – Materials

- A4/A3 sheets of paper, pencils, fineliners.
- A simple “project sheet” template (photocopy acceptable).

Step-by-Step

1. Students choose one product they would like to design during the semester.
2. On a sheet of paper they create 3 quick sketches of the product from different angles (front, side, perspective).
3. They fill out the project sheet:
    - list specific waste materials needed,
    - indicate the required tools (e.g. needle and thread, drill, hot glue gun).
4. The teacher walks around the room, asks questions, and helps students simplify or refine their concepts.
5. At the end, each student briefly explains (in 1–2 sentences) what they will be doing in the practical sessions over the next weeks.

CLASS 4 – Theoretical Section

1. Purpose of an Individual Project in Trash Design

The individual project is the core element of the semester. It allows each student to:

- develop a full product from idea to prototype,
- explore personal artistic direction,
- apply design principles learned in previous lessons,
- practice independent decision-making and problem-solving.

Working on an individual project mirrors the real design process used by professional designers and makers.

2. The Role of Sketching in the Design Process

Sketching is the first and most important step in turning an abstract idea into a tangible concept.

Students learn that sketches help to:

- quickly explore multiple variations of a design,
- understand proportions and shapes,
- visualize how different materials will interact,
- identify potential construction challenges early,
- communicate ideas clearly to others.

Sketches don't need to be perfect drawings — they must be readable and informative.

Key elements of a good sketch:

- clear outlines,
- notes about materials and dimensions,
- multiple angles (front, side, perspective),
- indications of moving parts or assembly points.

3. Introduction to the Project Sheet (Design Brief)

A project sheet is a simplified version of a professional design brief.

It helps students organize their ideas and think logically about execution.

The project sheet usually includes:

a) Product Name

A name helps define identity and intention — even a working title supports clarity.

b) Function

The purpose of the product:

Is it meant for storage, decoration, lighting, wearing, or daily use?

c) Target User Group

Designers must consider who will use the object:

children, teens, adults, artists, office workers, etc.

d) Reclaimed Materials

Students list the waste materials they intend to use and explain why they choose them.

e) Tools Required

Each material demands specific tools — needles, glue guns, drills, pliers, scissors.

f) Step-by-Step Plan

A structured list of tasks helps students avoid confusion and plan time effectively.

4. The Importance of Prototyping

Prototyping is a fundamental concept in design education.

Students learn that:

- the first prototype is not the final product,
- prototypes exist to test ideas,
- imperfections reveal what needs improvement,
- prototyping encourages experimentation and iteration,
- design evolves through trial, error, and refinement.

Understanding this prevents frustration and builds resilience and creativity.

5. Balancing Ambition and Feasibility

Part of the theoretical discussion includes helping students identify:

- whether their idea is achievable in the given timeframe,
- whether the materials chosen are appropriate,
- which elements might be too complex and need simplification,
- how to adapt the project to available tools and skills.

This teaches students to think realistically while maintaining creativity.

6. Teacher's Role in the Concept Development Phase

The teacher guides students by:

- asking critical questions ("How will this be attached?", "Which part supports the weight?"),
- encouraging simpler or more efficient solutions when needed,
- supporting creative risk-taking,
- helping match materials to design purpose.

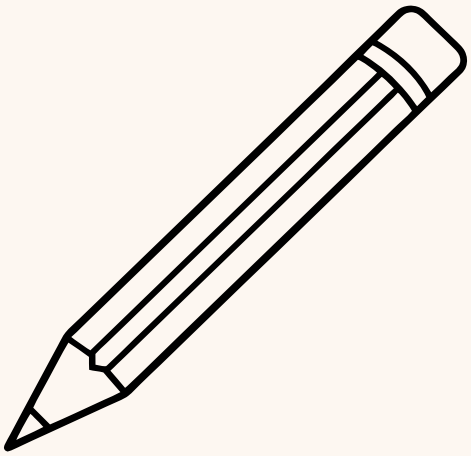
This phase builds design literacy and deepens understanding of material behavior.

7. Summary for Students

At the end of the theoretical part of Lesson 4, students understand:

- how sketching supports idea development,
- how to structure a project sheet like a designer,
- why prototypes are essential in the design process,
- how to plan their work step by step,
- how to choose materials and tools effectively.

This prepares them for the practical work and the multi-week building process that follows.



CLASS 5 – Textiles: Bag / Accessories Made from Reclaimed Clothing

Goals

- Learning basic textile upcycling techniques.
- Practicing simple hand-sewing or machine-sewing skills.

Theoretical Part

- Textiles and the environment (fast fashion, clothing waste).
- Examples of designers who work with old garments (denim, T-shirts, curtains).
- Basic hand stitches (running stitch, backstitch).

Practical Part – Materials

- Old T-shirts, jeans, shirts, curtains, etc.
- Fabric scissors, safety pins.
- Needles, thread, optionally a sewing machine.
- Tailor’s chalk / fabric marking soap.

Step-by-Step (Example: T-shirt bag)

1. The student chooses an old T-shirt.
2. They mark a cutting line just below the armpits – this will form the rectangular body of the bag.
3. They cut off the upper part of the shirt (sleeves and neckline).
4. They close the bottom:
    - simple version: sew the bottom edge straight across (by hand or machine),
    - no-sew version: cut small strips along the bottom edge and tie them into knots (fringe).
5. From the top leftover fabric, they cut two strips to create handles, which are then sewn or tied onto the upper edge of the bag.
6. Optional decorations: adding a pocket made from old denim, attaching patches from fabric scraps.
7. Finally, students test the strength of the bag by placing several books inside.

CLASS 5 – Theoretical Section

1. The Environmental Impact of Textile Waste

Before working with fabrics, students should understand why textile upcycling is so important. The fashion industry is one of the world's most polluting sectors due to:

- rapid production cycles known as fast fashion,
- high water and energy consumption,
- the enormous amount of used clothing ending up in landfills,
- synthetic fibers (like polyester) that take decades or centuries to decompose.

Upcycling textiles is an effective strategy to reduce waste, extend the life cycle of existing materials, and promote more sustainable consumption patterns.

2. Why Textiles Are Ideal for Upcycling

Textiles are one of the most versatile waste materials. Their key advantages include:

- flexibility – they can be bent, folded, twisted, or layered,
- ease of processing – fabrics can be cut, sewn, glued, or woven,
- comfort and softness – suitable for items worn on the body,
- aesthetic potential – colors, patterns, and textures create rich visual effects.

Students quickly discover that one old T-shirt or a piece of denim offers endless possibilities.

3. Examples of Textile Upcycling in Contemporary Design

To inspire students, the teacher may present examples such as:

- designers creating jackets from patchwork denim scraps,
- tote bags made from reclaimed T-shirts,
- accessories created from curtains, tablecloths, or upholstery fabric,
- slow-fashion brands using entirely upcycled textiles.

These examples demonstrate how upcycling can become part of professional fashion and design practice.

4. Understanding Fabric Properties

Different fabrics behave differently. Students should learn:

a) Stretch and elasticity

- T-shirts (cotton jersey) stretch well — ideal for no-sew bags or soft accessories.

b) Thickness and durability

- Denim is strong and long-lasting — excellent for bags, pockets, and reinforced elements.

c) Fraying

- Some fabrics fray easily and require hemming or zigzag stitching.

d) Transparency or looseness

- Curtains or thin fabrics may need lining or reinforcement.

e) Comfort and texture

- Soft materials can be used for items worn directly on the body.

Knowing how textiles behave makes the construction process easier and more predictable.

5. Basic Sewing Techniques

Students should be introduced to essential techniques:

a) Running stitch (fastryga)

A simple and quick stitch used for temporary or decorative seams.

b) Backstitch (stebnowy)

A strong, durable stitch suitable for seams that will carry weight (e.g., bag bottoms, handles).

c) Reinforcement techniques

- folding edges,
- double stitching,
- adding fabric layers for strength.

Sewing skills are crucial in many Trash Design projects.

6. Safety and Proper Use of Tools

Working with textiles requires the safe use of basic tools:

- fabric scissors should only be used for cutting textiles (not paper),
- needles and pins should be handled carefully and stored safely,
- sewing machines should be used under supervision,
- tailor's chalk helps mark fabric without damaging it.

Students learn good workshop habits that improve the quality of their work.

7. Benefits of Textile Upcycling in Design Education

This lesson also highlights the educational value:

- encourages creativity within constraints,
- practices manual dexterity,
- develops appreciation for craftsmanship,
- teaches the value of repairing and reusing rather than discarding.

Students begin to see clothing as material rather than waste.

8. Summary for Students

After the theoretical part of Lesson 5, students should understand:

- the environmental reasons for textile upcycling,
- the properties of various fabrics,
- the possibilities and limitations of sewing,
- how textile waste can be transformed into useful and aesthetic objects.

This prepares them for the hands-on creation of upcycled bags or accessories in the practical session.

CLASS 6 – Plastic: Containers, Organizers, and Lanterns Made from PET Bottles

Goals

- Learning safe methods of plastic processing.
- Creating a functional item (e.g., a desk organizer).

Theoretical Part

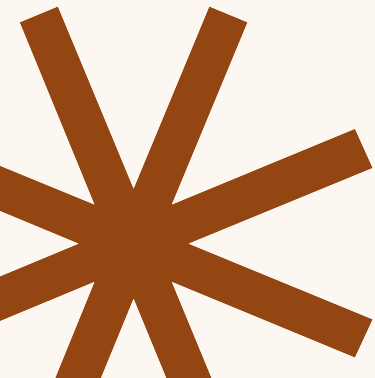
- Types of plastics (short introduction, PET, HDPE, etc.).
- How to cut plastic without creating sharp, dangerous edges.
- Limitations – plastic must not be heated or melted in the school workshop (fumes!).

Practical Part – Materials

- Clean PET bottles of various sizes.
- Scissors, craft knives, fine-grit sandpaper, hole punchers.
- Twine, string, washi tape, permanent markers.

Step-by-Step (Organizer / Lantern)

1. Choose a bottle – e.g., 1.5 L or 2 L.
2. Mark a cutting line on the bottle (e.g., one-third of the height from the bottom).
3. Carefully cut off the top part of the bottle (using scissors or a craft knife).
4. Smooth all edges using fine sandpaper.
5. For a lantern: create decorative holes (using a hole punch or small awl – under supervision).
6. Paint or decorate the plastic using washi tape or permanent markers.
7. Add a handle made of string (threaded through holes at the top) – the lantern/organizer can be hung.
8. Test: students place a LED candle inside (never a real flame!).



CLASS 6 – Theoretical Section

1. Why Plastic Upcycling Matters

Plastic waste is one of the most serious environmental challenges of our time.

Students should learn that:

- plastic production has grown rapidly in recent decades,
- many types of plastic take hundreds of years to decompose,
- single-use plastics contribute heavily to pollution on land and in oceans,
- reusing and creatively transforming plastic reduces environmental impact and waste volume.

Upcycling plastic into functional objects helps students see everyday waste as a valuable resource rather than garbage.

2. Types of Plastics Used in Trash Design

To work safely and effectively, students must understand basic plastic categories.

The most common types include:

a) PET (Polyethylene Terephthalate)

- used in beverage bottles,
- lightweight, transparent, easy to cut,
- ideal for lanterns, organizers, decorations.

b) HDPE (High-Density Polyethylene)

- used in detergent and shampoo bottles,
- strong, durable, slightly flexible.

c) LDPE (Low-Density Polyethylene)

- used in soft plastics like bags and wraps,
- not ideal for structural projects.

d) PP (Polypropylene)

- used in food containers, caps, sturdy packaging,
- resistant to cracking.

Students should learn to check recycling symbols to identify material type.

3. Properties of Plastic Relevant to Design

Plastic has several unique properties:

- lightweight – easy to transport and handle,
- waterproof – suitable for containers and outdoor décor,
- flexible or rigid depending on the type,
- easy to cut but edges may become sharp,
- smooth surface ideal for painting or decorating.

Understanding these characteristics helps students select appropriate designs and tools.

4. Safety Rules for Working with Plastic

Safety is essential in every Trash Design workshop. Students must understand:

a) Cutting Safety

- Use scissors or craft knives carefully, cutting away from the body.
- Plastic can crack unexpectedly, so cutting must be slow and controlled.

b) Edge Finishing

- After cutting, plastic edges may be sharp — they must be smoothed with sandpaper.

c) No Heating or Melting

- Plastic fumes are dangerous.
- Heating, melting, or burning plastic is strictly prohibited in the school workshop.

d) Tool Safety

- Hole punchers and sharp awls must be used only under supervision.
- Protect the table surface and keep tools organized.

5. Creative Design Possibilities with Bottles and Containers

PET bottles offer surprising versatility. Students should explore how bottles can be transformed into:

a) Functional Objects

- organizers for pens and brushes,
- storage containers,
- small baskets or cups.

b) Lighting Elements

- lanterns with decorative perforations,
- colorful lampshades.

c) Decorative Objects

- plant pots,
- hanging ornaments,
- sculptural forms.

By learning to see beyond the original shape of a bottle, students develop creative flexibility.

6. Principles of Designing with Plastic

Students should also understand the design principles specific to plastic upcycling:

a) Modularity

Plastic elements can be combined to create larger structures.

b) Transparency

PET can be used to showcase light or color.

c) Surface Decoration

Plastic accepts paint, markers, and tape well.

d) Lightweight Construction

Plastic is not suitable for heavy loads, so support structures must be considered.

7. Benefits of Plastic Upcycling in Design Education

- fosters creativity and experimentation,
- teaches responsible use of materials,
- builds manual skills,
- encourages problem-solving,
- demonstrates the visual potential of everyday waste.

Students learn to appreciate plastic as a design material rather than a disposable one.

8. Summary for Students

After the theoretical part of Lesson 6, students should know:

- the main types of plastics and how to recognize them,
- the key properties and limitations of plastic as a design material,
- safety rules for cutting, sanding, and handling plastic,
- creative possibilities of PET bottles in making organizers and lanterns,
- the environmental value of repurposing plastic waste.

This knowledge prepares them for the practical creation of organizers or lanterns in the second part of the lesson.

CLASS 7 – Paper and Cardboard: Modules, Lamps, and 3D Objects

Goals

- Understanding the structural possibilities of paper and cardboard.
- Creating a modular object (e.g., a lampshade or small sculpture).

Theoretical Part

- Paper and stability: folding techniques, layering, reinforcement methods.
- Examples of cardboard lamps and cardboard furniture.

Practical Part – Materials

- Shipping boxes, thicker paper, corrugated cardboard.
- Box cutters, metal rulers, cutting mats.
- Hot glue (under supervision), white glue (PVA).
- Paper clips / small clamps for holding pieces together while drying.

