

Paper Mache Products Artisan

(Qualification Pack: Ref. Id. HCS/Q4401)
Sector: Handicraft and Carpet Sector

(Class 12th)

विद्यया ऽ मृतमश्नुते



एन सी ई आर टी
NCERT

PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION

(A constituent unit of NCERT, under MOE, Government of India)

Shyamla Hills, Bhopal- 462 002, M.P., India

<http://www.psscive.ac.in>

© PSS Central Institute of Vocational Education, Bhopal 2024

No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of the publisher.

Preface

Vocational Education is a dynamic and evolving field, and ensuring that every student has access to quality learning materials is of paramount importance. The journey of the PSS Central Institute of Vocational Education (PSSCIVE) toward producing comprehensive and inclusive study material is rigorous and time-consuming, requiring thorough research, expert consultation, and publication by the National Council of Educational Research and Training (NCERT). However, the absence of finalized study material should not impede the educational progress of our students. In response to this necessity, we present the draft study material, a provisional yet comprehensive guide, designed to bridge the gap between teaching and learning, until the official version of the study material is made available by the NCERT. The draft study material provides a structured and accessible set of materials for teachers and students to utilize in the interim period. The content is aligned with the prescribed curriculum to ensure that students remain on track with their learning objectives.

The contents of the modules are curated to provide continuity in education and maintain the momentum of teaching-learning in vocational education. It encompasses essential concepts and skills aligned with the curriculum and educational standards. We extend our gratitude to the academicians, vocational educators, subject matter experts, industry experts, academic consultants, and all other people who contributed their expertise and insights to the creation of the draft study material.

Teachers are encouraged to use the draft modules of the study material as a guide and supplement their teaching with additional resources and activities that cater to their students' unique learning styles and needs. Collaboration and feedback are vital; therefore, we welcome suggestions for improvement, especially by the teachers, in improving upon the content of the study material.

This material is copyrighted and should not be printed without the permission of the NCERT-PSSCIVE.

Deepak Paliwal
(Joint Director)
PSSCIVE, Bhopal

Textbook Development Committee

Members

1. Dr. Balwant Singh Bhadoria, Associate Professor, Department of Fine Arts and Performing Arts, Dr. Harisingh Gour University (Central University), Sagar, Madhya Pradesh
2. Dr Niharika Singhal, Guest Lecturer (Painting), Govt Fine arts college (Gwalior), Owner at Graphic Design Agency Design World, Gwalior, Madhya Pradesh
3. Mr. Veerendra Singh Nagvanshi, Teacher, Paper Mache Art, The Scindia School
4. Mr. Ramgopal Prajapati, Paper Mache Artisan, Gwalior, Madhya Pradesh
5. Mr. Aman Varma, Associate Creative Director, Pocket FM, Bangalore
6. Mr. Tarunay Singh, Department of Home Science and Hospitality Management, PSSCIVE, Bhopal

PSSCIVE Faculty

1. Mr. Amit Chotrani Assistant Professor, Department of Home Science & Hospitality Management, PSSCIVE, Bhopal

Member Coordinator

1. Pinki Khanna, Professor and Head, Department of Home Science and Hospitality Management, PSSCIVE, Bhopal (M.P.)

Table of Contents

S. No.	Title	Page No.
1.	Module 1: Current Scenario, Employability and Entrepreneurship in Paper Mache Craft	1
	Module Overview	1
	Learning Outcomes	1
	Session 1: Emerging Trends in Paper Mache Products	1
	Activities	6
	Check Your Progress	6
	Session 2: Planning for Entrepreneurial Success with Paper Mache Craft	7
	Activities	13
	Check Your Progress	14
2.	Module 2: Design Thinking, Innovation and Aesthetics	16
	Module Overview	16
	Learning Outcomes	16
	Session 1: Design Thinking and Innovation	16
	Activities	21
	Check Your Progress	22
	Session 2: Measurements, Drawings and Shaping Ideas into Products	23
	Activities	30
	Check Your Progress	31
	Session 3: Role of Aesthetics in Craft	32
	Activities	36
	Check Your Progress	37
3.	Module 3: Design and Development for different Paper Mache Products	38
	Module Overview	38
	Learning Outcomes	38
	Session 1: Product Making Using Sculpting Technique	39
	Activities	63
	Check Your Progress	64
	Session 2: Product Making Using Molding and Casting Technique	66

	Activities	80
	Check Your Progress	82
4.	Module 4: Sustainability for Paper Mache Craft	84
	Module Overview	84
	Learning Outcomes	84
	Session 1: Sustainability in Paper Mache Craft	84
	Activities	87
	Check Your Progress	88
	Session 2: Sustainable Development Goals and their Targets	89
	Activities	98
	Check Your Progress	99
5.	Module 5: Effective Teamwork at Workplace	100
	Module Overview	101
	Learning Outcomes	101
	Session 1: Accountability, Adaptability, Commitment and Trust at Workplace	101
	Activities	112
	Check Your Progress	113
	Session 2: Creativity and Efficiency at Workplace	114
	Activities	121
	Check Your Progress	121
6.	Module 6: Complying with Workplace Requirements	123
	Module Overview	124
	Learning Outcomes	124
	Session 1: Situation Management at Workplace	124
	Activities	133
	Check Your Progress	134
	Session 2: Workplace Environment, Security Measures, and Emergency Management	136
	Activities	142
	Check Your Progress	143
7.	Answer Key	145

Module 1	Current Scenario, Employability and Entrepreneurship in Paper Mache Craft
-----------------	--

Module Overview

Unit 1 introduces how traditional paper mache is evolving to meet today's needs while creating meaningful livelihoods. It begins by mapping the shift from purely decorative objects to a wide range of functional, market-ready products such as eco-friendly packaging, home and office utilities, wearable art, furniture add-ons, and culturally inspired gifts. Learners explore why paper mache is valued today: it is strong yet lightweight, uses recycled materials, and aligns with sustainable, handmade market preferences.

The unit then connects craft to careers. It highlights employability avenues for students and artisans covering trend mapping, quality control, personalization, and material integration as well as the essentials of planning a small business. From identifying customer segments and building a simple digital presence to choosing sustainable packaging and maintaining consistent quality, students learn how to translate creativity into saleable products and brand value.

Learning Outcomes

After completing this module, you will be able to:

- Identify Emerging Trends in Paper Mache Products
- Planning for Entrepreneurial Success with Paper Mache Craft

Module Structure

Session: 1 Emerging Trends in Paper Mache Products

Session: 2 Planning for Entrepreneurial Success with Paper Mache

Session 1: Emerging Trends in Paper Mache Products

Paper mache craft has changed a lot with time. Earlier it was used mostly for decoration, but today it is being used to make useful and modern products. These products are not only beautiful but also eco-friendly. In this session, we will understand how paper mache is helping people in daily life, how it supports the environment, and how it can help create jobs and small businesses.

Introduction to Modern Paper Mache Products

Modern paper mache is used to make more than just decorative items. Now, it is used in packaging, fashion, furniture, and even useful household items.

It is strong yet lightweight. It is eco-friendly, as it is made from waste paper. It is gaining popularity in markets that support sustainable and handmade products. This shift in product use has opened many job opportunities for artisans and young entrepreneurs.

Eco-Friendly Packaging

Paper mache is now used to make packaging boxes and trays instead of plastic. These packaging materials:

- Can be recycled or decomposed naturally
- Are safe for the environment
- Can be designed in attractive shapes and colours for branding.



Fig 1.1: Eco-Friendly Packaging

For example, gift boxes, food containers, and handmade cosmetic packaging made from paper mache are now being used by eco-conscious brands.

Functional Products

Functional means "useful in daily life". Paper mache is used to make such practical items like:

- Pen stands, trays, and bowls
- Lampshades, storage boxes, and organizers
- Key holders and coasters



Fig 1.2: Key holder, coasters and pen stand

These are useful for homes, schools, and offices. They are attractive, lightweight, and often hand-painted.

Fashion and Wearable Art

Paper mache is also used in fashion and style-related products. It is molded and painted into creative wearable items such as:

- Earrings, necklaces, bangles
- Hair clips, brooches, masks
- Fashionable badges and ornaments

Since it is lightweight, colorful, and easy to shape, many designers use it for costume jewellery and artistic wearables.



Fig 1.3: Necklace set and bangles of paper mache

Furniture Add-ons

Paper mache can be used to decorate or enhance furniture. It is applied as a covering or shaped into small parts like:

- Decorative panels on drawers
- Artistic knobs or handles
- Coated surfaces on tables or stools



Fig 1.4: Decorative Stool of paper mache

It adds a handmade and artistic touch to old furniture, giving it a new life and appeal.

Gift and Lifestyle Products

Paper mache items are commonly used for gifting and home decor because they are colorful, handcrafted, and meaningful. Popular items include:

- Jewellery boxes, photo frames, and mobile holders
- Wall clocks, Wall Hangings, pen stands, and key holders
- Decorative trays, candle stands, and vases



Fig 1.5: Wall hangings

These products are in demand during festivals, events, and special occasions.