Step-by-Step (Simple Cardboard Lampshade)

1. Determine the dimensions of the lampshade (e.g., a cylinder or rectangular shape).
2. Cut a suitably sized rectangle from cardboard (circumference + overlap).
3. Design a pattern of cut-out holes (appropriate for the lamp — not too many, so the structure remains stable).
4. Cut out the holes with a craft knife, using a ruler and cutting mat.
5. Fold the cardboard along the planned edges (cylinder – bend into a round shape; rectangular – fold along 4 edges).
6. Glue the sides together and secure with clips until dry.
7. Test: place the lampshade over an LED light source (no heat-producing bulbs!).

CLASS 7 – Theoretical Section

1. Why Paper and Cardboard Are Important Design Materials

Paper and cardboard are often underestimated because they appear fragile.

In reality, they are:

- lightweight,
- easy to cut and shape,
- inexpensive or free (as recycled waste),
- surprisingly strong when folded or layered,
- highly versatile for modular or sculptural design.

In Trash Design, paper and cardboard allow students to explore form, structure, geometry, and volume without the need for complex tools or expensive materials.

2. Structural Principles of Paper-Based Design

Students must understand how stability is created when working with paper or cardboard.

a) Folding Techniques

Folding changes the rigidity of paper:

- A flat sheet is weak,
- A folded sheet becomes much stronger.

Examples:

- fan folds, accordion folds, triangular folds.

Folding adds stiffness and helps create 3D shapes.

b) Layering (Lamination)

Layering multiple sheets increases thickness and structural integrity.

This method is commonly used in cardboard furniture.

c) Reinforcement

Edges, joints, and corners can be reinforced by:

- adding strips of cardboard, doubling material, using internal supports, creating tabs and interlocking pieces.

These principles transform simple cardboard into a load-bearing structure.

3. Understanding Types of Paper and Cardboard

Students should learn the differences between:

a) Thin Paper

- easy to bend, fold, and cut
- suitable for modules, decorative patterns, lanterns

b) Thick Paper (Bristol, construction paper)

- more durable, ideal for geometric shapes

c) Corrugated Cardboard

- extremely strong due to its internal wave structure
- perfect for lampshades, boxes, and furniture

d) Cardboard Tubes

- resistant to bending, great for vertical structures and supporting columns

Knowing which type to use is essential for successful construction.

4. Applications of Paper and Cardboard in Contemporary Design

To inspire students, teachers can show examples of:

a) Cardboard Lamps

- geometric lampshades,
- perforated light sculptures,
- layered cardboard lights that create unique shadows.

b) Cardboard Furniture

- stools and small tables, shelves, modular seating systems.

Designers such as Frank Gehry have demonstrated that cardboard can be durable, artistic, and highly functional.

5. Working Safely with Paper and Cardboard

Safety rules must be followed, especially when using cutting tools:

- always cut on a cutting mat,
- cut away from the body,
- use sharp blades to avoid slipping,

6. Principles of Designing Lampshades and Spatial Objects

When creating 3D cardboard objects, students should consider:

a) Geometry

Cylinders, prisms, and spheres can be created by folding or bending sheets.

b) Light Interaction

Cardboard can filter, shape, or block light, making it ideal for lamps.

c) Ventilation & Heat Safety

Only LED light sources should be used, as cardboard can burn if exposed to heat.

d) Balance & Stability

A lampshade must remain stable and not tip over; internal supports may be needed.

e) Aesthetics

Cut-out patterns, laser-cut designs (in professional studios), and modular forms allow for decorative and functional beauty.

7. Design Thinking with Paper Waste

This lesson teaches students to:

- see paper as a resource rather than trash, transform flat surfaces into volumetric shapes,
- experiment with texture, shadow, and light,
- understand how simple techniques create strong structures.

Paper-based design is an excellent introduction to architectural thinking, structural engineering, and sculpture.

8. Summary for Students

After the theoretical section of Lesson 7, students should understand:

- the structural possibilities of paper and cardboard,
- how folding, layering, and reinforcement create strength,
- which types of cardboard are suited for different projects,
- how paper-based objects such as lampshades are designed,

This prepares them for the practical creation of a modular lampshade or 3D object in the workshop.

CLASS 8 – Metal and Small Electronics: Jewelry / Small Objects

Goals

- Working safely with small metal components, cables, and electronic parts.
- Creating a simple piece of jewelry or a small decorative object.

Theoretical Part

- A brief introduction to electronic waste (e-waste) and its environmental impact.
- How to dismantle old devices (under supervision; for class purposes it is better to bring already dismantled components).
- Techniques for connecting materials: twisting wires, using jump rings and metal connectors.

Practical Part – Materials

- Reclaimed components: keyboard keys, old cables, screws, washers, PCB boards (without batteries).
- Wire cutters, small pliers, needle-nose pliers.
- Jewelry-making bases: earring hooks, clasps, chains (can also be reclaimed).
- Optional: two-part epoxy glue or hot glue.

Step-by-Step (Example: Pendant made from electronic parts)

1. Students select several small components (a piece of PCB, screws, keys, etc.).
2. They arrange the pieces on the table to find an interesting composition (symmetrical or asymmetrical).
3. They decide whether the elements will be connected:
    - mechanically (wire, jump rings), or
    - with glue.
4. They assemble the selected elements into a single object (e.g., a PCB base with small pieces attached).
5. They add a loop / jump ring so the pendant can hang on a chain or cord.
6. They check if anything is sharp or catching — edges may need filing or securing with glue.
7. They present the finished pieces on cards labeled with their names.

CLASS 8 – Theoretical Section

1. Understanding Electronic Waste (E-Waste) and Its Environmental Impact
E-waste is one of the fastest-growing waste streams in the world.
Students should learn that:

- electronic devices contain metals, plastics, and chemicals that can be harmful to the environment,
- many components are valuable and reusable (copper wires, screws, connectors, PCB fragments),
- batteries and certain components must never be handled in class due to toxicity,
- upcycling small electronic parts reduces waste and inspires innovation.

This awareness encourages responsible consumption and creative reuse.

2. Why Metal and Electronic Components Are Valuable in Trash Design
Metal and electronic pieces are excellent materials for creative projects because they offer:

- unique textures and shapes,
- strong visual identity (industrial, futuristic, cyberpunk),
- durability,
- modularity (parts can be connected, layered, bent),
- small scale, making them ideal for jewelry or tiny sculptures.

Students quickly discover that components like resistors, keyboard keys, screws, and PCB pieces have striking aesthetic potential.

3. Safe Dismantling of Old Devices
Before working with electronic components, safety rules must be clear:

- devices should be dismantled before class or under strict supervision,
- batteries, capacitors, and anything containing chemicals must be removed and discarded safely,
- only harmless parts such as wires, screws, connectors, and PCB fragments are allowed,
- tools such as screwdrivers and pliers must be used carefully.

Safety in this lesson is essential, as even small metal components can be sharp.

4. Material Properties Relevant to Design
a) Metal Components

- strong and durable,
- can be bent, twisted, or drilled,
- may have sharp edges that need filing.

b) Plastic or Rubber-Coated Wires

- flexible and colorful,
- useful for wrapping, twisting, or creating loops.

c) PCB (Printed Circuit Board) Pieces

- visually striking with green, blue, or black surfaces and metallic details,
- can serve as a base for jewelry or small sculptures.

Understanding what each component can and cannot do helps students plan their designs effectively.

5. Techniques for Connecting Metal and Electronic Elements

Students learn the main methods used in upcycled jewelry making:

a) Mechanical Connections

- jump rings for attaching parts, wire twisting to hold elements together, pliers for bending or securing pieces.

Mechanical methods are strong, reversible, and safe.

b) Adhesive Connections

- two-part epoxy glue for permanent joints,
- hot glue for lightweight components (used carefully and under supervision).

Adhesive techniques allow attaching irregular pieces that cannot be wired.

6. Design Principles for Jewelry and Small Objects

When designing with metal and e-waste, students should consider:

a) Composition

- balance between symmetry and asymmetry, layering small elements to create depth.

b) Weight

- jewelry must not be too heavy; choose lightweight components.

c) Wearability and Safety

- nothing should scratch the skin or catch on clothing,
- edges must be smooth or sealed.

d) Aesthetics

- choosing colors and textures that complement each other,
- highlighting the “tech” or “industrial” style intentionally.

7. Examples of E-Waste Design in the Real World

Contemporary designers and eco-artists create:

- earrings from capacitors,
- rings or pendants from motherboard pieces,
- sculptures from wires and screws,
- mixed-media artworks combining metal, resin, and electronics.

These examples show students that tiny discarded objects can become meaningful artistic statements.

8. Learning Value for Students

This part of the course teaches:

- fine motor skills, precision and patience, creative problem-solving at a small scale, appreciation of industrial materials, responsible disposal and reuse of electronics.

Students also learn to see technology not as clutter but as raw material for creative expression.

9. Summary for Students

At the end of the theoretical section of Lesson 8, students should understand:

- what e-waste is and why it is harmful to the environment,
- which electronic components are safe to use in the classroom,
- the properties of metal and small electronic parts,
- how to connect components mechanically or with adhesives,
- the design considerations behind making safe and aesthetic jewelry or small objects.

CLASS 9 – Upcycling Furniture / Larger Objects (Team Project)

Goals

- Designing at a larger scale.
- Working as a team on a single object (e.g., a table, chair, or stool).

Theoretical Part

- Examples of furniture made from pallets, fruit crates, or old chairs.
- Discussion of construction principles: stability, durability, and user safety.

Practical Part – Materials

- Old chair, stool, fruit crates, or pallets (1–2 pieces).
- Sandpaper, acrylic paints, brushes.
- Drill, screws, screwdrivers (under supervision).
- Gloves, protective foil for covering tables/floor.

Step-by-Step (Example: Upcycling a Chair)

1. Divide the class into 2–3 teams; each team receives one piece of furniture.
2. They assess the condition of the object: what needs repair, whether it is stable.
3. Remove unnecessary or damaged parts (under supervision).
4. Sand the surface using sandpaper.
5. Design the new look (a quick color sketch).
6. Paint using acrylic paints (first coat; optionally add decorative patterns).
7. At this stage, the process may require two class sessions (continue during Lesson 10 if needed).

CLASS 9 – Theoretical Section

1. Why Furniture Upcycling Is Important

Upcycling furniture teaches students to think at a larger scale and understand the design challenges that come with bigger structures.

This lesson demonstrates that:

- large items do not need to be thrown away — they can be repaired, redesigned, and reused,
- transforming old furniture reduces waste significantly,
- students can learn real-world skills that apply to interior design, carpentry, and restoration.

Furniture upcycling is also an opportunity for students to work collaboratively and develop team-based problem-solving.

2. Understanding Common Sources of Reclaimed Furniture

Students learn that many objects can be repurposed:

- pallets – often used to build tables, shelves, or benches,
- old chairs and stools – can be repaired, repainted, or structurally modified,
- fruit crates – lightweight and perfect for storage furniture,
- small cabinets, drawers, or bedside tables – ideal for redesign and decoration.

These materials are widely available and provide a strong foundation for creative redesign.

3. Structural Principles: Stability and Safety

When working with larger objects, structural safety is essential. Students must understand key principles:

a) Stability

- The piece must stand evenly without wobbling.
- Legs, joints, and connections need to support weight.
- Weak points (e.g., loose screws, cracked wood) must be identified and reinforced.

b) Load-Bearing Function

- Chairs and stools must support the weight of a person.
- Shelves and boxes must safely hold objects.
- Overloading or poor construction can lead to accidents.

c) User Safety

- All surfaces should be smooth (no splinters, rough edges).
- Paint and finishes must be non-toxic.
- Screws or nails should not protrude.
- The structure must be assembled securely.

Understanding these principles helps students approach design with responsibility and professionalism.

4. Techniques for Preparing Furniture for Upcycling

Before redesigning, furniture must be properly prepared. Students learn:

a) Cleaning and Inspection

- Check for broken, unstable, or rusted parts.
- Look for cracks, loose joints, or missing screws.

b) Removing Damaged Parts

- Old seats, broken backrests, or loose boards may need to be removed.
- Tools like pliers, screwdrivers, or small pry bars may be used (under supervision).

c) Sanding

- Sandpaper removes old paint, rough surfaces, or splinters.
- Creates a clean surface for painting.
- Helps new layers of paint adhere better.

d) Reinforcing Structure

- Tightening screws, adding support brackets, or replacing worn components ensures longevity.

5. Design Principles in Furniture Upcycling

Students must think both visually and functionally:

a) Color Design

- Choosing color palettes that enhance the form.
- Using bold patterns, gradients, or minimalist finishes.

b) Form Transformation

- Changing the shape or layout:
  - adding shelves to a crate,
  - modifying the height of a stool,
  - attaching wheels to a pallet.

c) Material Combination

- Mixing wood, metal, and textile for stronger aesthetic impact.
- Using cushions, fabrics, or stencils to add personality.

d) Purpose Redesign

- Turning a chair into a plant stand,
- A crate into a bedside table,
- A pallet into a coffee table.

Students learn that creativity is not limited by the original purpose of the object.

6. Teamwork and Collaboration in Large-Scale Design

Working with large objects requires effective teamwork:

- dividing roles (designer, sander, painter, assembler),
- communicating ideas and agreeing on a shared concept,
- problem-solving when unexpected issues appear,
- managing time and responsibilities.

Teamwork mirrors real professional design environments, preparing students for collaborative creative work.

7. Environmental and Social Value of Furniture Upcycling

This lesson reinforces sustainability principles:

- saving resources by extending furniture lifespan,
- reducing waste by repairing rather than discarding,
- promoting conscious consumption,
- building pride in restoring and transforming old items.

Students gain awareness of how design choices impact communities and the environment.

8. Summary for Students

After the theoretical part of Lesson 9, students should understand:

- examples and possibilities of furniture upcycling,
- the structural principles behind stability and safety,
- how to prepare and repair reclaimed furniture,
- how to plan color and form redesign,
- how to work together efficiently on a large-scale project.

This knowledge prepares them for the hands-on stage in which they transform old furniture into functional, creative, and sustainable pieces.

CLASS 10 – Refining Semester Projects (Workshop Time)

Goals

- Continuing work on previously started prototypes.
- Solving technical and construction problems.