Art Integration

Nowadays, paper mache is often combined with various traditional art and craft forms such as Lippan, Gond, and Warli to create unique and culturally rich designs. It is also used as a textured base for paintings, adding depth and character to artworks. Additionally, artisans are exploring functional uses of paper mache by crafting products like mobile charging stands, key holders, and decorative utilities, blending creativity with everyday utility.



Fig 1.6: Gond art done with paper mache



Fig 1.7: Warli art done with paper mache

Many traditional handicrafts in India are gradually disappearing and are rarely seen in the mainstream market today. A major reason for this decline is the lack of adaptation to contemporary trends and changing consumer preferences. Many artisans have not embraced modern techniques, updated designs, or evolving work environments. Without innovation and the willingness to adjust to current market demands, these crafts struggle to remain relevant and sustainable in today's dynamic world.

In the later part of this book, we will explore the concepts of design thinking and innovation to understand how new product ideas can be developed to meet market needs. We will also trace the journey of an idea to a finished product, encouraging artisans to think creatively and adapt for the future.

Modern paper mache products show how traditional craft can meet today's needs. They are useful, eco-friendly, and support sustainable living. By making or selling such products, many people are earning money and building careers. This also helps in promoting Indian art and reducing the use of harmful plastic items.



Fig 1.8: Wall hanging done with paper mache

Activities

Activity: Find three plastic or metal items used at home or school (like a pen holder, jewellery box, or gift box). Imagine how each item can be replaced with a paper mache version. Draw or describe what your paper mache version would look like.

Material Required

1. Notebook or drawing sheets
2. Pencil, eraser, ruler
3. Colour pencils or crayons (optional)
4. Reference objects (like pen stand, gift box, photo frame)

Procedure

1. Look around your home or school and identify any three items that are commonly made from plastic, metal, or wood.
2. Note down the name and use of each item.
3. Think about how the same item could be made using paper mache.
4. Draw a simple sketch of each paper mache version or write a few lines describing how it would look and function.
5. Mention why a paper mache version is better for the environment.

Check Your Progress

A. Fill in the Blanks

1. Modern paper mache products are _____ and biodegradable.
2. Paper mache is used to make _____ packaging items.
3. Paper mache jewelry and masks are examples of _____ art.
4. Pen stands and trays made from paper mache are _____ products.
5. Drawer knobs made with paper mache are known as _____ add-ons.

B. Short Answer Questions

1. What is eco-friendly packaging in paper mache?
2. Name two functional products made using paper mache.
3. How is paper mache used in the fashion industry?

C. Long Answer Question

1. Describe how paper mache is used in modern products like packaging, fashion, furniture, and gifts. Why are these products important today?

Session 2: Planning for Entrepreneurial Success with Paper Mache

A successful business is never a result of luck alone; it requires thoughtful planning, an understanding of the market, customer needs, and the ability to transform creative ideas into saleable products. The same holds true for paper mache craft, which offers vast entrepreneurial potential due to its eco-friendly nature, artistic appeal, and low-cost production. India's rich craft traditions and rising global interest in handmade, sustainable goods present a golden opportunity for paper mache artisans to turn their skills into income-generating enterprises. This session introduces learners to the essentials of planning a paper mache business from market research, product ideation, and branding to pricing strategies, customer segmentation, and packaging. Students will also learn how to use modern trends like personalization, online marketing, quality control, and sustainable practices to ensure long-term success in the paper mache business.

1. Requisites for paper mache entrepreneurial success in India

One of the major challenges in working with paper mache is managing the coordination of essential resources—such as sourcing raw materials, preparing molds, involving skilled artisans, selecting appropriate motifs, and finding suitable wholesalers and retailers for various products. Below is a suggestive layout to support organized workflow within a paper mache craft unit.

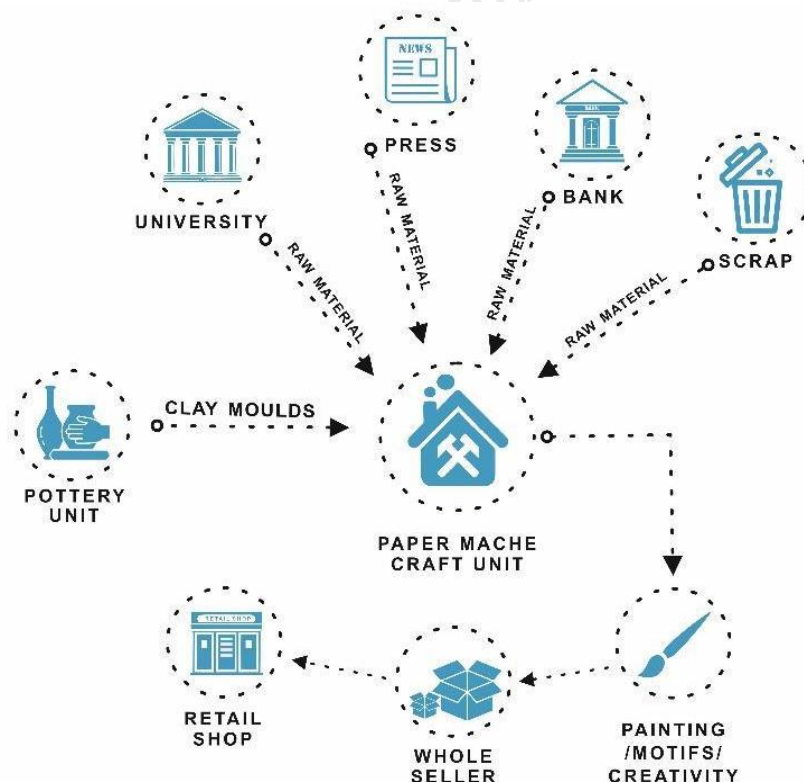


Fig 1.9: Procurement of material for paper mache

a. Trend Mapping

Trend mapping is the process of identifying consumer preferences and aligning your product ideas with emerging global or local trends.

Why it matters for paper mache:

Today's customers look for:

- Eco-friendly and sustainable items
- Unique handcrafted gifts
- Minimalist home décor
- Customized personal products
- Cultural and heritage-based items

How to apply it:

Step 1 | Identify and select a global trend

Observe what's trending in festivals, décor, gifting, and interior design.

Step 2 | Blank Canvas

A blank canvas is shown in the figure. Start writing the trend selected from the list for the desired product.

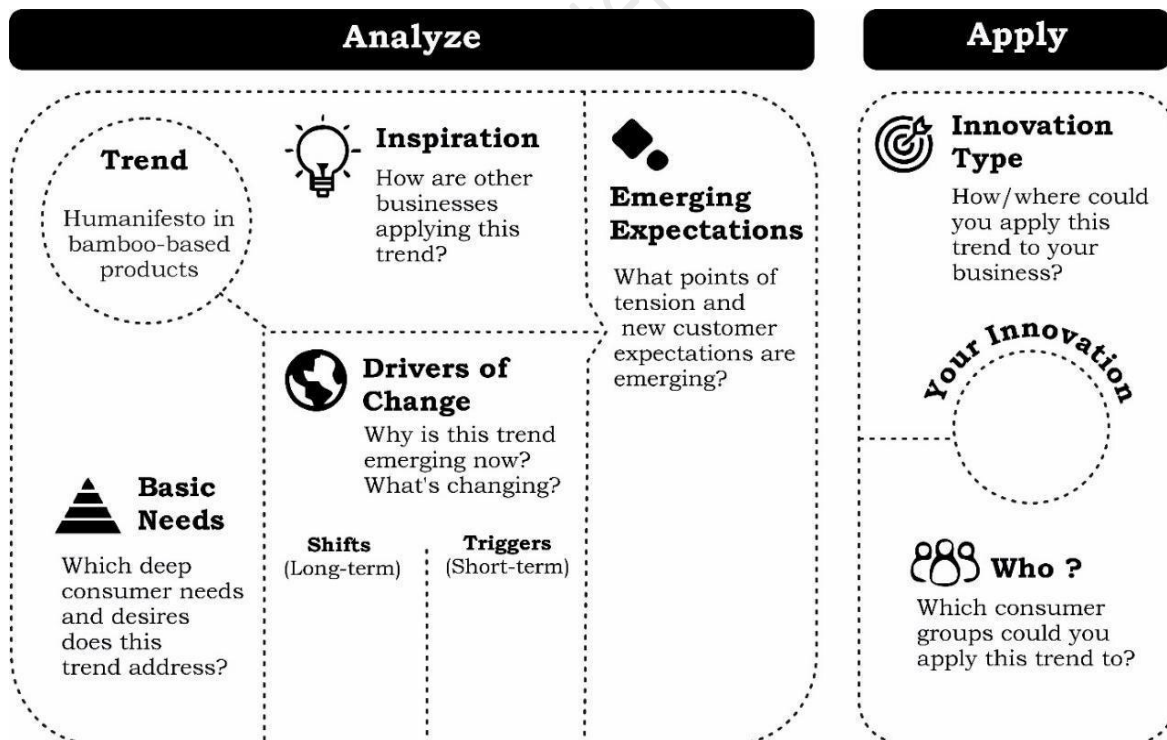


Fig 1.10: Blank canvas

You can also use tools like different social media platforms for trend reports, and craft market analysis.

Step 3 | Innovate

Innovate Using Trends and Real-Life Inspiration After identifying market trends and understanding the changes in customer needs, the next step is to use this information to create new and useful products. Take inspiration from real life, festivals, nature, or social themes. We will learn more about the full process of design thinking and innovation in the next unit.

For example: You can create eco-friendly paper mache lamps for Diwali with a “Go Green” message.

Some popular trends for paper mache products include:

- **Sustainable Design:** Using recycled paper and avoiding harmful paints.
- **Artisan Empowerment:** Telling the story of the artisan behind each product.
- **Biophilic Design:** Making designs inspired by nature, like leaves, flowers, and natural colors.
- **Minimalist Aesthetics:** Creating simple, clean, and elegant products.
- **Inclusive Themes:** Designing items that reflect different cultures, people, and traditions.

b. Artisan Empowerment

Paper mache artisans often face challenges like low income, limited access to markets, and lack of design innovation. Empowering them leads to personal growth and better economic sustainability.

- **Skill Enhancement:** Empowering paper mache artisans is essential for the growth and sustainability of this traditional craft. One of the most important ways to support artisans is through skill enhancement. This includes training them in modern techniques, such as using molds, stencils, and new tools to improve their efficiency and product quality. Along with technical skills, artisans should also receive soft skills training in areas like pricing, time management, and customer communication, which are equally important for running a successful business.
- **Access to Market:** Another key area is providing access to markets. Artisans can be linked to local exhibitions, retail shops, and digital platforms to help them reach more customers. Forming cooperatives or artisan groups is also helpful, as it allows them to work together, negotiate better deals, and sell their products collectively.

- **Microfinancing:** Microfinancing is another strong support system. Small loans can be given to artisans to set up or upgrade their workshops, buy raw materials, or invest in good packaging. These small financial aids can go a long way in building their confidence and business setup.
- **Artisanal Gifting:** Encouraging artisanal gifting is also beneficial. By promoting handmade paper mache items for festivals, weddings, cultural events, and corporate gifting, artisans get more opportunities to sell and showcase their unique creations.
- **Collaborative Platforms:** Collaborative platforms can be created where artisans work with designers, NGOs, or art schools. These joint workshops help in developing innovative products, sharing ideas, and learning new designs. All these steps combined can help paper mache artisans grow creatively and financially, while also preserving the rich tradition of this eco-friendly craft.

c. Online Presence

The digital world has opened doors for small artisans to reach national and global markets. An online presence helps in:

- Promoting your brand
- Showcasing unique products
- Selling beyond local markets
- Engaging directly with customers

How to build your presence:

1. **Social Media Pages:** Use platforms different social media platforms to share product pictures, behind-the-scenes videos, and customer stories.
2. **Website or E-Store:** Have a simple website that tells your story and displays products.
3. **Third-Party Platforms:** Sell through different e-commerce websites and applications

Tips for Success:

- Use high-quality photographs and natural lighting to show texture and design of products.
- Keep branding consistent and use the same logo, color palette, and tone.
- Write engaging product descriptions with cultural or emotional context.

d. Customer Segmentation

Customer segmentation is dividing potential buyers into groups based on shared characteristics to serve them better.

Segments relevant to paper mache craft:

1. **Geographic** – Urban eco-conscious buyers, rural schools, or cultural festivals.
2. **Demographic** – Children (toys, kits), women (home décor), adults (gifting).
3. **Psychographic** – Buyers interested in handmade, sustainable or spiritual items.
4. **Behavioral** – Regular buyers during festive seasons, gifting occasions, home renovations.
5. **Preference-Based** – Customers who want personalized designs or color schemes.

Why it matters:

- Helps in making targeted products.
- Improves customer satisfaction and repeat buying.
- Allows customized pricing and marketing strategies.

e. Quality Control

Quality decides whether a customer returns or not. Since paper mache products are delicate and handcrafted, controlling quality ensures consistency, safety, and attractiveness.

Quality Control Steps:

1. **Material Check** – Use clean, good-quality paper; ensure adhesives and paints are safe.
2. **Process Monitoring** – Proper layering, drying, and shaping techniques must be followed.
3. **Semi-Finished Check** – Check for cracks, warping, or smudged paint.
4. **Final Inspection** – Ensure neat finishing, vibrant color, durability.
5. **Measurements** – Products should match the advertised size.
6. **Aesthetic Check** – Smooth surface, proper symmetry, well-blended colors.
7. **Functionality Testing** – For lamps, trays, or utility items, test for usability.

Tip: For export or premium orders, follow stricter standards like eco-certifications and safe material use.

f. Material Integration

Paper mache can be beautifully combined with other materials to improve look and durability:

- **Wood** – Bases, handles, structural support.
- **Fabric** – Textured panels, soft linings, or mixed media artwork.
- **Metal/Wire** – Frames for masks, toys, baskets.
- **Beads/Glass** – Decoration for jewelry boxes, wall plates, or festive décor.

Why it helps: Adds character, improves strength, and opens up new design possibilities.

g. Personalization

Customized paper mache items are in demand for birthdays, weddings, religious festivals, and corporate gifts.

Ways to Personalize:

- Add names, initials, or dates.
- Use color themes based on the event.
- Make theme-based designs (spiritual symbols, regional icons).
- Create new shapes or include embedded items (beads, charms).

Benefits:

- Builds emotional connection.
- Allows for premium pricing.
- Attracts repeat customers and referrals.

h. Presentation and Packaging

Beautiful packaging enhances first impressions and protects the product.

Sustainable Packaging Options:

- Recycled paper or handmade paper wraps.
- Cloth bags or jute pouches.
- Cardboard boxes with printed logos.
- Kraft paper and natural strings or stamps.

Tips:

- Include your brand story and care instructions inside.
- Make the unboxing experience special and eco-friendly.
- Design packaging to reflect the craft's cultural value.

Planning and running a successful paper mache business requires much more than just crafting skills it calls for clear vision, market understanding, and proper use of available resources. This session highlighted all the essential elements that help build a strong foundation for entrepreneurship in paper mache.

By learning how to map trends, empower artisans, and build a digital presence, aspiring entrepreneurs can stay updated and competitive in the craft market. Understanding customer types through segmentation, maintaining high quality, and experimenting with material integration makes products more appealing and reliable. Personalization adds emotional value, and creative, sustainable packaging enhances the customer experience.

With proper planning, passion, and innovation, paper mache artisans can not only earn a livelihood but also promote India's rich handmade traditions globally. In the next sessions, students will get more practical knowledge about design thinking, product development, and business execution that will help them take the next steps in their entrepreneurial journey.

Activities

Activity: Design and Plan a Marketable Paper Mache Product

Note: Students will brainstorm, sketch, and plan a paper mache product idea that can be sold in the market. They will identify the target customer, apply a market trend, decide on packaging, and create a basic business plan for their product. The activity helps them apply what they've learned in this session.

Materials Required

1. A4 sheets or drawing paper
2. Pencils, pens, erasers
3. Color pencils or sketch pens
4. Ruler or scale
5. Scissors and glue (optional)
6. Reference images (printed or via mobile)
7. Internet access (if available)

Procedure

1. **Brainstorm a Product Idea:** Think of a simple paper mache product (e.g., lamp, decorative plate, jewellery box, nameplate, photo frame, etc.).
2. **Sketch Your Product:** Draw the shape and design of the product. Label important features like material integration, motifs, personalization, etc.
3. **Apply a Trend:** Choose a market trend (e.g., Sustainable Design, Minimalist Aesthetics, Artisan Empowerment) and explain how your product matches it.
4. **Identify Target Customer:** Decide who your customer is – children, adults, eco-friendly buyers, festive shoppers, etc.
5. **Plan Packaging:** Choose a packaging style that is attractive and eco-friendly.
6. **Write a Short Business Idea:** Describe in 5–6 lines how you will make, promote, and sell the product.
7. **Present to Class/Group:** Show your sketch and idea to others and explain why your product will succeed.

Check Your Progress

A. Fill in the Blanks

1. _____ is the process of dividing customers into different groups to understand their needs better.
2. Using recycled paper and avoiding harmful paints is part of _____ design.
3. A good _____ helps protect the product and impress the customer.
4. _____ means making changes in a product to suit individual customer preferences.
5. A strong _____ presence helps artisans reach more buyers and grow their business online.

B. Short Answer Questions

1. What are two benefits of using sustainable packaging for paper mache products?
2. How does personalization increase the value of a paper mache craft item?
3. Why is skill enhancement important for paper mache artisans?

C. Long Answer Questions

1. Explain the different ways in which an artisan can use trends and customer segmentation to design a product that sells well. Give an example.
2. Describe how online platforms, packaging, and quality control together can help build a successful paper mache brand.

Module 2**Design Thinking, Innovation and Aesthetics****Module Overview**

In this unit, learners will explore how creativity can be combined with thoughtful planning to create innovative and meaningful paper mache products. The unit focuses on three key areas design thinking, idea development, and aesthetics. Students will learn a structured method to identify problems, develop ideas, test and improve their designs, and finally, understand how to enhance the appearance and value of their products using design principles. This unit aims to prepare students to think like problem-solvers, create user-friendly products, and present their work with artistic and cultural appeal.