Theoretical Part

A brief discussion of common issues:

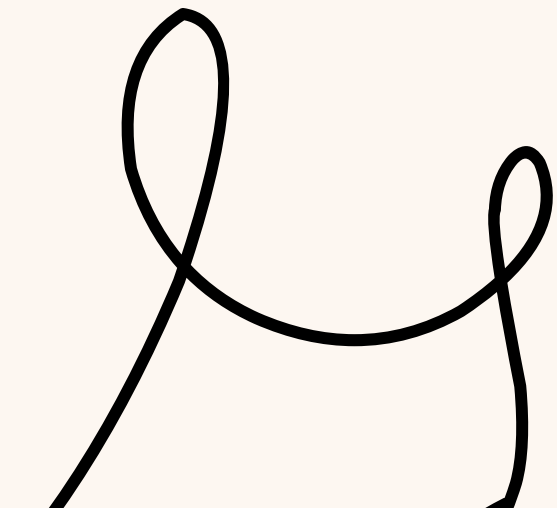
- “The product is falling apart.”
- “It doesn’t look like the sketch.”
- “The material is harder to work with than I expected.”

Practical Part – Materials

- All previously used materials and tools (depending on each student’s project).

Step-by-Step

1. Each student creates a list of missing elements and tasks that need improvement.
2. The teacher makes a short round of consultations — one-on-one or in small groups.
3. Students:
    - reinforce the structure (additional joints and connections),
    - improve aesthetics (sanding, painting, decorating),
    - test functionality (e.g., checking if a bag tears or if a stool is stable).
4. At the end of class, each student writes down what still needs to be completed before the final presentation.



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C**LASS 10 – Theoretical Section**

1. The Purpose of the Refinement Stage
By Lesson 10, students have produced the first versions of their prototypes.
This phase introduces an essential part of the design process: iteration.
Students learn that:

- great products rarely emerge perfectly from the first attempt,
- refinement is where design becomes functional, stable, and aesthetically coherent,
- problem-solving is a core skill for every designer,
- identifying flaws is not failure—it is crucial feedback for improvement.

This mindset helps students develop resilience, adaptability, and critical thinking.

2. Understanding Common Design Problems
Every project—professional or student-made—encounters obstacles.
The teacher presents the most typical issues:
a) Structural Problems (“The product is falling apart.”)
This usually results from:

- weak joints,
- unsuitable materials,
- incorrect proportions,
- insufficient reinforcement.

Students learn to examine the structure systematically and identify weak points.
b) Aesthetic Problems (“It doesn’t look like the sketch.”)
Mismatch between concept and prototype may be caused by:

- unexpected material behavior,
- inaccurate measurements,
- changes during construction,
- new ideas emerging spontaneously.

Students learn that design is a flexible process—sketches guide the idea, but adaptation is part of creativity.
c) Material Challenges (“The material is harder to work with than I thought.”)
Some materials resist cutting, bending, gluing, or sewing.
Students practice analyzing:

- the limits of chosen materials,
- alternative techniques,
- replacing or adapting parts of the design.

Understanding material behavior is a crucial design skill.

3. Technical Problem-Solving Strategies
During the theoretical discussion, students explore problem-solving techniques:
a) Strengthening Joints

- adding screws, wire, stitching, glue, or reinforcement strips,
- using double layers of material,
- adjusting weight distribution.

b) Improving Aesthetics

- sanding rough edges,
- repainting uneven surfaces,
- adding finishing details,
- simplifying cluttered design elements.

c) Functional Testing

- checking stability, comfort, or load-bearing capacity,
- ensuring moving parts operate smoothly,
- considering user experience and ergonomics.

These strategies teach students to evaluate their work both visually and functionally.

4. The Role of Critical Reflection

Students learn to reflect on their own work by asking:

- What works well?
- What feels unstable?
- Which part looks awkward or unfinished?
- What can be improved with minimal effort?
- What must be redesigned entirely?

Reflection helps students become more conscious and independent designers.

5. The Teacher's Role in the Refinement Phase

In Lesson 10, the teacher acts as facilitator and consultant:

- giving targeted feedback,
- helping diagnose weaknesses,
- suggesting alternative materials or techniques,
- encouraging risk-taking balanced with safety and function,
- offering small demonstrations for students who encounter repeated issues.

This stage often requires individualized guidance, as each project is unique.

6. Importance of Documentation

Students should document their refinement process by:

- taking notes,
- keeping track of changes,
- updating sketches when necessary,
- writing down remaining tasks for future sessions.

Documentation helps them prepare for the final presentation and exhibition.

7. Growth Mindset in Design

Lesson 10 reinforces an important educational philosophy:

- mistakes are information,
- revisions are normal,
- design evolves through experimentation,
- improvement is part of the creative journey.

Students learn that successful designers embrace the refinement stage as an opportunity rather than an obstacle.

8. Summary for Students

After the theoretical part of Lesson 10, students should understand:

- why refinement and iteration are crucial in design,
- how to identify and diagnose common construction problems,
- how to strengthen structures and improve aesthetics,
- how to test and evaluate functionality,
- how to adapt their design plan based on challenges encountered.

With this knowledge, students are prepared to continue building, correcting, and enhancing their prototypes during the practical workshop.

CLASS 11 – Branding and Product Photography

Goals

- Learning how to present Trash Design as a professional product.
- Taking simple product photographs.

Theoretical Part

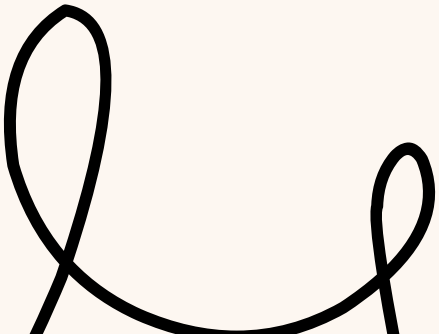
- What branding is: name, logo, visual identity and atmosphere.
- Basics of product photography:
  - background (light, neutral, uniform),
  - lighting,
  - showing both detail and the full object.

Practical Part – Materials

- Students' finished or nearly finished products.
- Neutral-colored fabric or cardboard as a background.
- A phone with a camera (1–2 per group).
- A4 sheets of paper, pens.

Step-by-Step

1. Each student gives their product a name (e.g., "Neon PET Lamp," "Eco-Bag 2.0").
2. In groups of 2–3, students prepare the background on a table or floor.
3. They position the product in several ways and take 3–5 photos:
   - full product shot,
   - detail shot,
   - "in-use" shot (someone holding, wearing, or using the item).
4. On an A4 sheet, they write a short description:
   - product name,
   - materials used,
   - purpose,
   - which waste materials were "saved."
5. At the end: mini-gallery on a projector or screen (if photo display is possible).



CLASS 11 – Theoretical Section

1. Why Branding Matters in Trash Design

Branding is more than a logo or a name—it is the identity of a product.

Students should understand that even an upcycled object gains value when it is presented professionally.

Branding helps:

- communicate the story behind the product,
- show its uniqueness,
- highlight sustainability,
- create emotional connection with the audience,
- make the product more memorable and recognizable.

In the world of sustainable design, a strong brand can inspire people to appreciate recycled and upcycled objects as high-quality items rather than “crafted from waste.”

2. Key Elements of Branding

Students learn that branding includes:

a) Product Name

A name can be descriptive (“PET Lantern”), conceptual (“Urban Echo Light”), or playful (“Eco-Bag 2.0”).

b) Visual Identity

This refers to the style of the product’s presentation, including:

- color palette,
- typography (fonts),
- visual tone (minimalist, futuristic, rustic, etc.).

Trash Design products often highlight their eco-friendly origins through natural or recycled visual themes.

c) Storytelling

A sustainable product becomes more powerful when paired with a story:

- What waste materials were saved?
- What problem does the product solve?
- Why is this design meaningful?

Storytelling adds depth and emotional resonance.

3. Introduction to Product Photography

Product photography is essential for showing a design clearly and attractively.

Even simple photos taken with a phone can look professional with the right setup.

Students learn the fundamentals:

a) Background

- Should be clean, uncluttered, and neutral (white, beige, grey).
- Helps the product stand out.

b) Lighting

- Soft, even lighting is best.
- Avoid harsh shadows or bright reflections.
- Natural light from a window often works very well.

c) Composition

Photos should show:

- the full product (front or angled view),
- at least one detail shot (texture, connection, structure),
- a functional shot (“in use”).

These images communicate not only appearance but also scale, material, and purpose.

d) Stability and Focus

- Keep the camera steady,
- use focus on the main element,
- ensure sharpness and clarity.

A well-taken photograph shows respect for the designer’s work.

4. What Makes a Good Product Description

Along with photos, designers must be able to describe their product.

Students learn to write short, clear descriptions including:

- the name of the product,
- materials used (especially the reclaimed ones),
- its main function,
- the environmental benefit (“made from 3 PET bottles,” “rescued old denim scrap”).

This form of written branding is useful for exhibitions, online portfolios, or competitions.

5. How Branding Increases the Value of Upcycled Products

Students discuss how branding:

- reframes upcycled objects as designed products,
- attracts attention in a gallery or classroom exhibition,
- helps explain the sustainability message,
- makes the project more professional and complete.

Branding is not decoration—it is communication.

6. Encouraging Students to Think Like Designers

Through this lesson, students begin to:

- view their prototype as a real product,
- consider how others will perceive it,
- refine the presentation,
- develop confidence in showing their work publicly.

This shift in thinking is crucial for the final exhibition in Lessons 13–14.

7. Summary for Students

After the theoretical section of Lesson 11, students should understand:

- what branding is and why it matters,
- the components of a strong brand identity (name, visual tone, story),
- the basics of product photography (background, lighting, composition),
- how to present Trash Design projects in a professional and engaging way.

This knowledge prepares them for the practical task of photographing their upcycled products and creating short descriptive labels.

CLASS 12 – Project Presentations

Goals

- Practicing presentation skills.
- Receiving feedback from the group.

Theoretical Part

A short “presentation guide”:

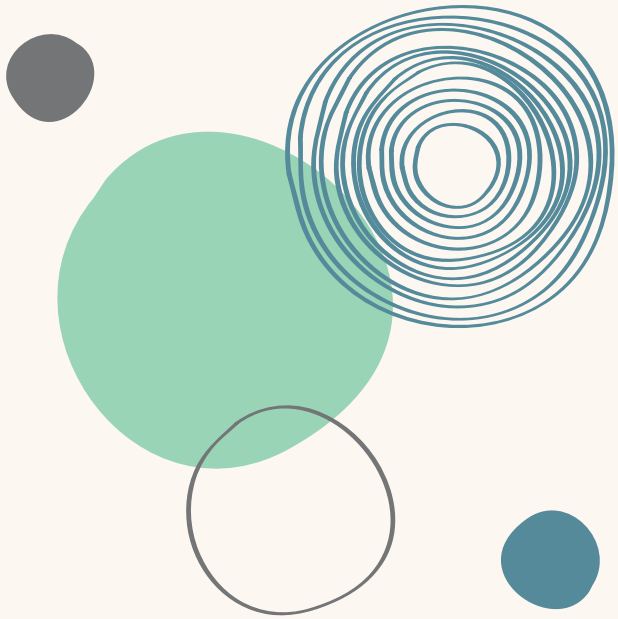
- say what you created,
- explain why you designed it this way,
- describe which waste materials you used,
- say what you would improve in your next project.

Practical Part – Materials

- Finished products.
- Notes from previous lessons (product description, project sheet).

Step-by-Step

1. Establish the order of presentations.
2. Each student has 3–5 minutes to:
   - show their product,
   - present it according to the “presentation guide.”
3. After each student, classmates give 1–2 short comments + the teacher gives one sentence of feedback.
4. If the class is large, presentations may continue in Lesson 13.



CLASS 12 – Theoretical Section

1. Why Presentation Skills Matter in Design Education

Being able to present a project clearly and confidently is an essential skill for every designer. Students learn that presentations are not only about showing the final product—but also about:

- explaining the design process,
- communicating creative decisions,
- demonstrating understanding of materials,
- reflecting on successes and challenges,
- receiving constructive feedback.

These skills prepare students for exhibitions, interviews, competitions, and future teamwork.

2. Structure of an Effective Design Presentation

To support clarity and confidence, students follow a simple structure:

a) What you created

Describe the object:

- name,
- type of product,
- its function,
- intended user.

b) Why you designed it that way

Explain the idea behind the object:

- inspiration or problem you wanted to solve,
- reasons for choosing specific forms or shapes.

c) Which waste materials you used

Highlight the sustainability aspect:

- types of reclaimed materials,
- why they were chosen,
- how they influenced the final design.

d) What you would improve next time

Reflection demonstrates growth:

- what was difficult,
- what you would change or redesign,
- ideas for future versions.

This structure helps students speak confidently and stay focused.

3. Principles of Clear and Engaging Presentation

Students discuss how to make their presentation more effective:

a) Speak clearly and slowly

Avoid rushing and make sure the audience can follow.

b) Maintain eye contact

Shows confidence and connection with listeners.

c) Use gestures or point to elements

Helps the audience understand what part of the product is being discussed.

d) Stay within the time limit
Practicing concise communication is an important design skill.
e) Emphasize the “story” behind the project
People connect with stories, especially about sustainability and creative reuse.

4. Understanding Constructive Feedback
Feedback is an essential part of the design process. Students learn the difference between:
a) Constructive Feedback
Specific, helpful, focused on improvement.
Examples:
- “The shape is strong, but the handle could be reinforced.”
- “Great idea—maybe the pattern could be more visible.”

b) Unhelpful Feedback
Vague or overly negative.
Examples:
- “I don’t like it.”
- “It looks weird.”

Students learn how to give and receive comments respectfully and productively.

5. Benefits of Peer Review
Peer feedback helps students:
- see their work from different perspectives,
- recognize strengths they may not have noticed,
- identify areas for improvement,
- understand that design is collaborative,
- build confidence through positive support.

Peer review also strengthens classroom community and respect for one another’s work.

6. Teacher’s Role in the Presentation Process
The teacher:
- moderates the discussion,
- ensures feedback is constructive,
- models positive, specific comments,
- encourages all students to participate,
- provides brief professional feedback that guides next steps.

The goal is not to critique the student personally, but to discuss the design.

7. Linking Presentation Skills to Real-World Design Work
Students discover that presentations are part of every design career:
- designers pitch prototypes to clients,
- artists present portfolios,
- creators explain their process at exhibitions,
- product developers defend design decisions to a team.

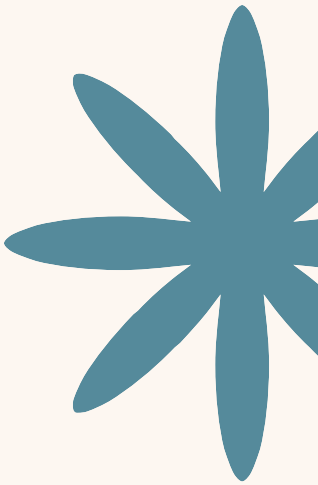
Practicing this now develops essential communication skills for future creative paths.