Learning Outcomes

After completing this module, you will be able to:

- Apply Design Thinking and Innovation
- Use of Measurements, Drawings and Shaping Ideas into Products
- Appreciate the Role of Aesthetics in Craft

Module Structure

Session: 1 Design Thinking and Innovation

Session: 2 Shaping Ideas into Products

Session: 3 Role of Aesthetics in Craft

Session 1: Design Thinking and Innovation

Design thinking is a structured and creative approach used to understand challenges, generate ideas, and develop innovative solutions. In paper mache craft, this process enables artisans to design useful and attractive products that meet real needs and stand out in the market.

Innovation, in this context, refers to introducing improvements, experimenting with materials, or creating entirely new product ideas that go beyond traditional forms. Together, design thinking and innovation build the foundation for growth in the creative industry and help keep the craft relevant in changing times.

Design thinking involves five main stages Identify the Problem, Think of Ideas, Make a Sample, Test the Product, and Improve the Product. Let's explore each stage in detail, using the example of a paper mache toy:

1. Identify the Problem

The process begins by recognizing a real problem or gap. This involves observing the environment, listening to users, and understanding their dissatisfaction with existing products. A clear understanding of the problem helps define what needs to be solved through design.

Example: A student artisan notices that a child is unhappy because her paper mache toy is too fragile and breaks easily. This observation highlights a common issue with durability in paper mache toys, forming the basis of the design challenge.

Identify the Problem

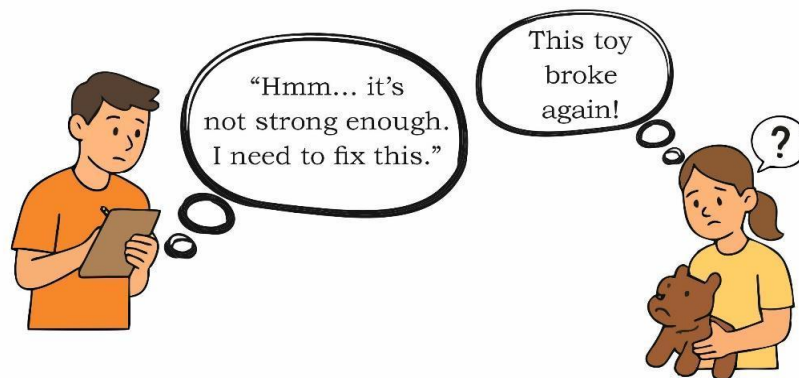


Fig. 2.1: Identify the problem

2. Think of Ideas

Once the problem is clearly defined, the next step is to think of different possible solutions. This stage involves brainstorming various ideas without worrying about whether they are perfect or practical yet. The goal is to explore new possibilities, shapes, materials, and construction methods that can solve the problem.

Example: The artisan begins sketching ideas for stronger toy models, such as animals with round, stable bases or layered construction techniques. The artisan explores different character styles such as elephants, rabbits, and giraffes that are both appealing and durable.

Think of Ideas

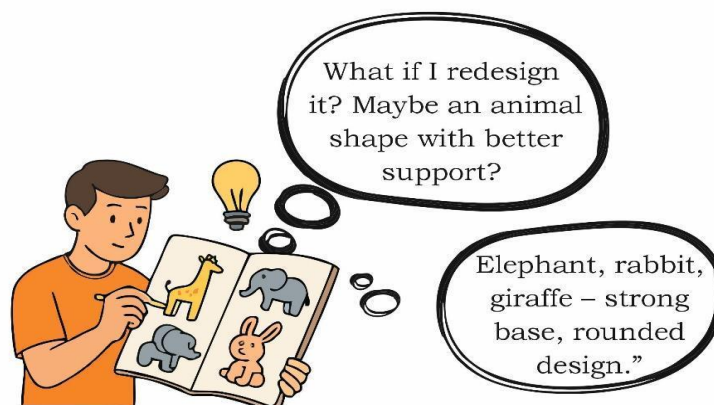


Fig. 2.2: Think of ideas

3. Make a Sample

With a selected idea, the artisan now creates a prototype or sample of the product. This version allows the designer to test the form, structure, and appeal of the toy before full production. Prototyping reveals any design issues early on.

Example: Using strips of paper, glue, and simple molding, the artisan crafts a white paper mache rabbit as a sample toy. This version is tested for shape, handling, and decoration potential, but it is not yet final.



Fig. 2.3: Make a sample

4. Test the Product

Testing the prototype helps determine if the design solves the original problem. It involves using the product in real or simulated conditions and collecting feedback from others. This step validates whether the idea is practical and effective.

Example: A child is given the paper mache rabbit to play with. The artisan closely observes how the child interacts with it and checks for cracks, loose parts, or discomfort. The child expresses joy but also points out a spot that feels too delicate.



Fig. 2.4: Test the product

5. Improve the Product

Based on feedback from testing, the artisan revises the prototype to improve quality, safety, and design. Improvements may include changing dimensions, materials, colors, or construction techniques. The updated version should better meet user needs and be ready for market.

Example: The artisan strengthens the weak spots and adds color and dotted decorations to make the rabbit more engaging. The revised version becomes brighter, sturdier, and better suited for repeated use by children.



Fig. 2.5: Improve the product

The journey from problem identification to product improvement is at the heart of design thinking. When combined with innovation, this approach allows paper mache artisans to develop meaningful, market-ready products that are both functional and delightful. The example of the paper mache toy clearly demonstrates how design thinking can be applied effectively in a craft-based setting. With consistent application of these steps, students can turn traditional skills into modern entrepreneurial opportunities.



Fig. 2.6: Final product

In the current market landscape, design thinking has become crucial due to evolving consumer demands and increased competition. Customers now seek products that are not only functional but also distinguished by their creativity and uniqueness.

To succeed in this environment, artisans and creators must continuously innovate, ensuring their offerings remain relevant and appealing.

Key reasons for the rising importance of design thinking include:

- **Market Differentiation:** Creative designs help products stand out in a crowded marketplace.
- **Customer Expectations:** Modern buyers prefer personalized and imaginative items that reflect individuality.
- **Adaptability:** Design thinking encourages artisans to adapt quickly to changing trends and customer preferences.
- **Sustaining Relevance:** Innovation ensures that traditional crafts and handmade products remain fashionable and competitive.

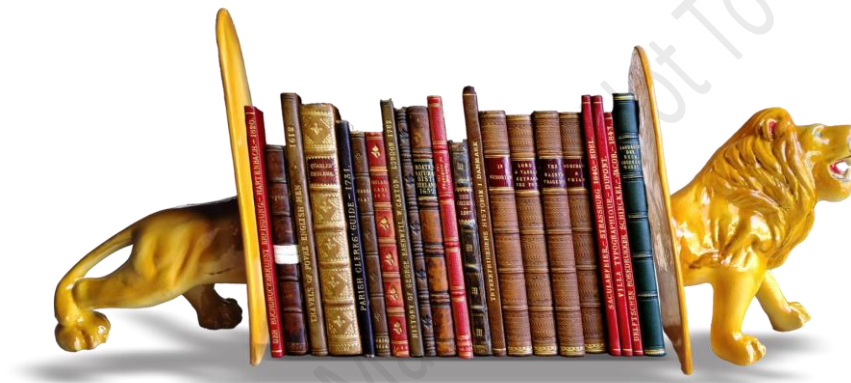


Fig. 2.7: Creative and unique designed book stand

For example, consider the image above: a lion made up of paper mache, a symbol of strength and majesty is ingeniously transformed into a book stand. This creative approach takes a familiar functional object and reimagines it in a way that is distinctive and engaging. Instead of a standard, utilitarian bookend, the artisan has crafted a piece that is both practical and an artistic conversation starter.

This exemplifies the essence of design thinking in the contemporary scenario, where regular utility products are converted into unique and innovative forms. Such designs not only serve their intended function but also add value through creativity, enhancing the user's everyday experience.

6. Creative Transformation Matters

- **Enhanced Appeal:** Products like a lion-shaped book stand capture attention, making them appealing for display and gifting.

- **Function Meets Art:** Blending utility with visual storytelling elevates ordinary items into cherished possessions.
- **Market Edge:** Distinctive, well-designed products differentiate themselves in a crowded marketplace, attracting customers looking for something special.

Encouraging artisans to think beyond basic functionality fosters ongoing innovation. By consistently reimagining regular objects be it a bookend, lamp, or furniture their work stays relevant, appreciated, and never goes out of trend.

By embracing design thinking, artisans can consistently create fresh, trendsetting products, maintaining their relevance and success in an ever-shifting market.

Activities

Activity 1: Apply design thinking and creativity by transforming a regular utility product into a nique paper mache craft.

Materials Required:

- Pencils
- Colors
- Reference images (optional)
- Notebook

Procedure

- Observe commonly used items at home or school (such as pen stands, lamp bases, bookends).
- Select one object and brainstorm ideas to redesign it as a creative paper mache product, incorporating an animal, symbol, or artistic theme.
- Sketch the new design in your notebook, labeling creative features and explaining why it stands out from the original.

Activity 2: Prototype and Test a Paper Mache Toy through the essential steps of the design thinking process by prototyping and testing a paper mache toy.

Materials Required:

- Scrap paper
- Tape or glue
- Markers or colors
- Feedback sheet.

Procedure

- Identify a problem with traditional paper mache toys (e.g., too fragile, not visually appealing).
- Develop a solution by planning a new toy design with improved features.
- Create a small-scale prototype using crumpled paper, tape (to simulate paper mache form), and simple decorations.
- Test the prototype by sharing it with a peer or family member, noting their feedback on appearance, stability, and usability.
- Write a brief reflection describing what worked well and what you would improve in the next version.

Check Your Progress

A. Fill in the Blanks

1. Design thinking is a _____ and creative approach used to solve problems.
2. The first stage of design thinking is _____ the problem.
3. Making a sample or first version of the product is called making a _____.
4. Collecting opinions after using the product is called _____.
5. Final improvements are made after testing in the _____ stage.

B. Short Answer Questions

1. What do you understand by 'Design Thinking'?
2. Why is testing the product important before finalizing it?
3. How does innovation help in the growth of paper mache craft?

C. Long Answer Questions

1. Explain the five stages of design thinking with the help of an example.
2. How can innovation help paper mache artisans compete in the modern market?

Session 2: Measurements, Drawings and Shaping Ideas into Products

A successful product is not just the result of creativity, it is the result of shaping an idea carefully. While understanding its purpose, usefulness, and appeal. In the paper mache craft sector, transforming a creative thought into a functional, innovative product requires thoughtful planning, empathy for the end-user, and careful execution.

This session helps learners understand how ideas evolve into actual products by following a structured development process. It also highlights the importance of design and innovation and encourages students to draw inspiration from real-life case studies.

Visualization and Drawing for Developing Paper Mache Products

Visualization is the process of forming a clear mental image of a design or idea before starting the actual work. It means picturing in your mind what you want the final product to look like, including its shape, size, details, and colors.

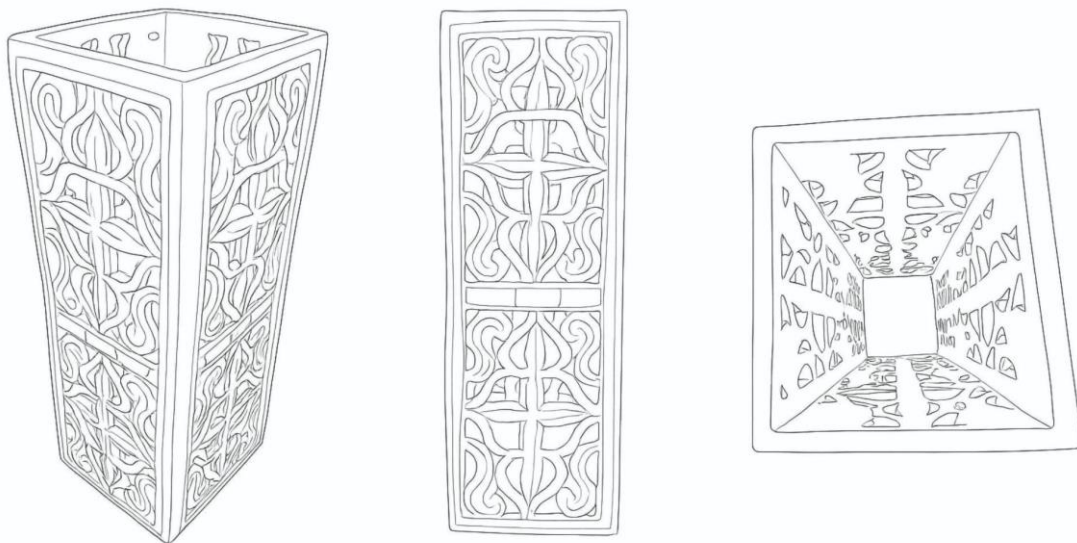


Fig. 2.8: Drawing to develop a product

Visualization allows you to plan ahead, solve problems before they arise, and ensures that your creative intentions are clear. It helps to avoid mistakes and makes the work process smoother because you know where you're going from the start. For paper mache artisans, visualization is crucial because it guides them in shaping, decorating, and finishing their products. By seeing the finished product mentally, artisans can decide what materials to use, how to build the structure, and how to add unique artistic touches. This prevents wasted material and time, and supports creative, high-quality outcomes.



Fig. 2.9: Final developed product

Drawing for Developing Paper Mache Products

Perspective Drawing

A method of producing the linear illusion of spatial depth through lines, and the size and placement of the objects is perspective drawing. The following are the elements of perspective Drawing.

- **Horizon:** The line where the sky and the ground or water below meet is known as the horizon. The eye level of the scene and the location of the vanishing point or points will be influenced by the height of the horizon.
- **Vanishing point:** The position where parallel lines seem to converge together in the distance is the vanishing point. Two parallel lines of the road recede and visually converge together to create a single vanishing point on the horizon in the image below. A scene can have multiple vanishing points.
- **Ground plane:** Below the horizon, the horizontal surface is called the ground plane. It can be land or water.
- **Vantage point:** The location from which a scene is viewed is known as the vantage point, which should not be confused with the vanishing point. The vantage point is the deciding factor to achieve the horizon and vanishing points.
- **Orthogonal lines:** In the perspective drawing, orthogonal lines are imaginary lines that converge toward the vanishing point on the horizon line.

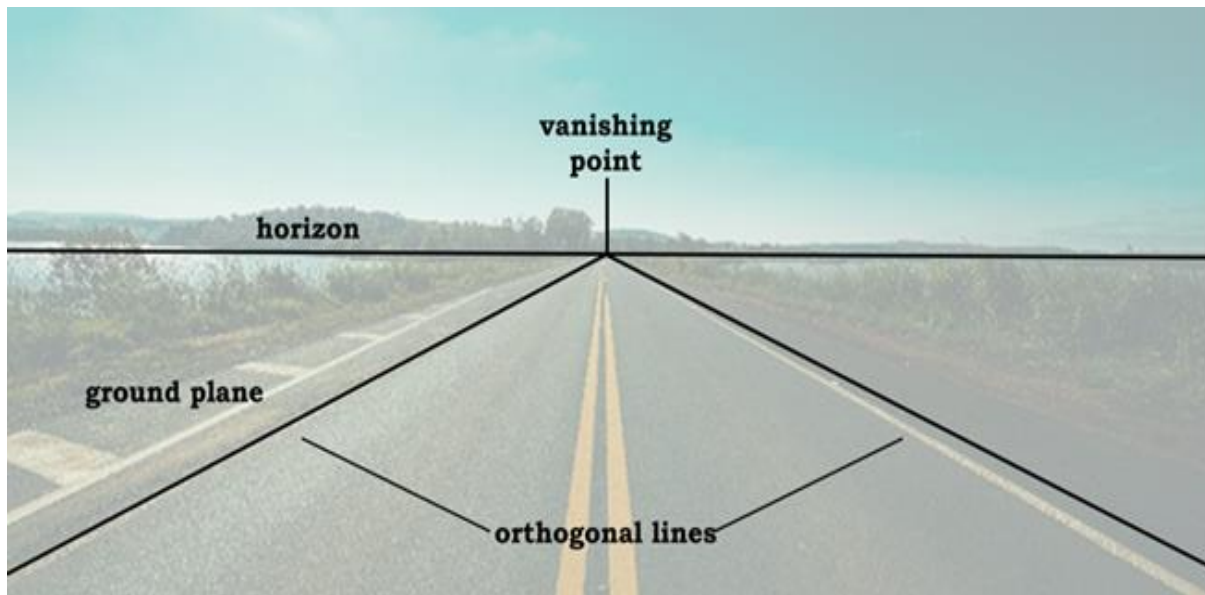


Fig. 2.10: Elements of perspective drawing

Drawing involves making a sketch or blueprint of your idea on paper. This is a physical record of your visualized concept, including outlines, shapes, and measurements. Drawing translates imagination into something concrete that can be seen, shared, and adjusted. It clarifies the design, reveals possible flaws, and helps communicate the idea clearly to others (like teammates or teachers). For paper mache artisans, drawing serves as a crucial planning tool. It allows them to test and adjust their ideas before using materials, explore different designs, and make accurate, proportionate models. Drawings act as step-by-step guides during crafting and are especially useful for complex projects or when teaching and collaborating.

One Point Perspective

One Point Perspective is a drawing method that shows how objects appear smaller as they get further away, converging toward a single vanishing point on the horizon.