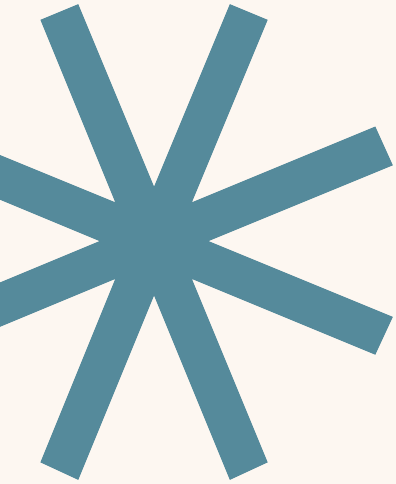
8. Summary for Students

After the theoretical part of Lesson 12, students should understand:

- how to structure a clear, professional design presentation,
- why reflection and self-evaluation matter,
- how to give and receive constructive feedback,
- how presentations fit into real-world design work.

This prepares them for the practical task of presenting their prototypes and participating in a supportive feedback session.





CLASS 13 – Preparing the Semester Exhibition / Showcase

Goals

- Planning the display of student work.
- Learning basic exhibition arrangement skills.

Theoretical Part

Principles of exhibition design:
- thematic grouping (e.g., “light,” “fashion,” “jewelry”),
- eye-level placement,
- clear and readable descriptions.

The importance of context — showing that these were once waste materials given a new life.

Practical Part – Materials

- Finished student works.
- Label cards, markers.
- Painter’s tape, string, clips (for hanging lightweight pieces).

Step-by-Step

1. Agree on a shared exhibition title (e.g., “Second Life of Objects,” “Trash Design: New Life”).
2. Divide the projects into thematic sections.
3. Arrange objects in the exhibition space:
    - on tables, shelves, hangers,
    - in a logical order (e.g., from small to large).
4. Students write short labels for their works (name, title, materials).
5. Test the exhibition layout and take photos of the overall arrangement.

CLASS 13 – Theoretical Section

1. Why Exhibiting Trash Design Projects Matters

Displaying Trash Design works is an essential final stage of the creative process.

Students learn that an exhibition is not just a way to show finished products—it is a form of communication. Exhibiting teaches them to:

- think about the audience's perspective,
- present their work clearly and professionally,
- highlight the transformation from waste to meaningful design,
- curate objects in a way that tells a story,
- appreciate the collective achievement of the class.

The exhibition becomes a celebration of creativity, upcycling, and sustainability.

2. Core Principles of Exhibition Design

Students are introduced to the basic rules that museums, galleries, and designers use:

a) Thematic Grouping

Organizing works into sections (e.g., lighting, fashion, jewelry, home décor) helps the audience understand relationships between projects and encourages visual coherence.

b) Eye-Level Placement

Objects should be placed at a height where they are easy to see. This ensures accessibility and gives each work equal visibility.

c) Clear and Informative Labels

A good label includes:

- the student's name,
- the title of the piece,
- materials used (especially the reclaimed elements).

Labels help guide the viewer and provide essential context.

d) Balance and Spacing

Objects should not be crowded. Space allows each work to stand out and be appreciated individually.

3. The Importance of Context in Trash Design Exhibitions

One of the main goals of this exhibition is to show the transformation—how waste gains new value through creativity.

Students discuss how to provide context by:

- showing "before and after" images,
- including notes about reclaimed materials,
- grouping objects by material type (e.g., "from bottles," "from textiles"),
- presenting short stories about each project's origin.

Context helps viewers understand the environmental message behind the exhibition.

4. Visual Storytelling in an Exhibition
An exhibition should have a narrative flow. Students learn to think like curators:

- What should the audience see first?
- How will people move through the space?
- Where should the most eye-catching objects be placed?
- Which pieces work well next to each other?

A coherent narrative makes the exhibition more engaging and memorable.

5. Preparing Works for Display
Before arranging the exhibition, students discuss how to prepare their works:

- checking stability and cleaning surfaces,
- ensuring labels are neat and readable,
- selecting the best orientation (front, side, hanging).

This step teaches professional standards in presenting design work.

6. Team Collaboration in Exhibition Design
Students learn that creating an exhibition is a team effort requiring:

- decision-making together,
- respecting others' ideas,
- dividing tasks logically (label writers, layout planners, installers),
- solving problems collaboratively (space limitations, lighting issues).

This builds teamwork and organizational skills.

7. Photography and Documentation
Students also learn that exhibitions should be documented:

- taking photos of the setup,
- capturing both wide shots and close-ups,
- recording the class achievement for future portfolios or school events.

Documentation preserves the final stage of the creative journey.

8. Summary for Students
After the theoretical section of Lesson 13, students should understand:

- how exhibitions communicate ideas and stories,
- essential rules of layout, labeling, and thematic grouping,
- why context is important in Trash Design presentations,
- how to work collaboratively to shape an effective and beautiful display.

This knowledge prepares them to organize their semester showcase during the practical part of the lesson.

CLASS 14 – Exhibition and End-of-Semester Summary

Goals

- Presenting the results of the students' work to a wider audience (other classes, teachers, parents).
- Reflecting on the skills and knowledge gained during the semester.

Theoretical Part

A short group discussion:

- what students learned about materials,
- what was the most challenging part,
- whether their thinking about "waste" has changed.

Practical Part – Materials

- The exhibition prepared during the previous lesson.
- A simple anonymous evaluation survey (can be done on paper).

Step-by-Step

1. Students guide guests through the exhibition (if visitors are present).
2. Each student briefly talks about their work (1–2 minutes).
3. After the event, the class completes a short survey:
    - what they found most valuable,
    - what they would change in the organization of the course,
    - what new projects they would like to do next semester.
4. The teacher summarizes the semester, highlighting individual strengths and progress.

CLASS 14 – Theoretical Section

1. The Importance of Exhibiting Creative Work

The final exhibition is more than just a presentation—it is a celebration of learning, creativity, and transformation.

Students learn that:

- showcasing their projects helps them see their work as real design,
- sharing upcycled objects raises awareness about sustainability,
- presenting to others builds confidence and communication skills,
- exhibitions make the learning process visible and meaningful.

This moment marks the transition from student designers to young creators confident in explaining their ideas publicly.

2. Learning Through Reflection

Reflection is an essential part of the design and educational process.

During the group discussion, students are encouraged to think about:

a) What they learned about materials

- how different waste materials behave,
- which materials are easier or harder to work with,
- the creative potential hidden in everyday objects.

b) What was the most challenging

- technical problems,
- time management,
- teamwork,
- adapting the design when materials didn’t behave as expected.

Recognizing challenges helps students grow as independent and resilient designers.

c) How their perception of “waste” has changed

Students realize that:

- waste is a resource,
- many objects deserve a second life,
- design can reduce environmental impact,
- creativity can turn discarded materials into valuable products.

This shift in mindset is one of the most important outcomes of the Trash Design course.

3. Understanding Evaluation and Self-Assessment

At the end of the semester, students engage in self-evaluation through a short anonymous survey.

This teaches them:

- how to reflect critically on their own learning,
- how to identify strengths and areas for improvement,
- how to express opinions about the course structure,
- how to propose new ideas for future projects.

Self-assessment encourages responsibility, autonomy, and metacognitive skills.

4. The Role of Feedback in Creative Growth

Exhibitions are natural opportunities to receive feedback from:

- peers,
- teachers,
- guests and visitors.

Students learn that feedback:

- is a tool for growth, not criticism,
- helps refine future ideas,
- confirms strengths they may not have noticed,
- provides motivation to continue creative exploration.

This feedback loop mirrors professional design practices.

5. Celebrating Individual and Group Achievements

The semester-ending discussion highlights:

- personal progress,
- new skills learned,
- successful problem-solving moments,
- creative risk-taking,
- teamwork and collaboration.

Students see how much they have improved since Lesson 1.

This recognition builds confidence and pride in their accomplishments.

6. Sustainability as a Long-Term Mindset

The final lesson reinforces the core message of Trash Design:

- sustainable thinking is not a one-time activity,
- it can influence daily decisions, consumption habits, and creativity,
- upcycling fosters responsibility toward the environment,
- design can shape a more conscious and resource-efficient world.

Students leave the course with new perspectives on materials, design, and ecological awareness.

7. Summary for Students

By the end of the theoretical part of Lesson 14, students understand:

- the purpose and value of presenting their work publicly,
- how to reflect on their own learning process,
- how to use feedback to grow as designers,
- how Trash Design transforms both materials and mindsets.

This prepares them for the final exhibition experience, where they share their projects proudly and conclude the semester with a sense of achievement.

ASSESSMENT CRITERIA

1. ASSESSMENT CRITERIA (for the whole semester)

A. Knowledge & Understanding

1. Understands basic concepts: recycling, upcycling, waste categories.
2. Knows properties of textiles, plastics, paper, metal and e-waste.
3. Explains design principles (form/function, ergonomics, stability, branding).
4. Demonstrates awareness of sustainability and environmental impact.

B. Practical Skills

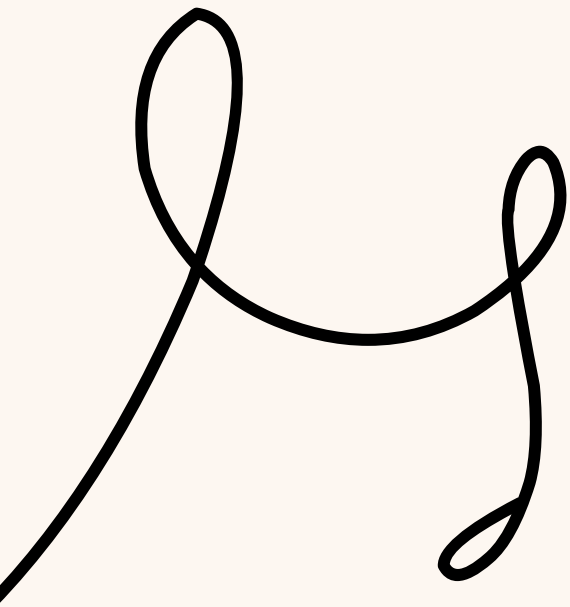
1. Safe and correct use of tools (scissors, cutters, pliers, glue gun, drill under supervision).
2. Accurate material handling and processing.
3. Ability to construct stable, functional objects.
4. Technical improvement of prototypes (iteration).
5. Craftsmanship: clean finishing, strong joints, neat assembly.

C. Creativity & Design Process

1. Originality of ideas and creative problem-solving.
2. Quality of sketches, moodboards and concept development.
3. Effective refinement of project based on challenges.
4. Aesthetic and functional coherence of the final product.

D. Communication & Collaboration

1. Clear oral presentation of the project.
2. Ability to give and receive constructive feedback.
3. Participation in team tasks (furniture upcycling, exhibition setup).
4. Professionalism during exhibition and photography tasks.



TOOLS

RUBRICS (DETAILED GRADING TABLE)

Rubric A – Final Project

Criterion	Excellent (5)	Good (4)	Satisfactory (3)	Needs Improvement (2–
Functionality	Strong, stable, fully functional	Mostly functional with minor issues	Partially functional	Unstable, unsafe or non-functional
Craftsmanship	Excellent finishing, clean edges,	Good craftsmanship,	Basic craftsmanship,	Poorly constructed,
Material Use	Waste materials used creatively	Mostly effective use of materials	Limited creativity in material choice	Inappropriate or ineffective
Aesthetics	Visually coherent, polished,	Clear aesthetic intention, minor	Acceptable visual quality	Lacks cohesion and visual clarity
Innovation	Highly original concept, strong	Some original ideas	Works within known patterns	Minimal creativity

Rubric B – Design Process

Criterion	Excellent	Good	Satisfactory	Needs Improvement
Sketches	Clear, detailed, multi-view	Complete, understandable	Basic sketches	Missing or unclear
Moodboard	Rich visuals, strong direction	Good inspiration selection	Basic moodboard	Weak or incomplete
Planning	Precise project sheet with full	Mostly complete plan	Partial plan	Lacks planning
Iteration	Strong improvements	Some improvements	Minimal improvement	No improvements

Rubric C – Presentation & Communication

Criterion	Excellent	Good	Satisfactory	Needs Improvement
Presentation	Clear, confident, engaging	Mostly clear and organized	Understandable but limited	Unclear or incomplete
Product Description	Complete: materials,	Mostly complete	Basic description	Missing key information
Photography	High-quality images (context,	Good photos with minor issues	Basic documentation	Poor or missing photos
Exhibition Participation	Active, responsible,	Good participation	Limited involvement	Minimal cooperation

ASSESSMENT PROTOCOL – Printable Version
SUBJECT: Trash Design – Semester Project
SCHOOL: _____
CLASS / GROUP: _____
STUDENT NAME: _____
SEMESTER: _____ / _____

Assessment Area	**Weight**	**Partial Grade (1–6)**
1. Engagement & Activity	20%	
2. Project Sheet	10%	
3. Semester Project / Prototype	40%	
4. Project Presentation	15%	
5. Participation in Exhibition Preparation	15%	

II. Detailed Partial Assessment
1. Engagement / Activity (20%)

Comments:
……
……

2. Project Sheet (10%)

Comments:
……
……

3. Semester Project (40%)

Evaluate:
functionality
creativity
craftsmanship
use of reclaimed materials
problem-solving skills
Comments:
……
……

4. Project Presentation (15%)

Comments:
……

5. Exhibition Preparation (15%)

Comments:
……

III. Final Grade Calculation
Component Weight Grade Weighted Value
Engagement 20% … …
Project Sheet 10% … …
Prototype 40% … …
Presentation 15% … …
Exhibition 15% … …

FINAL GRADE: _____

IV. Teacher’s Signature

Date: _____

. STUDENT OBSERVATION SHEET

Student's Name: _____

Semester: _____

Area	Teacher's Observations	Grade (1–6)
Engagement	_____ _____	_____
Ability to Work in a Group	_____ _____	_____
Adherence to Safety Rules (BHP)	_____ _____	_____
Creativity	_____ _____	_____
Independence	_____ _____	_____
Problem-Solving Skills	_____ _____	_____
Timeliness	_____ _____	_____
Quality & Aesthetics of Work	_____ _____	_____
Care for Order and Materials	_____ _____	_____

Below are ready-to-use end-of-semester evaluation surveys for students, written in clear English and designed specifically for the 14-lesson Trash Design course.

You can choose between:

✅ Version A – Simple (quick to complete)

✅ Version B – Extended (detailed feedback)

✅ Version C – Anonymous Reflection Sheet

✅ Version D – Likert Scale Survey for statistical results

VERSION A – SIMPLE END-OF-SEMESTER EVALUATION

End-of-Semester Student Evaluation – Trash Design

This survey is anonymous. Please answer honestly.

What did you like most about this course?

.....

What was the most challenging part?

.....