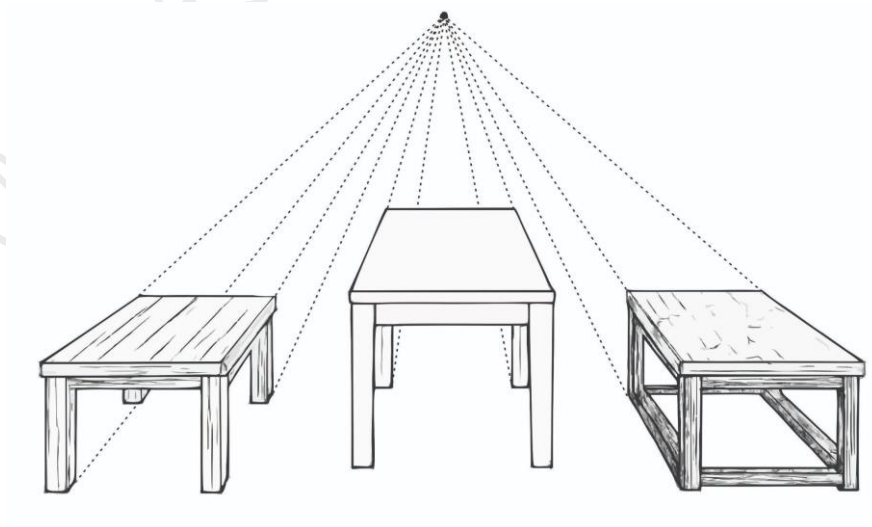


Fig. 2.11: One point perspective drawing

Two Point Perspective

Two Point Perspective uses two vanishing points, giving a more realistic sense of seeing objects at an angle, revealing two sides receding into the distance.

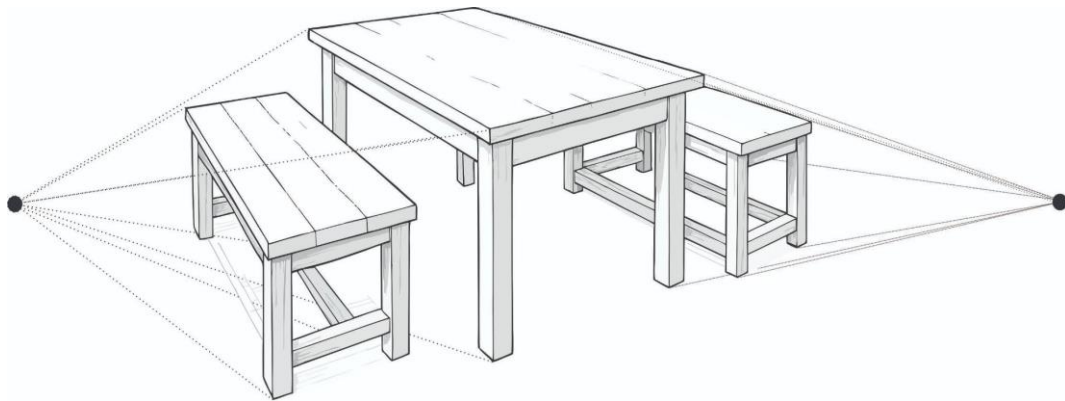


Fig. 2.12: Two point perspective drawing

Perspective drawing adds depth and realism to flat sketches. It allows artists to represent 3D objects accurately on paper, which is necessary for precise planning and communication. Using one and two point perspectives, artisans can make detailed and realistic sketches of their planned paper mache products. This helps them understand the dimensions and volumes, visualize how the product will look in real life, and build objects that are balanced and well-proportioned. Perspective drawing is especially valuable for designing objects like boxes, animal figurines, or decorative bookends.

Measurement in Paper Mache Products

Measurement involves using tools such as rulers or tape measures to determine and record the precise size, length, width, height, or diameter of each component in your design. Accurate measurement is essential for maintaining proportion, balance, and functionality within a project. It ensures that parts fit together properly such as lids matching boxes—and that the overall design is both attractive and practical. For papier-mâché artisans, precise measurements allow pieces to fit seamlessly and maintain pleasing proportions. This accuracy makes it easier to replicate designs, produce sets, and minimize material waste. With consistent practice, measurement skills improve over time, enabling artisans to confidently turn their drawings into well-crafted, functional objects. Proportion, a key aspect of measurement, helps products look realistic and visually appealing. Ignoring proportion can result in distorted creations that lack balance and visual harmony.

Visualization, drawing (with perspective), and accurate measurement are the basic building blocks for any artisan aiming for innovation and high-quality craftsmanship in paper mache. These skills:

- Foster creativity and originality.
- Prevent common mistakes and material waste.

- Enable better planning and execution of complex designs.
- Allow artisans to meet customer expectations for unique, attractive, and functional products.
- Are key to professional growth, competitiveness, and sustainability in the creative market.

In today's digital era, designers can also leverage powerful digital design tools like 3D modeling software and digital sketching applications to create and visualize their ideas with ease. These tools provide a smooth and flexible design experience, allowing for quick modifications, realistic visualizations, and even virtual prototyping. Using digital tools not only streamlines the creative process but also boosts efficiency, improves accuracy, and encourages experimentation, making them invaluable assets for modern design work.

1. Process of idea generation to product innovation

As discussed earlier, the fundamentals of visualization, drawing, and measurement enable artisans to transform their creative ideas into tangible concepts and prototypes. These skills help artisans bring their visions to life by allowing them to clearly depict and refine their ideas. In this section, we will explore how an idea evolves into a finished product. Through examples, we will trace the journey from the initial concept to the creation of a complete and functional item.

The Journey of an Idea

Every product begins with an idea sometimes born from a problem, a need, or even a random observation. The journey of that idea involves nurturing it, evaluating its feasibility, and slowly transforming it into something tangible. In craft-based industries like paper mache, even traditional techniques can give rise to new ideas through modern adaptations, functionality, or storytelling. An artisan may get an idea for a decorative paper mache wall clock after seeing children struggle to read time from dull clocks in classrooms. The idea slowly matures through sketches, model-making, and experimentation with colors and forms. This transformation of an abstract thought into a useful object is what makes the journey of an idea meaningful.

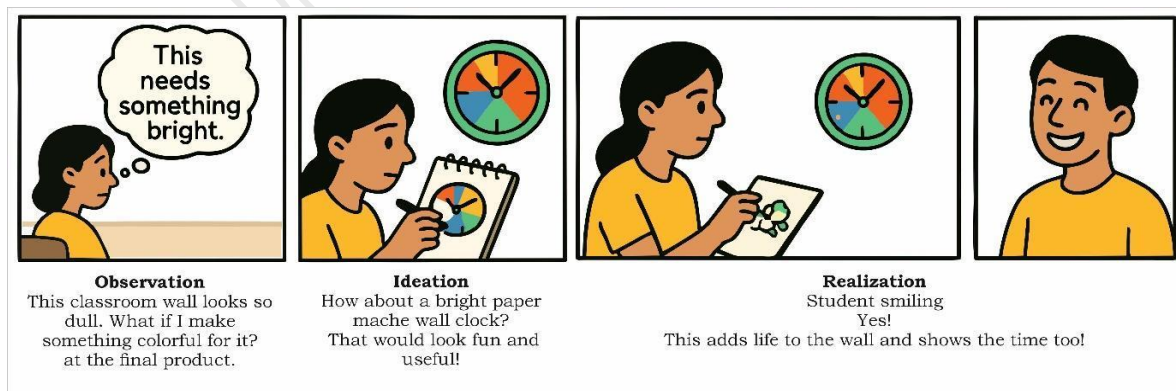


Fig. 2.13: The Journey of an Idea

Understanding the User's Needs

A successful product always begins with a clear understanding of the people who will use it. User-centered design means keeping the preferences, expectations, and problems of the customer at the center of product development. For paper mache artisans, this involves identifying what customers are looking for in terms of aesthetics, function, size, safety, affordability, and cultural relevance. For instance, if a customer wants eco-friendly gifts for children, the artisan must avoid sharp edges, use safe paints, and ensure the toy is light and durable. Understanding user needs helps the artisan make decisions on design, material, color, and packaging.

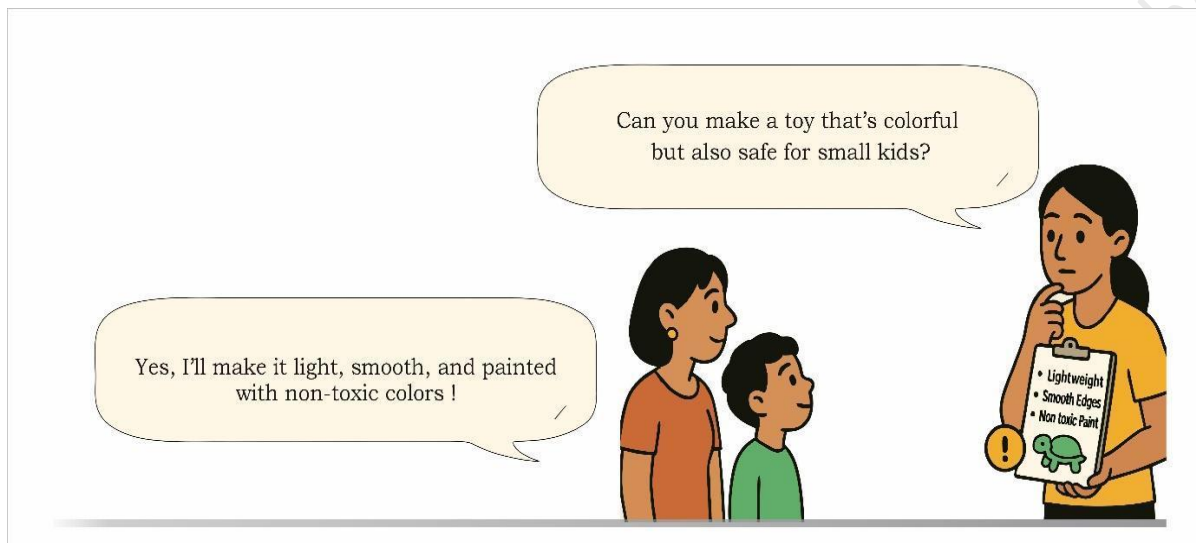


Fig. 2.14: Understanding the User's Needs

Steps in Product Development

The development of a product moves through several stages:

- **Idea Generation** – Thinking creatively about what product to make.
- **Research & Sketching** – Collecting inspiration, studying trends, and drawing concepts.
- **Prototype Creation** – Making the first version of the product.
- **Feedback & Testing** – Getting opinions, testing usability, and identifying issues.
- **Refinement & Finalization** – Making improvements and completing the final product.