Which skills do you feel you improved? (choose any)

□ Working with tools

□ Creativity

□ Problem solving

□ Working with waste materials

□ Presentation skills

□ Teamwork

□ Planning and design

Which workshop did you enjoy the most?

□ Textiles

□ Plastics

□ Paper & cardboard

□ Metal & e-waste

□ Furniture upcycling

□ Branding & photography

What would you change or improve in the course?

.....

What new projects would you like to create next semester?

.....

VERSION B – EXTENDED (DETAILED FEEDBACK)
Trash Design – End-of-Semester Evaluation Survey
Anonymous – Your feedback helps us improve the course.

1. Course Content

Which topics were the most interesting to you?
.....
Which topics seemed less useful or less engaging?
.....
Was the balance between theory and practice appropriate?
□ Yes □ Mostly □ Not really □ No
Comments: .....

2. Workshops & Tools

Which materials were the easiest to work with? Why?
.....
Which materials were the hardest to work with? Why?
.....
Did you feel safe and confident using the tools?
□ Always □ Mostly □ Sometimes □ Rarely

3. Skills Development

Which skills did you develop the most?
.....
Which skills would you like to improve further?
.....
Did the course help you think differently about waste and sustainability?
□ Yes □ A little □ Not really □ No

4. Final Project & Exhibition

Are you satisfied with your final produc
□ Yes □ Partly □ No
Why? .....
Did preparing the exhibition help you understand design presentation?
□ Yes □ Somewhat □ Not much □ Not at all
What did you learn from seeing other students' work?
.....

5. Course Organization

1. Did you feel you had enough time to complete your project?
2. □ Yes
3. □ Mostly
4. □ No
5. How would you rate the classroom/workshop environment?
6. □ Excellent
7. □ Good
8. □ OK
9. □ Poor
10. What would you change to improve the course next semester?
11. .....

VERSION C – ANONYMOUS REFLECTION SHEET
Trash Design – Personal Reflection
(This sheet is anonymous. Please be honest.)
Something I learned this semester that surprised me:
.....
A moment when I felt proud of my work:
.....
A challenge I overcame:
.....
A skill I want to keep improving:
.....
My favorite project or material was:
.....
Trash Design changed the way I see waste by…
.....
Next semester I would love to create:
.....

VERSION D – LIKERT-SCALE SURVEY (for statistics)
(Students circle one answer per line.)
Trash Design – End-of-Semester Evaluation

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The course was interesting.	5	4	3	2	1
2. I learned useful skills.	5	4	3	2	1
3. I understand materials better	5	4	3	2	1
4. I felt safe using the tools.	5	4	3	2	1
5. The lessons were well-	5	4	3	2	1
6. The teacher explained	5	4	3	2	1
7. I enjoyed the practical	5	4	3	2	1
8. I liked working in a group.	5	4	3	2	1
9. I am satisfied with my final	5	4	3	2	1
10. The exhibition made me proud	5	4	3	2	1
11. Trash Design should continue	5	4	3	2	1

Open Comments:

.....

.....

ADDITIONAL LESSON SCENARIOS FOCUSED ON WELL-KNOWN ARTISTS WORKING WITH RECYCLED OR WASTE MATERIALS (TRASH DESIGN ARTISTS)

1. Lesson Scenario: Bordalo II (Portugal – Trash Animals)

Works with: plastic waste, car parts, metal scraps, tires, electronics
Famous for: large-scale animal sculptures made from trash
1. About the Artist
Bordalo II (Artur Bordalo, born 1987, Lisbon) is a world-renowned street artist who creates monumental sculptures using trash and discarded industrial materials. His series “Big Trash Animals” raises awareness about pollution, biodiversity loss and over-consumption.
His sculptures appear in major cities across Europe, the USA and South America.

2. Theoretical Section
Key ideas to discuss:

- The artist uses waste materials from landfills and scrapyards to build expressive animal sculptures.
- Each animal reflects the environmental threat caused by human waste.
- His works combine street art, installation, and environmental activism.
- By exaggerating scale, he forces viewers to face the consequences of plastic and metal waste.

Discussion Questions:

- Why does Bordalo II choose animals as his main subject?
- How do the materials (trash) add meaning to the artwork?
- What emotions do you think the public experiences when seeing his work in a city?

3. Practical Classroom Activity
Task: Create a relief (2.5D) “trash animal” using classroom waste.
Materials:

- Plastic packaging, bottle caps, metal pieces, cardboard
- Glue gun (supervised), scissors, strong tape
- Large cardboard sheet for base

Steps:

1. Students select an animal symbolizing an environmental issue (e.g., endangered species).
2. Sketch a simple outline on cardboard.
3. Build the form using layered waste materials.
4. Add texture and color using found objects.
5. Present the piece with a short environmental message.

Learning Outcome: Students learn how material choice influences meaning and how trash can form expressive sculptural textures.

2. Lesson Scenario: Haroshi (Japan – Recycled Skateboard Sculptures)

Works with: used skateboard decks, wood scraps
Famous for: colorful layered sculptures made from recycled skateboards
1. About the Artist
Haroshi (born 1978, Tokyo) is a contemporary Japanese sculptor known for carving sculptures from recycled skateboard decks. The worn wood carries scratches, dents, and color layers that document the history of the skateboarder who used them.
His work is internationally exhibited in galleries such as Jonathan LeVine Gallery and Nanzuka.

2. Theoretical Section
Key concepts:

- Haroshi stacks old skateboard decks, then carves them like wood to produce highly detailed sculptures.
- The colorful layers come naturally from years of use: every scratch tells a story.
- His work explores themes of memory, identity, subculture, and transformation.
- He demonstrates how “worn-out” materials hold emotional and visual richness.

Discussion Questions:

- Why are used objects often more meaningful than new ones?
- What visual qualities do layers create?
- What subcultures or groups produce interesting waste streams?

3. Practical Classroom Activity
Task: Create a “layered sculpture tile” inspired by Haroshi.
Materials:

- Colored cardboard, foam, textile scraps, layered paper
- Glue, cutters, scissors
- Optional: pieces of old skateboards (if available and safe)

Steps:

1. Students stack various colored waste materials into a thick block.
2. Glue layers to create a solid structure.
3. Carve or cut into the block to reveal patterns inside.
4. Shape the block into a small relief or abstract object.
5. Present the tile and explain the story behind the chosen materials.

Learning Outcome: Students understand how layering transforms reclaimed materials and how shape reveals hidden color histories.

-

3 Lesson scenario: El Anatsui (Ghana / Nigeria)

Works with: bottle caps, aluminum seals, discarded metal, copper wire, found objects
Type of work: monumental hanging sculptures, textile-like metal tapestries

1. About the Artist
El Anatsui (born 1944) is an internationally celebrated artist known for transforming bottle caps, aluminum scraps, and metal from discarded liquor bottles into huge shimmering tapestries exhibited worldwide.
He is one of the most recognized African contemporary artists and has exhibited at the Venice Biennale and major museums including the Metropolitan Museum of Art.

2. Theoretical Section
Key points to discuss with students:

- El Anatsui collects thousands of thrown-away bottle caps from Nigerian distilleries.
- He crushes, cuts, and folds them, then binds them with copper wire to create massive flexible “cloths.”
- His works comment on consumerism, global trade, colonial history, and the beauty hidden in waste.
- They appear soft like fabric but are made of metal—challenging perceptions of materiality.

Discussion Questions:

- How does scale change the impact of recycled materials?
- Why is “waste” a powerful artistic medium?
- How do repetitive small elements create large visual effects?

3. Practical Classroom Activity
Task: Create a small-scale “metal tapestry” inspired by El Anatsui.
Materials:

- Aluminum cans (safe, pre-opened), bottle caps, metal foil from chocolate or drinks, thin wire, pliers, hole punch
- Gloves for safety

Steps:

1. Students flatten or cut metal pieces into small shapes.
2. Make small holes and connect pieces using thin wire or metal rings.
3. Create a flexible “sheet” of linked waste metal pieces.
4. Add patterns using color, repetition, and texture.

Learning Outcome: Students learn how repetition, connection, and material history create powerful visual statements.

4 Lesson scenario: Subodh Gupta (India)

Works with: stainless steel utensils, metal containers, tiffin boxes, found domestic objects
Type of work: sculpture, installation, monumental assemblages
1. About the Artist
Subodh Gupta (born 1964) is a leading Indian contemporary artist known for using everyday kitchen utensils—pots, milk pails, tiffin carriers—which he collects from markets and recycling places.
His works explore memory, migration, domestic life, globalization, and the symbolism of everyday objects.

2. Theoretical Section
Key ideas to introduce:

- Gupta elevates daily domestic objects, giving them monumental scale and new meaning.
- He collects metal utensils from markets—objects that carry personal history.
- His works show how reused objects can reflect culture, identity, and collective memory.
- By arranging them into sculptures (boats, mushroom clouds, chandeliers), he transforms “ordinary waste” into powerful symbols.

Discussion Questions:

- What stories do old objects carry?
- How can ordinary items become extraordinary through scale or arrangement?
- What type of “waste” symbolizes your culture or community?

3. Practical Classroom Activity
Task: Create a sculpture or relief using found household items (preferably metal or durable materials).
Materials:

- Old cups, lids, cutlery, broken utensils (plastic or metal)
- Wire, rope, strong eco-friendly glue
- Cardboard base (optional)

Steps:

1. Students collect household items considered “junk” or unused.
2. Create a composition: circle, starburst, tower, abstract form.
3. Attach items using wire or glue.
4. Add meaning: students write a short card describing the story behind the items.

Learning Outcome: Students explore how meaning emerges from objects with a past and how arrangement transforms everyday material into art.

5 Lesson scenario: Vik Muniz (Brazil – Trash Portraits)

Works with: garbage, recyclables, chocolate syrup, sugar, found objects
Famous for: “Waste Land” documentary, portraits made from landfill trash

1. About the Artist
Vik Muniz (born 1961, São Paulo) is a Brazilian artist known for creating images using materials like garbage, plastic, dirt, chocolate, sugar, thread, and scrap materials. His most famous project, “Pictures of Garbage” (2008), was made in collaboration with waste pickers at the world’s largest landfill, Jardim Gramacho in Rio.

2. Theoretical Section
Key concepts:

- Muniz uses trash to create large-scale portraits, then photographs them from above.
- The artwork symbolizes the transformation of discarded materials into powerful stories about humanity.
- His collaboration with waste pickers highlights social issues, recycling labor, and dignity.

Discussion topics:

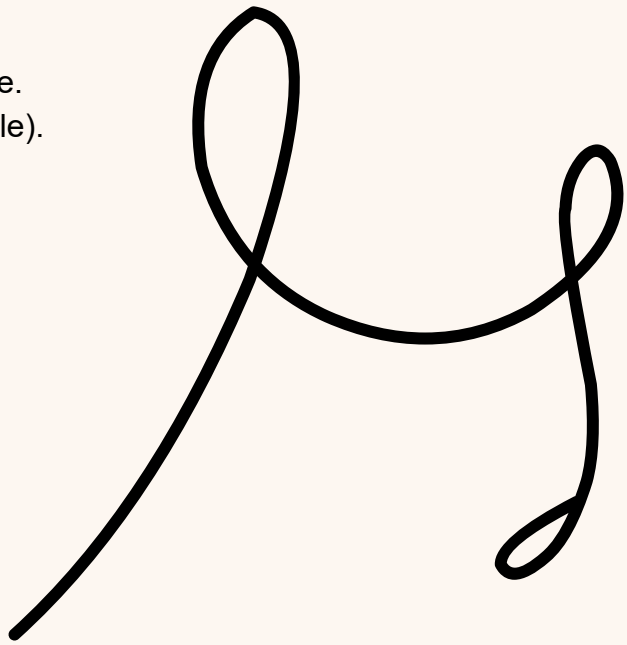
- How does scale affect the impression of the work?
- Why is photographing the final piece part of the art?
- How does art change when its materials come from landfills?

3. Practical Classroom Activity
Task: Create a small “trash portrait” using only found materials.
Materials:

- Magazines, plastic bits, paper scraps, broken toys, threads
- Glue, large cardboard base

Steps:

1. Students choose a famous portrait or take a selfie.
2. Recreate it using layered trash items (collage style).
3. Photograph the result from above (like Muniz).
4. Optionally: print final photo as the final artwork.



6 Lesson scenario: Aurora Robson (Canada/USA – Plastic Pollution Sculptures)
Works with: plastic waste, marine debris
Famous for: colorful sculptures made from PET bottles

1. About the Artist
Aurora Robson (born 1971) is an award-winning multidisciplinary artist known for transforming plastic trash—especially PET bottles—into intricate sculptures resembling sea life, cosmic forms, and organic structures. She is also the founder of Project Vortex, an initiative promoting reuse of marine debris in art.

2. Theoretical Section
Ideas to discuss:
- Robson gives new life to plastic waste that often pollutes oceans.
- Her work blends environmental activism with aesthetics.
- Shapes often resemble corals, sea creatures, or abstract forms tied to nature.

Discussion prompts:
- How can beauty be created from harmful waste?
- What message does the artist send about plastic pollution?
- Can environmental art create real social change?

3. Practical Classroom Activity
Task: Create a small sculpture using PET bottles.
Materials:
- Clean plastic bottles
- Scissors, hole punch
- Wire or string
- Non-toxic paint (optional)

Steps:
1. Students cut and shape PET into organic forms (petals, tendrils).
2. Assemble them into a cluster or hanging sculpture.
3. Add color or transparency effects.
4. Display as a group “coral reef” installation.

7 Lesson scenario: Jane Perkins (UK – Found-Object Mosaics)

Works with: buttons, toys, shells, plastic fragments, beads
Famous for: recreated famous paintings using small found objects

1. About the Artist
Jane Perkins is a British artist known for “Plastic Classics,” a series of artworks where she recreates famous portraits (e.g., Mona Lisa, Van Gogh, the Queen) using recycled small objects like buttons, toy parts, shells, beads, and household junk.

2. Theoretical Section
Themes:

- Perkins uses color grouping and texture to imitate painting techniques.
- Every small object retains its original identity, yet forms part of a larger picture.
- Her work highlights attention to detail and the beauty of discarded tiny items.