For example, an artisan developing a paper mache pencil holder first explores shapes (like animals or geometric patterns), makes a prototype, checks if it is stable on a desk, takes feedback from classmates, and then finalizes the design with decorative finishes.

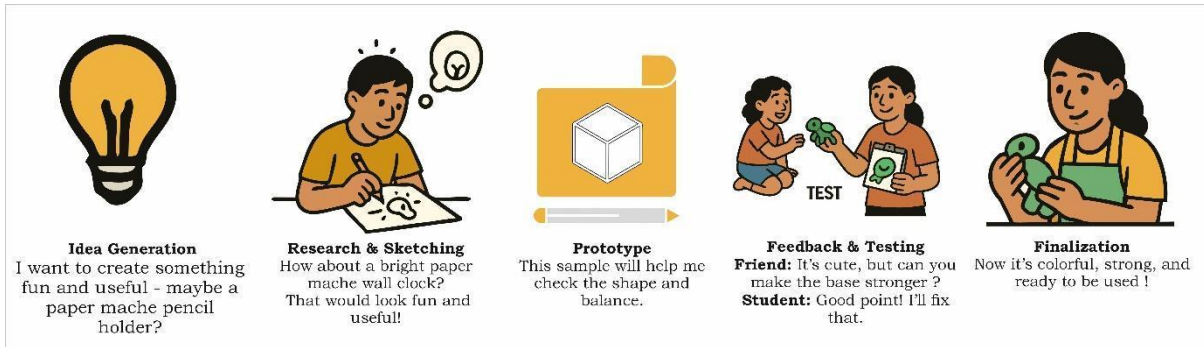


Fig. 2.15: Steps in Product Development

Role of Design in Innovation

Design is not just about decoration—it's about purpose, structure, and emotion. In the context of innovation, design helps a product become:

- **More functional** (easy to use),
- **More desirable** (visually appealing),
- **More relevant** (solving a real problem).

Good design adds value and meaning to a product. For instance, a paper mache bowl designed with local art motifs may become a popular decorative item when paired with modern color palettes and textures. Innovation in such a case is driven by design decisions how to make something traditional feel fresh and contemporary.

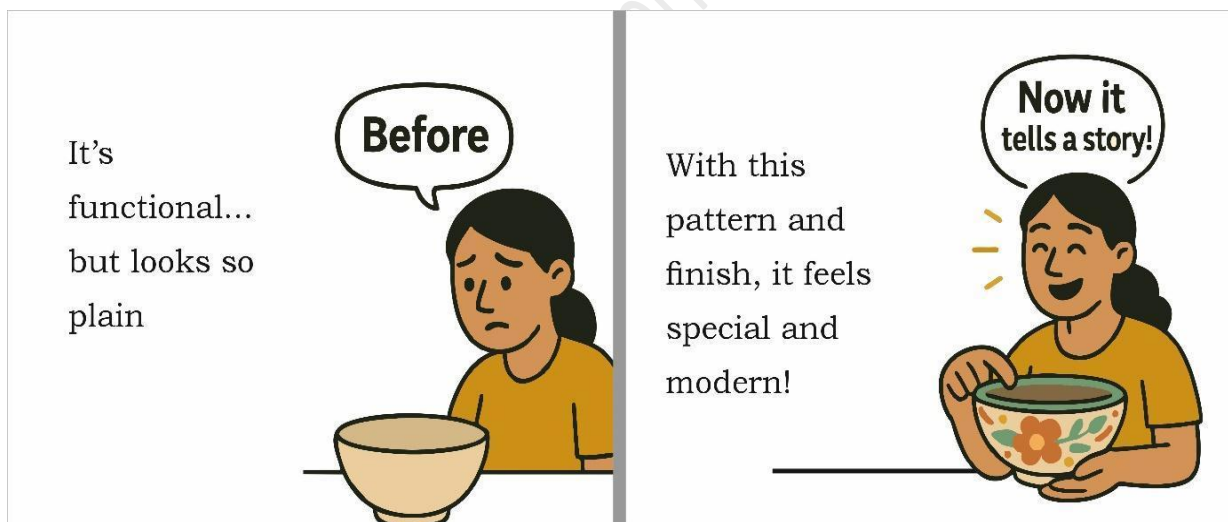


Fig. 2.16: Role of Design in Innovation

Case Studies / Inspiration Corner

Real-life examples help young artisans see how others have succeeded through innovation. Some examples may include:

- A craft student who created a modular paper mache planter set inspired by honeycomb geometry, allowing customers to rearrange and customize plant holders.
- A women’s group that designed paper mache festival masks by combining tribal art with safe, lightweight features for children’s events.
- A toy designer who made storytelling kits using paper mache puppets to promote reading habits among rural children.

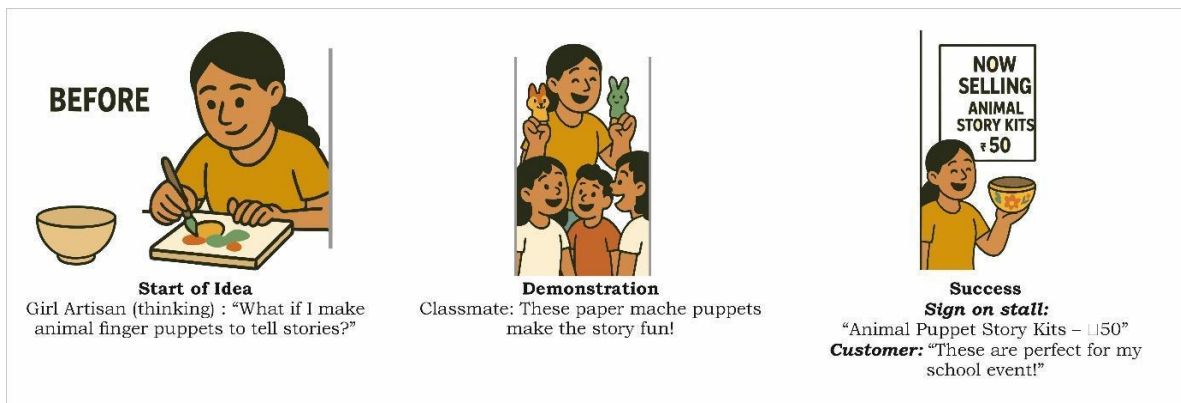


Fig. 2.17: Case Studies / Inspiration Corner

These stories show how creativity, problem-solving, and understanding users can lead to innovative and marketable products.

Shaping an idea into an innovative product requires more than just artistic talent—it requires observation, empathy, planning, and execution. For paper mache artisans, mastering this journey is essential to create products that are not only beautiful but also meaningful and functional. With consistent practice and exposure to real-world examples, students can transform simple ideas into successful paper mache creations.

Activities

Activity: Take an idea for a paper mache product and develop it into a usable item by following all product development steps.

Material Required

1. Drawing Tools
2. Research Materials
3. Pictures, references),
4. Paper Mache Material,
5. Paints,
6. Brushes,

7. Packaging idea sample.

Check Your Progress

A. Fill in the Blanks

1. Every product begins with an _____.
2. _____ design means focusing on what the user wants or needs.
3. The first working version of a product is called a _____.
4. Product development includes idea generation, _____, and finalization.
5. Innovation adds _____ to the product by solving real-world problems.

B. Short Answer Questions

1. What is the importance of understanding the user's needs?
2. Name the five steps in the product development process.
3. Give one example of an innovative paper mache product idea.

C. Long Answer Questions

1. Explain how a simple idea can be turned into a successful product with suitable steps and examples.
2. How can user feedback help in creating better paper mache products?

Session 3: Role of Aesthetics in Craft

The word aesthetics comes from the Greek word 'Aesthetikos', which means sense perception or how we feel and experience things through our senses. Aesthetics is the study of art, beauty, and design, and how people enjoy or respond to them. It is not about how useful something is, but how pleasant, beautiful, or appealing it looks or feels. In this session, we will learn how adding aesthetics can make craft items more attractive, well-balanced, and eye-catching. We'll see how using good design, color, shape, and decoration can improve the look and feel of paper mache products, making them more interesting and valuable. This session explores the different aspects of aesthetics and how they enhance a product's impact, identity, and value in the market.