Discussion prompts:

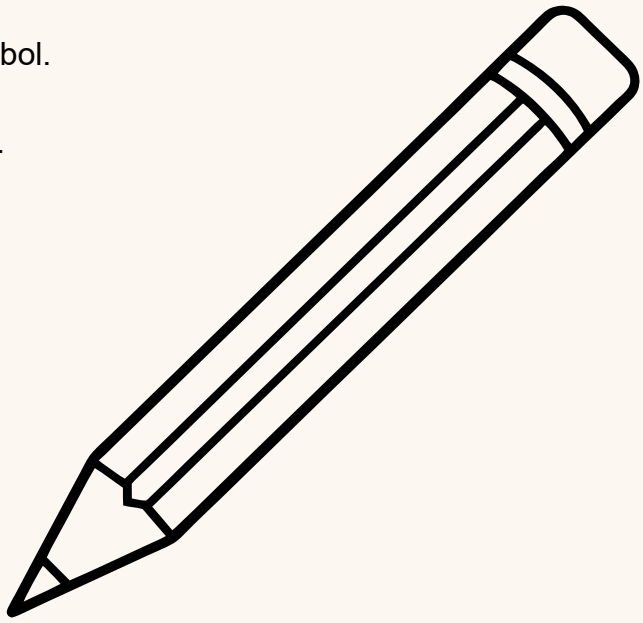
- How does scale and repetition turn small waste into art?
- Why might the artist choose iconic images to reinterpret?
- How do the objects’ original meanings contribute to the artwork?

3. Practical Classroom Activity
Task: Create a small mosaic-style artwork using tiny found objects.
Materials:

- Buttons, beads, LEGO pieces, toy fragments, shells
- Thick cardboard
- Strong glue

Steps:

1. Students sketch a simple portrait or symbol.
2. Sort small objects by color.
3. Fill the sketch with objects like a mosaic.
4. Present the finished mosaic with a title.



8 Lesson scenario: Tim Noble & Sue Webster (UK – Trash Shadow Sculptures)

Works with: piles of trash, scrap metal, old tools, waste wood
Famous for: shadow artworks that reveal human silhouettes

1. About the Artists
Tim Noble (1966) and Sue Webster (1967) are British artists who create sculptures from piles of garbage, scrap metal, and household waste which, when lit from the right angle, cast shadows forming realistic portraits or scenes.
Their work is in international collections and has been shown at the Saatchi Gallery.

2. Theoretical Section
Key concepts:

- Contrast between chaos (trash pile) and order (shadow image).
- Art depends on light, perspective, and arrangement.
- Commentary on consumption, identity, and transformation.

Discussion questions:

- Why do the artists hide meaning inside a pile of trash?
- How does light change the interpretation of the work?
- What does it say about perception and reality?

3. Practical Classroom Activity
Task: Create a small “shadow sculpture” using trash objects.
Materials:

- Small waste items (bottle caps, broken tools, paper scraps)
- Desk lamp as light source
- White wall or board

Steps:

1. Students arrange objects to cast interesting shadows.
2. Test angles of light until a meaningful silhouette appears.
3. Photograph the shadow + sculpture setup.

Learning Outcome: Students explore light, shadow, and hidden forms.

SHORT PROJECTS

PROJECT 1: “Trash Light City” – Giant Upcycled Illuminated Installations
Theme: Light sculptures made from plastic, metal, and paper waste
Duration: 4–5 weeks
Group size: 6 students

Project Concept
Each group designs and builds a large light installation (1.5–2 meters) using waste materials: plastic bottles, metal scraps, cardboard, wire, textiles.

The final works create a “city of light” displayed in a school hall or courtyard.
Techniques Used

- **PET bottle cutting, bending and shaping**
- **Cardboard construction & modular design**
- **Metal wire frameworks**
- **Recycling of electronics (LED wiring)**
- **Plastic weaving & layering**

Phase 1 – Research & Sketching (Week 1)
Time: 4–5 hours
Tasks:

1. Groups study examples of light installations (Robson, Bordalo II, lantern festivals).
2. Brainstorm shapes: tower, animal, abstract form, sphere.
3. Create 3–4 concept sketches.
4. Choose one final design and prepare a project sheet.

Output: technical drawing + material list.

Phase 2 – Material Collection & Preparation (Week 2)
Time: 4–6 hours
Materials:

- PET bottles (clear, green, colored)
- Metal wire, scrap aluminum
- Cardboard sheets
- Old fabric, paper
- LEDs, wires, battery packs (safe, low voltage)

Tasks:

1. Cut bottles into petals, scales, feathers, etc.
2. Clean and sort materials by color and shape.
3. Build small test modules (mini lanterns or fragments).

Output: prepared material components.

Phase 3 – Construction (Week 3)
Time: 6–8 hours
Tasks:

1. Build a wire or cardboard skeleton (1–2 m tall).
2. Attach plastic elements using wire/zip ties/hot glue.
3. Add paper layers for diffused light effects.
4. Start integrating LED strips or LED candles.

Output: full structure (without final detailing).

Phase 4 – Finishing & Light Effects (Week 4)
Time: 4–5 hours
Tasks:

1. Paint accents (acrylic, safe sprays).
2. Add translucent elements for glow effects.
3. Test lighting in a dark room.
4. Adjust colors, add decorative textures (weaving, layering).

Output: fully functional illuminated sculpture.

Phase 5 – Exhibition Setup (Week 5)
Time: 2–3 hours
Groups curate a “Trash Light City” exhibition, with labels and lighting arrangement.

PROJECT 2: “Eco-Fashion Runway” – Upcycled Wearable Collection
Theme: Wearable art from textiles, plastics, and metal components
Duration: 4–6 weeks
Group size: 6 students
Project Concept
Each group designs a 3-piece upcycled fashion collection (wearable but artistic).
The project ends with a runway show or photo session.
Techniques Used

- **Textile upcycling & sewing**
- **Plastic fusing (iron + baking paper) – safe method**
- **Metal jewelry from e-waste**
- **Weaving strips from fabric, plastic bags**
- **Sculptural fashion (cardboard structures)**

Phase 1 – Moodboard & Theme Development (Week 1)
Time: 4–5 hours
Tasks:

1. Groups pick a theme (e.g., “Ocean Pollution,” “Futuristic Tribe,” “Urban Jungle”).
2. Create moodboards with colors, shapes, materials.
3. Sketch 3 outfits.
4. Choose materials: denim, shirts, plastic bags, cables, wires.

Output: concept boards + outfit sketches.

Phase 2 – Material Sorting & Prototype Tests (Week 2)
Time: 4–6 hours
Materials:

- Old clothes, curtains, denim
- Plastic bags, foil, bubble wrap
- Old cables, keyboard pieces, e-waste
- Sewing kits, glue guns, clips

Tasks:

1. Test textile manipulation (pleating, braiding, patchwork).
2. Test plastic fusing for “fabric.”
3. Create small samples for each technique.

Output: technique samples + chosen materials.

Phase 3 – Construction (Weeks 3–4)
Time: 8–12 hours
Tasks:

1. Divide roles: pattern maker, sewer, decorator, accessories designer, fitter, photographer.
2. Sew or assemble main garment bases.
3. Add sculptural elements from plastics/cardboard/e-waste.
4. Create accessories (belt, jewelry, headpiece).
5. Fittings and adjustments.

Output: 3 complete wearable pieces.

Phase 4 – Runway Preparation (Week 5)
Time: 3–4 hours
Tasks:

1. Prepare styling: makeup, accessories, props.
2. Rehearse movement and poses.
3. Photograph outfits against clean backgrounds.

Output: final runway or lookbook images.

Phase 5 – Presentation (Week 6)
Time: 1–2 hours

- Runway show
- Group presentation
- Evaluation & reflection

PROJECT 3: “Recycled Public Space Installation” – Large Outdoor Sculpture
Theme: Monumental site-specific sculpture using mixed waste
Duration: 5–6 weeks
Group size: 6 students
Project Concept
Students build a large-scale outdoor artwork placed in a schoolyard or local park.
The sculpture must deliver a clear ecological message.
Examples:

- **A giant fish made from plastic waste**
- **A tree built from metal scraps and textiles**
- **A human figure filled with classroom trash**

Techniques Used

- **Large-scale metal or wood skeleton construction**
- **Plastic weaving & rope binding**
- **Found-object assemblage**
- **Weather-proofing & sealing**
- **Painting recycled materials**

Phase 1 – Site Research & Concept (Week 1)
Time: 4–5 hours
Tasks:

1. Groups explore available outdoor spaces (school yard, lawn, hall).
2. Sketch 2–3 concepts responding to the site.
3. Write a project proposal:
    - theme, message, size, materials, safety considerations

Output: proposal + approval by teacher.

Phase 2 – Material Collection (Week 2)
Time: 3–5 hours
Materials:

- Scrap wood, pipes, pallets
- Metal wire, rods
- Large cardboard sheets
- Textiles, plastic bottles, nets
- Paint, rope, zip ties

Tasks:

1. Gather large waste items.
2. Disassemble or clean them.
3. Create basic modular parts in workshop.

Phase 3 – Building the Structure (Weeks 3–4)
Time: 8–12 hours
Tasks:

1. Construct the skeleton using wood/metal.
2. Check stability and weight distribution.
3. Attach surface materials (plastic bodies, paper layers, metal scales).
4. Use zip ties, rope, screws, eco glue as connections.
5. Test structure outdoors (wind stability).

Phase 4 – Surface Treatment & Painting (Week 5)
Time: 4–6 hours
Tasks:

1. Paint with weather-resistant acrylics or eco-sealant.
2. Add textures (fabric layering, bottle-cap mosaics).
3. Attach final details: eyes, fins, leaves, branches.

Phase 5 – Installation (Week 6)
Time: 2–3 hours
Tasks:

1. Position the sculpture safely in outdoor space.
2. Add ground anchors if needed.
3. Prepare exhibition label + environmental statement.

YEAR-LONG PROJECTS

YEAR-LONG PROJECT 1: “Recycled Eco-Pavilion” – A Walk-In Architectural Structure

Theme: A human-scale pavilion built entirely from reclaimed materials

Duration: 9–10 months

Group size: 6 students per team

Outcome: A walk-in installation (2–4 meters), open to the public

I. Project Overview

Each group designs and builds an architectural pavilion / mini-building using only reclaimed materials: pallets, textile waste, PET bottles, polycarbonate scraps, metal rods, bicycle parts, cardboard tubes.

The final structure must be weather-resistant, safe, and interactive.

Examples:

- PET bottle dome
- Pavilion made from windows recovered from renovation sites
- Woven textile labyrinth
- Bamboo + recycled-plastic greenhouse

II. Techniques Used (Advanced Trash Design)

✓ Structural engineering with reclaimed materials

✓ Plastic bottle brick modules

✓ Textile weaving for walls

✓ Papercrete (paper + cement mix)

✓ Recycled polycarbonate paneling

✓ Metal scrap reinforcement

✓ Waterproofing from upcycled plastics

III. Detailed Timeline & Process

PHASE 1 — Research & Concept Development (Month 1–2)
Tasks:

1. Explore examples of temporary pavilions (e.g., Serpentine Pavilion).
2. Create 3 concept proposals per group.
3. Conduct safety and feasibility analysis.
4. Present moodboards, models, and technical sketches.

Materials: cardboard, hot glue, recycled foam, sketching tools.
Output: Models + chosen final concept.

PHASE 2 — Material Acquisition & Testing (Month 2–3)
Tasks:

1. Collect materials from:
    - school trash & workshops
    - donation drives
    - municipal recycling centers
2. Test material strength, weather resistance, modularity.
3. Create small wall/roof samples.

Materials: pallets, PET bottles, textile scraps, metal rods, buckets, screws.
Output: Material catalogue + engineering samples.

PHASE 3 — Structural Framework Construction (Month 4–5)
Tasks:

1. Build structural skeleton:
    - wood frame
    - metal frame
    - bamboo frame
2. Ensure stability and safety through tests.
3. Plan entrances, windows, and load-bearing points.

Techniques: drilling, screwing, weaving reinforcement, binding with rope.
Output: pavilion skeleton standing 2–4 m high.

PHASE 4 — Surface & Functional Elements (Month 5–7)
Tasks:

1. Build surface modules:
    - PET bottle bricks
    - woven textile panels
    - cardboard honeycomb panels
    - polycarbonate tile mosaics
2. Assemble wall/roof systems onto the frame.
3. Add functional details:
    - seating
    - light tunnels
    - recycled LED lamps
    - sound panels from textile waste

Output: complete pavilion body.

PHASE 5 — Finishing, Waterproofing & Aesthetic Layer (Month 7–8)
Tasks:

1. Add recycled-plastic waterproof layer.
2. Paint with eco-acrylics or natural pigment washes.
3. Add decorative elements:
    - bottle-bottom stained-glass
    - textile banners
    - mosaic signage

Output: fully functioning installation.

PHASE 6 — Opening Exhibition & Documentation (Month 9–10)
Tasks:

1. Public opening (parents, city officials, other schools).
2. Create video documentation.
3. Prepare artist statement and project report.

YEAR-LONG PROJECT 2: “Recycled Museum” – A Full Indoor Exhibition Made Entirely from Trash

Theme: A multi-room curated art museum
Duration: 9–10 months
Group size: 6 students
Outcome: A functioning exhibition with several rooms + catalog

I. Project Overview

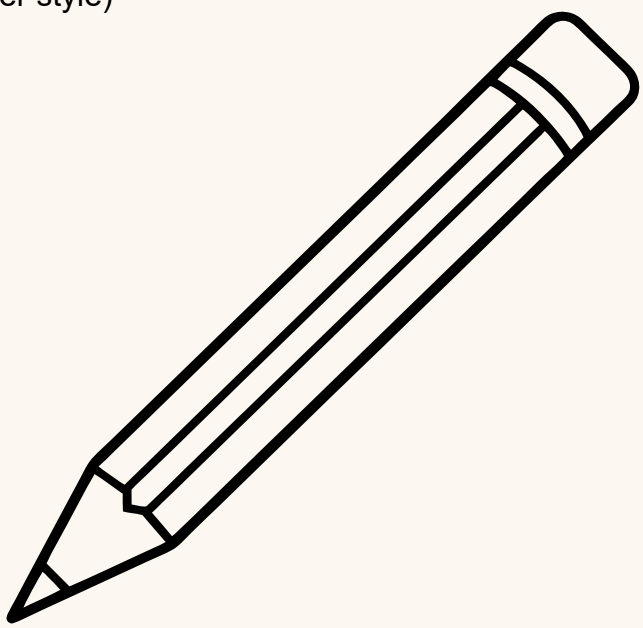
Students create a complete art exhibition with rooms, lighting, plinths, signage, and artworks—all built from waste.

Room example themes:

- Room 1: Plastics & oceans
- Room 2: Memory objects (e-waste, toys)
- Room 3: Whispering textiles (upcycled fabric sculptures)
- Room 4: Light laboratory (PET lamps, metal shadows)

II. Techniques Used

✓ PET bottle modules
✓ Cardboard sculpting
✓ Found-object assemblage
✓ E-waste art
✓ Textile sculpture
✓ Trash mosaics
✓ Shadow sculptures (Noble & Webster style)
✓ Recycled podium construction



III. Detailed Timeline

PHASE 1 — Theme Selection & Curatorial Planning (Month 1–2)

Tasks:

1. Learn basics of exhibition design.
2. Assign each group one thematic room.
3. Sketch floor plans and models.
4. Create a curatorial concept linking all rooms.

Output: “Recycled Museum Masterplan”

PHASE 2 — Material Collection & Categorization (Month 2–3)

Materials:

- PET bottles
- Metal scrap
- E-waste (safe, no batteries)
- Cardboard boxes
- Wood scraps
- Textiles, Old furniture

Tasks:

1. Collect and clean materials.
2. Sort by color, size, and technique potential.

PHASE 3 — Construction of Exhibition Infrastructure (Month 4–5)

Tasks:

1. Build: plinths, partitions, hanging systems, signage frames
2. Test stability and safety.

Techniques: screwing, gluing, wood recycling, cardboard engineering.

PHASE 4 — Artworks Creation (Month 5–7)

Each group creates at least 6–12 artworks for their room.

Examples:

- PET lamps (Robson style)
- Trash mosaics (Perkins style)
- E-waste portraits (Muniz style)
- Metal scraps: standing figures
- Paper sculptures & cardboard totems

PHASE 5 — Exhibition Installation (Month 7–8)

Tasks include:

1. Painting walls with eco-paints.
2. Hanging artworks.
3. Setting up lights.
4. Labeling, writing descriptions.

PHASE 6 — Grand Opening (Month 9–10)

Includes:

- guided tours
- printed catalog
- student-led artist talks
- school-wide environmental education program

YEAR-LONG PROJECT 3: “Trashopolis” – A Recycled City of the Future

Theme: A giant fictional city made from trash

Duration: 9–10 months

Group size: 6 students

Outcome: A room-sized model city + interactive elements

I. Project Overview

Each group designs and builds a section of a futuristic eco-city:

- Group 1: Transportation district
- Group 2: Food & agriculture district
- Group 3: Energy district
- Group 4: Housing
- Group 5: Culture
- Group 6: Underwater or aerial district

The final model may be 4–6 meters long, combining all districts.

II. Techniques Used

✓ Cardboard architecture
✓ PET skyscrapers
✓ Metal scrap bridges
✓ LED-powered energy towers
✓ Textile landscapes
✓ Found-object vehicles
✓ Sculpture & model-making
✓ 3D recycled mosaics

III. Detailed Timeline

PHASE 1 — Worldbuilding & City Planning (Month 1–2)

Tasks:

1. Define the city's narrative:
    - renewable energy
    - zero-waste living
    - sustainable transport
2. Draw the city map.
3. Assign district responsibilities.
4. Create 3D small test models.

PHASE 2 — Material Collection & Sorting (Month 2–3)

Materials:

- Bottles, tubes, metal parts
- Cardboard sheets
- Plastic packaging
- Broken toys
- Wires, e-waste
- Foam scraps

Students sort by color, transparency, structural strength.

PHASE 3 — Base Structure & Landscape (Month 3–4)

Tasks:

1. Create city base (4–6 m long).
2. Add levels (hills, rivers, islands).
3. Cover with recycled-paper pulp or cardboard panels.

PHASE 4 — Building Construction (Month 4–7)

Each district builds:

- skyscrapers from bottles
- bridges from wire and scrap metal
- domes from plastic bowls
- greenhouses from PET bricks
- roads from cardboard strips
- textile banners and flags

Students test stability and connections.

PHASE 5 — Lighting, Motion & Interactivity (Month 7–8)
Students add:

- LED streetlights
- kinetic wind turbines (hand-cranked)
- moving cable cars (string + pulley)
- sound modules made from scrap aluminum

PHASE 6 — Integration of Districts (Month 8–9)
All teams bring their sections together.
Tasks:

1. Align roads and rivers.
2. Connect wiring.
3. Add city-wide signage and maps.
4. Problem-solve mismatches.

PHASE 7 — Public Opening (Month 9–10)
Includes:

- guided school tours
- “Trashopolis passport” for visitors
- documentation and video
- press photos for local media

EXPERT ANALYSIS: RISKS

Large, interdisciplinary, year-long Trash Design projects can be transformative—but they also introduce significant pedagogical, organizational, motivational, and safety-related risks.

Below are the key threats and the solutions recommended for schools.

1. Risks Related to Student Motivation

1.1. Declining motivation over a long project timeline

Risk:

Year-long projects require sustained engagement; many students experience a “mid-project slump.”

Symptoms may include:

- loss of interest after the initial excitement,
- frustration with slow progress,
- a feeling that the project is “too big,”
- lack of visible results in early months.

Preventive Strategies:

- Break the project into shorter milestones (2–4 weeks).
- Use visual progress boards so students can see achievements accumulate.
- Introduce mid-term exhibitions or “preview days” to boost momentum.
- Integrate rotating roles (designer, builder, documentarian) to avoid monotony.

1.2. Perception that “trash is not real art”

Risk:

Some students view recycled materials as inferior, dirty, or artistically uninteresting.

Preventive Strategies:

- Begin the course with inspirational artist case studies (Bordalo II, Muniz, Robson, etc.).
- Visit exhibitions or invite external Trash Designers for workshops.
- Emphasise conceptual value: sustainability, storytelling, material transformation.
- Showcase high-level Trash Design from global institutions (Tate, MoMA).

1.3. Group conflicts (especially in 6-person groups)

Risk:

Group imbalance is common:

- leaders overshadow quieter students,
- uneven workload distribution,
- interpersonal conflicts slowing progress.

Preventive Strategies:

- Create clearly defined roles (Project Manager, Material Specialist, Technician, etc.).
- Require weekly individual reflection logs to track actual contributions.
- Introduce team contracts outlining responsibilities and communication norms.
- Hold structured conflict-resolution sessions as needed.

1.4. Lack of ownership in collaborative, large-scale projects

Risk:

Students feel “my part doesn’t matter” → disengagement.

Preventive Strategies:

- Assign individual subprojects within the larger project (e.g., “You design one tower,” “You build the lighting system”).
- Ensure every student has visible authorship.
- Include peer evaluation as part of grading.

2. Risks Related to Teacher Motivation and Workload

2.1. Excessive workload for teachers

Risk:

These projects require teachers to manage:

- logistics,
- materials collection,
- technical guidance,
- safety supervision,
- conflict management,
- assessment and documentation.

This can lead to burnout.

Preventive Strategies:

- Schools must formally allocate extra planning time for teachers.
- Split responsibilities between 2–3 teachers (art, design, environmental studies).
- Use parent/community volunteers for material sorting and installation work.
- Provide professional development on project-based learning and sustainability.

2.2. Teachers may lack technical expertise

Risk:

Building large structures from trash involves knowledge of:

- safety engineering,
- load-bearing structures,
- LED wiring,
- working with tools.

Some teachers may feel unprepared.

Preventive Strategies:

- Provide tool-safety training and basic engineering workshops for teachers.
- Prepare clear technical guides (e.g., “PET Bottle Bricks,” “Safe Cardboard Structures”).
- Partner with local makerspaces or engineering departments.

2.3. Resistance toward curriculum change

Risk:

Teachers accustomed to traditional art education may reject:

- long-term projects,
- collaborative learning,
- environmental or activist approaches.

Preventive Strategies:

- Present evidence that project-based learning improves outcomes.
- Involve teachers early in project planning.
- Highlight how Trash Design links to modern art careers and portfolio development.

3. Organizational and Logistical Risks

3.1. Storage and material management

Risk:

Large Trash Design projects require:

- storage rooms,
- areas for cutting, painting, drying,
- safe zones for large installations.

Without infrastructure → chaos.

Preventive Strategies:

- Provide dedicated Trash Design studio or temporary classroom conversion.
- Use labeled bins for efficient sorting.
- Organise periodic “material reduction days” to avoid accumulation.

3.2. Safety hazards

Risk:

Materials may include:

- sharp metal edges,
- broken electronics,
- allergens (old textiles),
- heavy objects,
- hot glue, drills, cutting tools.

Preventive Strategies:

- Implement strict safety protocols (PPE, gloves, eyewear).
- Use only battery-free e-waste, no chemical components.
- Teacher must check all materials before use.
- Train students on tool operation with certification steps.

3.3. Fire safety and structural stability

Risk:

Large structures can be flammable or collapse.

Preventive Strategies:

- Use LED lighting only (no heat).
- Spray cardboard and textiles with eco-friendly flame retardants if required.
- Teacher or technician checks structural integrity before display.
- Limit maximum height/weight.

4. Educational and Assessment Risks

4.1. Difficulty assessing individual work in a group

Risk:

Students may hide within the group.

Preventive Strategies:

- Require weekly individual logs.
- Use peer and self-assessment rubrics.
- Conduct mid-term interviews.
- Grade both individual work and group performance.

4.2. Uneven learning outcomes

Risk:

Not all students gain the same technical, conceptual, and creative skills.

Preventive Strategies:

- Build individual “micro-tasks” into each phase.
- Offer differentiated instruction (extra support or advanced challenges).
- Rotate roles so every student learns construction, design, planning, etc.

5. Social, Cultural, and Environmental Perception Risks

5.1. Misunderstanding of Trash Design as “cheap” or “low-quality art”

Risk:

Some parents, administrators, or students may not understand the value.

Preventive Strategies:

- Organize public exhibitions.
- Collaborate with professional Trash Designers.
- Share success stories from museums and biennales.
- Produce documentaries or school magazines showing process and expertise.

5.2. Hygiene concerns regarding waste materials

Risk:

Parents or administration may worry about cleanliness.

Preventive Strategies:

- Only use washed, disinfected, dry materials.
- Avoid food waste, chemical containers, or unsafe household items.
- Provide a visible cleaning/sorting protocol.

6. Long-Term Sustainability Risks

6.1. Projects generating more waste after completion

Risk:

Ironically, upcycle projects can create excess material.

Preventive Strategies:

- Plan the end-of-life of installations.
- Recycle components into next year’s projects.
- Donate usable parts to community spaces.

6.2. Over-reliance on external waste sources

Risk:

If the school cannot source enough materials → project stalls.

Preventive Strategies:

- Build partnerships with:
  - recycling centers
  - NGOs
  - companies donating clean production scrap
  - local makerspaces

Summary

Introducing long-term Trash Design projects in art schools is high-impact but high-risk.

The success of implementation depends on:

✓ **careful planning**
✓ **strong safety frameworks**
✓ **proactive motivation strategies**
✓ **teacher support**
✓ **clear assessment methods**
✓ **well-managed logistics**
✓ **community partnerships**

When these protective measures are in place, Trash Design becomes one of the most powerful, interdisciplinary, environmentally meaningful art education approaches available today.

ESSAY

1. Essay Outline: “The Aesthetics of Waste: Can Trash Become Beauty?”
Thesis:
Trash Design redefines beauty by transforming discarded materials into aesthetically compelling objects, challenging traditional art hierarchies and expanding contemporary visual culture.
Arguments:
1. Beauty as a cultural construct
- Historical standards of beauty change over time.
- Avant-garde movements (Dada, Arte Povera) already questioned “noble” materials.

2. Transformation as an aesthetic process
- Material metamorphosis (cleaning, cutting, assembling).
- Visual impact through texture, color, and scale.

3. Artists demonstrating beauty in waste
- Bordalo II’s vibrant animal sculptures.
- Jane Perkins’ intricate object mosaics.
- Vik Muniz’s photographic compositions from garbage.

4. Audience perception and emotional response
- Beauty contrasted with disgust.
- Cognitive dissonance creates stronger engagement.

Suggested Bibliography:
- Nicolas Bourriaud, Relational Aesthetics
- Lucy Lippard, Six Years: The Dematerialization of the Art Object
- William McDonough & Michael Braungart, Cradle to Cradle
- Exhibition: Waste Land (Vik Muniz documentary)

2. Essay Outline: “Trash Design as Environmental Activism”
Thesis:
Trash Design serves as a powerful tool of environmental activism, raising awareness, educating the public, and inspiring behavioral changes toward sustainability.
Arguments:
1. Visual communication of ecological crises
- Art makes intangible problems emotionally recognizable.
- Plastic pollution, ocean waste, e-waste mountains.

2. Artists using activism in practice
- Aurora Robson → marine plastic sculptures.
- Subodh Gupta → commentary on consumption culture.
- Chris Jordan → data-driven visual activism.

3. Public-space installations as activism
- Street art increases accessibility.
- Urban interventions reach non-art audiences.

4. Behavioral impact & limitations
- Evidence of attitude change.
- Risk of “eco-fatigue” or performative activism.

Bibliography:
- T.J. Demos, Decolonizing Nature
- Chris Jordan, Running the Numbers
- Robson, Project Vortex website
- Articles on environmental communication in art journals

3. Essay Outline: “Trash Design and the Circular Economy”
Thesis:
Trash Design embodies circular economy principles by extending the life cycle of materials, reducing waste, and promoting sustainable production models.
Arguments:
1. Definition of circular economy
- Reuse, repair, remanufacture.
- Trash Design as a practical application.

2. Life-cycle extension through design
- Material recovery processes.
- Upcycling vs downcycling.

3. Case studies
- Precious Plastic (global recycled plastic workshops).
- TerraCycle (industrial-scale upcycling).
- Haroshi (skateboard sculptures).

4. Challenges of scaling Trash Design
- Cost, availability of materials, industrial limitations.
- Need for institutional support.

Bibliography:
- Ellen MacArthur Foundation reports
- McDonough & Braungart, Cradle to Cradle
- Gunter Pauli, The Blue Economy
- Precious Plastic documentation

4. Essay Outline: “Material Memory: Stories Hidden in Discarded Objects”
Thesis:
Trash Design reveals the emotional, cultural, and historical narratives embedded in discarded objects, turning waste into carriers of memory.
Arguments:
1. Objects as memory archives
- Theories of material culture (anthropology, sociology).
- Emotional traces in used objects.

2. Artists who work with memory-laden materials
- Haroshi (skateboards with histories of use).
- El Anatsui (bottle caps carrying colonial histories).
- Christian Boltanski (found clothes as memory).

3. Symbolic transformation
- From personal history to universal reflection.
- Memory as part of the aesthetic value.

4. Reception and interpretation
- How audiences decode material histories.
- Cultural context and interpretation.

Bibliography:
- Arjun Appadurai, The Social Life of Things
- Daniel Miller, Stuff
- Exhibition catalogs: El Anatsui
- Scholarly texts on memory and material culture

5. Essay Outline: “Trash Design vs. Traditional Art”
Thesis:
Trash Design challenges the boundaries of high art by redefining materials, production methods, and artistic legitimacy.
Arguments:
1. Traditional materials vs contemporary materials
- Stone, bronze, oil paint vs plastics, waste, e-waste.
- Changing definitions of “craftsmanship.”

2. Institutional acceptance
- Major museums acquiring upcycled works.
- Biennale participation of trash-based artists.

3. Audience prejudice and hierarchy
- Waste-associated stigma.
- Artistic vs “craft” vs “DIY” stereotypes.

4. Trash Design as conceptual art
- Material choice carries meaning.
- Links to Dada, Arte Povera, Fluxus.

Bibliography:
- Germano Celant, Arte Povera
- Arthur Danto, The Transfiguration of the Commonplace
- Exhibitions: MoMA, Tate Modern on contemporary materials

6. Essay Outline: “Ethics and Responsibility in Trash Design”
Thesis:
Trash Designers must navigate ethical issues related to safety, hygiene, sourcing, and environmental responsibility.
Arguments:
1. Material safety and public perception
- Safe vs unsafe waste (chemicals, electronics).
- Hygiene standards in classroom and exhibitions.

2. Ethical sourcing
- Avoiding exploitation of informal waste workers.
- Transparency and community involvement.

3. Impact analysis
- Does the artwork truly reduce waste?
- Risk of generating new waste.

4. Ethical communication
- Avoiding greenwashing.
- Truthful representation of environmental issues.

Bibliography:
- Waste management guidelines (UNEP, EU)
- Ethical design articles in design journals
- Case studies from social design programs

7. Essay Outline: “Scale and Spectacle in Trash Art”
Thesis:
Large-scale Trash Design installations leverage scale and spectacle to amplify environmental messages and deepen audience engagement.
Arguments:
1. The power of monumental art
- Psychological impact of size.
- Public-space visibility.

2. Material accumulation as concept
- Using tons of waste to evoke shock.
- Quantifying environmental damage.

3. Case studies
- Bordalo II “Big Trash Animals.”
- Tim Noble & Sue Webster shadow sculptures.
- Tara Donovan large installations from repetition.

4. Logistical challenges and sustainability
- Transport, storage, safety.
- Environmental footprint vs benefit.

Bibliography:
- Claire Bishop, Installation Art
- Exhibition catalogs of Donovan, Bordalo II
- Urban intervention literature

8. Essay Outline: “Trash Design as a Tool for Community Engagement”
Thesis:
Trash Design fosters community engagement by combining art, education, and environmental stewardship in participatory processes.
Arguments:
1. Social learning through collective making
- Shared responsibility and collaboration.
- Intergenerational or cross-group involvement.

2. Community-based Trash Design initiatives
- Workshops, public murals, co-created sculptures.
- School and NGO partnerships.

3. Empowerment and environmental literacy
- Hands-on understanding of waste streams.
- Building sustainable habits.

4. Challenges and ethical considerations
- Ensuring inclusion.
- Avoiding top-down “art imposed on community.”

Bibliography:
- Grant Kester, Conversation Pieces
- Suzanne Lacy, Mapping the Terrain
- Social design project documents (NGOs)

9. Essay Outline: “Future Materials: Can Waste Replace Traditional Resources?”
Thesis:
Rapid innovation in waste-based materials shows strong potential for replacing traditional resources in art, design, and industry.
Arguments:
1. Overview of emerging recycled materials
- Recycled plastics, mycelium, papercrete, bio-composites.
- Industrial pilots and trends.

2. Advantages over traditional materials
- Lower carbon footprint.
- Lower cost and accessibility.

3. Artistic potential
- Transparency, color, modularity, flexibility.
- Case studies of artists using new materials.

4. Limitations and challenges
- Durability.
- Public acceptance.
- Production scalability.

Bibliography:
- Material studies from MIT, Material District
- Ellen MacArthur Foundation reports
- Journals on biomaterials & design innovation

10. Essay Outline: “Waste as a Mirror of Society: Cultural Meanings of Trash”
Thesis:
Trash Design exposes social, economic, and cultural dynamics by analyzing what societies discard and why.
Arguments:
1. Waste as cultural data
- Anthropological insights: consumption, status, inequality.
- “Garbage archaeology.”

2. Global waste flows and injustice
- E-waste exported to developing nations.
- Environmental racism.

3. Trash in contemporary art as critique
- Works of Subodh Gupta, El Anatsui, Chris Jordan.
- Commentary on global capitalism and mass production.

4. Trash Design and identity
- National, local, and personal waste profiles.
- Material identity as cultural commentary.

Bibliography:
- Robin Nagle, Picking Up
- Anna Tsing, The Mushroom at the End of the World
- UN reports on global waste trade
- Exhibitions of El Anatsui, Gupta

TRASH DESIGN IN ART EDUCATION: BENEFITS, CHALLENGES, AND EUROPEAN CONTEXTS

Introduction

As global concerns about climate change, waste production, and resource depletion intensify, educational institutions face increasing pressure to integrate sustainability into their pedagogical frameworks. Among the most dynamic approaches emerging in contemporary art education is Trash Design—a creative methodology that redefines waste as a valuable artistic material. Trash Design encourages students to transform discarded objects into sculptures, functional objects, installations, and design prototypes. It blends artistic innovation with ecological awareness, inviting young creators to critically examine consumption, material culture, and the potential of reuse.

Introducing Trash Design into the curriculum of art schools represents more than a shift in artistic technique. It involves changes in mindset, institutional practices, and collaborative models. This essay explores the benefits and opportunities arising from such implementation; the challenges and barriers schools may face; and the broader educational contexts of four European partner countries—Poland, Italy, Spain, and Romania—where differing systems, traditions, and cultural priorities shape the potential for integration. The analysis draws on educational theory, design research, and examples of international collaboration, providing a comprehensive overview for educators, policymakers, and cultural institutions.

1. Benefits and Opportunities of Implementing Trash Design in Art Education

1.1 Benefits for Students

Introducing Trash Design into artistic education offers a rich set of pedagogical, cognitive, and emotional benefits for learners. Because waste materials are inexpensive, abundant, and visually diverse, they democratize creativity and reduce economic barriers to experimentation.

First, Trash Design fosters creative problem-solving. Unlike traditional materials—such as canvas, clay, or metal sheets—waste materials are often irregular, fragmented, or technically challenging. Students must analyze each object’s shape, texture, form, and limitations, and then adapt their ideas accordingly. This process nurtures adaptability and reinforces the principle that creativity emerges from constraint.

Second, Trash Design deepens environmental awareness. Students directly engage with issues such as waste production, recycling systems, consumerism, and ecological responsibility. Through hands-on work, they internalize knowledge about material life cycles, durability, and repurposing. This makes sustainability a lived experience rather than an abstract lesson.

Third, Trash Design strengthens collaborative and interpersonal skills, especially when projects are developed in groups. Large-scale installations, recycled furniture, or public artworks demand coordinated teamwork, delegation of tasks, and negotiation of artistic direction. Students learn to articulate ideas, resolve conflicts, and co-create under shared responsibility.

Finally, Trash Design supports social and emotional development. Students often feel pride in transforming “worthless” materials into sophisticated objects or meaningful artworks. This can boost confidence, especially among learners who struggle with classical drawing or sculpting but excel in hands-on or conceptual tasks.

1.2 Benefits for Teachers

The integration of Trash Design also offers significant advantages for educators. It opens space for pedagogical innovation, enabling teachers to experiment with interdisciplinary teaching that combines art, engineering, environmental science, and social engagement. Teachers enrich their professional toolbox by incorporating contemporary artistic practices that resonate with global environmental discourse.

Trash Design increases student engagement; because it relies on tactile, surprising materials and visible transformations, it naturally stimulates curiosity. Many teachers report higher motivation and participation when lessons involve assembling, deconstructing, or experimenting with found objects.

Additionally, Trash Design creates opportunities for professional development. Teachers may participate in workshops, residencies, and European mobility programmes focused on sustainability, design thinking, and creative reuse. This strengthens institutional capacity and fosters a culture of continuous growth.

1.3 Benefits for Educational Institutions

At the institutional level, Trash Design can significantly enhance a school’s public image, positioning it as forward-thinking, socially responsible, and aligned with sustainable development goals. Exhibitions of upcycled art often receive media attention and strengthen community relationships.

Institutions that adopt Trash Design also align themselves with European educational priorities, particularly the Green Competences Framework and Erasmus+ objectives promoting sustainability and innovation. This makes schools more competitive when applying for international partnerships or funding opportunities.

Moreover, Trash Design encourages interdepartmental collaboration—between sculpture, design, architecture, photography, and environmental studies—which strengthens the internal coherence of educational programmes.

1.4 Opportunities for International Collaboration

Because Trash Design intersects with sustainability, youth participation, and contemporary art—all key themes in European policy—it offers excellent opportunities for cross-border collaboration.

Art schools can participate in:

- Erasmus+ strategic partnerships (KA210, KA220)
- Creative Europe cultural projects
- European Solidarity Corps volunteer initiatives
- International competitions such as the Green Product Award – Youth Edition or Young Designers Awards

International Trash Design projects enable students to compare waste cultures, share techniques, co-create large installations, and participate in hybrid exhibitions. These experiences strengthen intercultural competences and help institutions build long-term networks.

1.5 Potential Funding Opportunities

Trash Design opens access to a variety of funding sources, including:

- EU programmes (Erasmus+, Creative Europe)
- National sustainability grants
- Municipal cultural budgets
- Partnerships with waste management companies or eco-conscious brands

Institutions that demonstrate strong sustainability profiles are increasingly prioritized in competitive funding environments.

2. Challenges and Barriers to Implementing Trash Design in Schools

Despite its many benefits, implementing Trash Design presents several obstacles. These must be carefully analyzed to ensure a sustainable, realistic, and safe integration into school systems.

2.1 Organizational and Bureaucratic Obstacles

Working with waste materials requires:

- adequate storage space,
- clear hygiene standards,
- safe transport of materials,
- proper disposal of by-products.

Many schools lack the necessary infrastructure or protocols for collecting and storing discarded objects. Additionally, scheduling long workshop sessions within standardized timetables may be challenging.

Mitigation strategies include piloting small-scale modules before full implementation, forming partnerships with local waste companies, and creating dedicated Trash Design labs where materials can be safely stored and sorted.

2.2 Lack of Expertise or Resources

Teachers may initially feel unprepared to work with:

- power tools,
- recycled construction materials,
- waste-based engineering techniques,
- large-scale installations.

Technical knowledge is essential for student safety. Some schools lack tools such as drills, protective gear, or cutting equipment.

Solutions include providing teacher training, hiring technicians, collaborating with local makerspaces, and investing in basic equipment through grants or school budgets.

2.3 Resistance to Innovation or Curriculum Reform

Innovation may provoke resistance from teachers or administrators who perceive Trash Design as:

- incompatible with traditional art education,
- too time-consuming,
- insufficiently structured,
- potentially unsafe.

There may also be concerns that Trash Design lacks clear learning outcomes or undervalues classical techniques.

These concerns can be addressed by demonstrating how Trash Design aligns with national curricula in design, sculpture, and material studies, and by highlighting successful examples from other institutions.

2.4 Motivation of Young People

While many students thrive with hands-on, experimental activities, others may feel:

- uncomfortable handling waste,
- overwhelmed by large projects,
- uncertain about creative direction,
- disengaged during long planning phases.

Group conflicts may arise, especially in collaborative installations.

Recommended solutions include dividing tasks into clear roles (designer, builder, researcher), introducing intermediate milestones, offering individual micro-tasks, and showing inspiring examples from international Trash Designers.

2.5 Safety and Logistical Constraints

Working with discarded materials requires strict safety protocols. Risks include:

- sharp metal edges,
- broken plastic,
- electronics containing batteries or toxic components,
- fumes from adhesives or paints.

A rigorous safety module should precede practical work. Schools must ensure access to personal protective equipment (gloves, goggles), supervise tool use, and avoid hazardous materials.

National Perspectives and Educational Contexts

The potential for integrating Trash Design varies across European countries. Poland, Italy, Spain, and Romania represent diverse educational systems, cultural traditions, and institutional capacities. Their comparative analysis highlights both common opportunities and structural differences.

3.1 Poland

Poland has a well-developed network of public art schools offering specialized training in sculpture, design, and applied arts. The national core curriculum includes material studies, 3D design, and interdisciplinary practice, making Trash Design highly compatible.

Legal frameworks allow schools to introduce innovative modules and create their own electives. Environmental education is increasingly emphasized nationally.

Key stakeholders include:

- municipal cultural institutions,
- NGOs promoting ecological awareness,
- recycling companies that can provide materials.

Opportunities for EU project participation are strong due to Poland’s active engagement in Erasmus+ and Creative Europe.

3.2 Italy

Italy has a deeply rooted tradition of craftsmanship, design, and material innovation. Liceo Artistico and other art institutions focus heavily on product design, architecture, and contemporary sculpture.

Regional autonomy enables flexible curriculum adaptation. Trash Design fits naturally with Italian design identity, which values reinterpreting materials and sustainable aesthetics.

Local municipalities often support creative environmental projects. Italian students can draw on a rich tradition of design fairs, public festivals, and eco-conscious art movements.

3.3 Spain

Spain’s artistic education system includes dedicated design and applied arts schools (Escuelas de Arte) known for strong sculpture and spatial design programs. Cultural festivals such as Las Fallas have historically used recycled materials, providing a cultural foundation for Trash Design.

Autonomous communities have significant influence over curricula, allowing incorporation of sustainability modules. Local governments frequently partner with schools on public installations.

Spain offers excellent opportunities for public exhibitions, competitions, and collaborations with environmental NGOs.

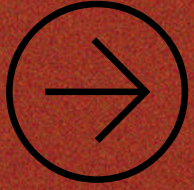
3.4 Romania

Romania’s art schools are more traditional, with strong emphasis on classical drawing, painting, and sculpture. However, there is growing openness to contemporary practices and interdisciplinary approaches.

Schools may add elective modules through the “curriculum at the school’s decision” mechanism, which creates space for Trash Design.

Romania excels in accessing EU structural funds and green education grants. NGOs play a crucial role in promoting environmental awareness and can support schools with materials and expertise.

CONCLUSION



Conclusion

Integrating Trash Design into art education presents a wealth of benefits: enhanced creativity, environmental awareness, technical skill development, and stronger institutional identity. It aligns perfectly with contemporary priorities in sustainable development, project-based learning, and European cooperation. Yet, successful implementation requires addressing logistical, pedagogical, and motivational challenges. Clear planning, teacher training, safe working conditions, and international collaboration are essential.

Across the four analyzed countries—Poland, Italy, Spain, and Romania—Trash Design fits within existing educational structures, though each context demands different strategies. Together, these insights form a strong foundation for implementing Trash Design not only as a teaching method, but as a transformative cultural practice preparing young artists for a world where sustainability and innovation are inseparable.

END

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