1. Importance of Aesthetics in Product Design

In the previous class (Class XI), we studied the Elements and Principles of Design, which form the foundation of any good craft or product design. These principles play a very important role in achieving good aesthetics during product development. Aesthetic quality is what makes a product visually appealing, balanced, and meaningful to the viewer or user.

The Principles of Design act as rules or guidelines that help artists and designers arrange visual elements such as line, shape, color, texture, space, and form in a thoughtful and effective way. When used correctly, these principles enhance the overall beauty, function, and emotional value of a product. Here is a quick reminder of the key design principles and what they help achieve:

Principle	What it does
Balance	Makes the design feel stable and evenly distributed
Proportion	Maintains the correct size relationship between different elements
Harmony	Brings visual unity and creates a peaceful, organized look
Rhythm/Repetition	Creates a sense of movement and visual flow through repeated patterns
Emphasis	Highlights the most important part or focal point of the design
Contrast	Adds visual interest by using differences like light/dark or smooth/rough
Unity	Ensures that all parts of the design work together as a complete whole

Understanding and applying these principles helps craftspersons and designers to create products that are not only functional but also aesthetically pleasing. These design skills continue to be essential as we explore more advanced craft techniques and sustainable design.

Visual Appeal

Visual appeal is often the first thing a user notices in a product. A well-designed paper mache item immediately captures attention through its shape, color, detailing, and finishing.

In the context of product design, visual elements such as balance, symmetry, color harmony, texture, and form determine the attractiveness of a product. A visually appealing product invites the viewer to explore it further, making it more likely to be picked, purchased, or appreciated. Good visual appeal also reflects the artisan's skill and attention to detail.

Example: A paper mache flower vase painted with bright gradient tones and fine patterns stands out on a shelf more than a plain, unpainted one. The design makes it visually appealing even before someone understands its function.



Fig. 2.18: Visual appeal

Cultural Expression

Aesthetics in craft often carry cultural significance, allowing artisans to tell stories or showcase traditional beliefs through their designs.

Craft products can visually express local heritage, traditional motifs, festival themes, or folk tales through forms and decorations. Such cultural elements add depth and uniqueness to the product, making it more meaningful and rooted in identity. When used intentionally, these details create a deeper connection between the maker and the user, especially in handmade crafts.

Example: A paper mache mask featuring folk motifs from Kashmir not only looks beautiful but also educates buyers about local stories and customs. Its design holds cultural value, making it more than just a decorative object.



Fig. 2.19: Cultural Expression

Market Value

Aesthetics significantly influence how much a customer is willing to pay for a product.

Products that are visually rich, finely crafted, and emotionally engaging tend to attract higher prices in the market. The combination of craftsmanship and artistic presentation increases perceived value. Aesthetically strong products also perform better in exhibitions, online platforms, and craft stores, where buyers rely heavily on visual impressions.

Example: A simple paper mache pen stand may sell for ₹50, but the same stand painted with elegant floral patterns, polished, and finished neatly can fetch ₹150 or more. The aesthetic upgrade adds value without changing the core function.



Fig. 2.20: Market Value

User Experience

Aesthetic choices influence how a person feels while using or interacting with a product.

Beyond visual beauty, aesthetics contribute to the sensory and emotional experience of the user. Elements like smooth textures, pleasing colors, balanced weight, and harmonious form make products comfortable to hold, use, and display. The satisfaction of using something that looks and feels good builds loyalty and appreciation toward handmade products.

Example: A child playing with a paper mache car toy painted in joyful colors is likely to be more engaged than with a plain brown model. The visual and tactile feel of the toy enhances the user's experience.



Fig. 2.21: User experience

Creative Identity

Aesthetics help build a unique identity for the artisan and their product line. Every artisan has a personal style, whether it's the type of color schemes they use, the kind of motifs they prefer, or how they finish their work. Over time, these choices create a recognizable design signature. A strong creative identity helps artisans differentiate their work in a competitive market and makes their craft memorable.

Example: An artisan who consistently uses bold tribal patterns and earthy colors in all her paper mache creations becomes known for that style. Customers begin to associate that particular aesthetic with her name and brand, building long-term recognition.



Fig 2.22: Creative identity

When designing paper mache products, avoid overcrowding and keep compositions clean to prevent overwhelming visuals; simplicity matters because too many elements can confuse users and dilute the idea, while clarity helps the core concept stand out. Ensure accessibility by selecting readable type, organizing clear layouts, and using color combinations with sufficient contrast so designs serve all users, including those with low vision or varying lighting conditions. Prioritize originality by resisting the urge to follow trends blindly and instead developing distinctive, context-appropriate aesthetics that honor the craft's identity and cultural roots. Above all, favor usability over surface appeal, since a design that is intuitive, comfortable to handle, and easy to use will consistently perform better and create lasting satisfaction than one that is merely decorative.

Aesthetics are more than decoration they are central to how a product is perceived, valued, and experienced. In paper mache craft, aesthetics blend form and meaning, adding beauty, culture, function, and identity. Understanding the role of aesthetics helps young artisans design products that not only look good but also connect deeply with people and culture. Mastering this balance of creativity and function is a powerful step in becoming a successful craftsman.

Activities

Activity: Create two versions of a paper mache product - one plain and one decorated using design principles. Compare their appeal and explain the difference.

Material Required

1. Paper mache item (pen stand, vase, etc.)
2. Paint
3. Brush
4. Decorative tools
5. Chart to record observations.

Procedure

1. Make one plain paper mache product (no design).
2. Make a second version using design elements like color and pattern.
3. Compare both versions visually.
4. Note which one looks more attractive and why.
5. Share findings with the class.

Check Your Progress**A. Fill in the Blanks**

1. The word 'Aesthetics' comes from the Greek word _____.
2. _____ is what makes a product look balanced and evenly distributed.
3. A well-designed product improves _____ experience for the user.
4. Craft products often express _____ through their visuals.
5. _____ helps create a unique style for the artisan.

B. Short Answer Questions

1. Define aesthetics in simple words.
2. How does cultural expression enhance a paper mache product?
3. Name any two principles of design used in aesthetic improvement.

C. Long Answer Questions

1. Explain the role of aesthetics in improving the value and appeal of paper mache products.
2. Describe how aesthetics influence market value and user experience with suitable examples.

Module 3**Design and Development of Different Paper Mache Product****Module Overview**

In the previous class, students have already studied the basic concepts of design and development of different paper mache products. In this unit, the level of difficulty is increased to help learners develop more advanced and refined paper mache products. To make the learning process systematic and easy to understand, paper mache product development has been broadly classified into two major techniques: product development using sculpting techniques and product development using molding and casting techniques.

In paper mache product development using sculpting techniques, products are shaped and formed manually. This technique is further divided into two approaches. The first approach involves sculpting without armature, where paper mache forms are created without any internal support.

This method is generally used for developing flat or low-relief products such as murals, masks, and artistic wall panels. The second approach is sculpting with armature, where an internal framework is used to provide strength and stability. This method is suitable for developing three-dimensional paper mache products such as furniture elements, utility forms, and figurines. The second major method of paper mache product development is molding and casting techniques. In this method, products are created using molds to achieve uniform shapes and better surface quality.

This technique is also divided into two categories. The first category is molding and casting using a one-piece mold, which is commonly used for simple and shallow paper mache products such as mementos and relief forms. The second category is molding and casting using a two-piece mold, which is suitable for more complex and three-dimensional paper mache products such as boxes, display forms, decorative containers, and similar items.

Learning Outcomes

After completing this module, you will be able to:

- Make products using sculpting Techniques
- Make products using molding and casting techniques

Module Structure

Session: 1 Product Making Using Sculpting Technique

Session: 2 Product Making Using Molding and Casting Technique

Session 1: Product Making Using Sculpting Technique

Sculpting Without Armature

Sculpting without armature, introduced earlier, is a hands-on paper mache technique where forms are built entirely from pulp or layered paper, with no internal support. It trains learners to see volumes, planes, and edges reducing complex subjects to simple shapes, then adding or removing material to refine details. Relying on material control instead of wire frames, it's ideal for relief murals, masks, plaques, and small freestanding pieces.

Learners practice how moisture, layer thickness, and staged drying affect strength and finish; how to go from a clean sketch to a clear composition; and how textures, carving, and sanding create crisp, refined surfaces. Projects like Warli-inspired reliefs and expressive masks build core skills: rolling coils and slabs, blending joins seamlessly, controlling relief depth, and using simple tools to incise patterns and features.

1. Warli Mural

The word "Warli" is derived from the Warli tribe, an indigenous community primarily located in the mountainous and coastal regions along the Maharashtra-Gujarat border in western India. Warli art is a traditional folk style recognized for its use of simple geometric shapes—like circles, triangles, and squares to depict stories and scenes from everyday life, rituals, festivals, and nature. Each shape carries meaning: circles can represent the sun and moon, triangles often symbolize trees and mountains, and squares indicate sacred spaces or human settlements. Inspired by this folk tradition, Warli mural products blend these expressive visual elements into contemporary art forms. By incorporating Warli designs into paper mache craft, anyone can actively explore this artistic heritage. Through hands-on activities, participants are encouraged to experiment with geometric motifs and narrative scenes, allowing for unique personal expressions while learning about the rich cultural background of Warli art. This creative process not only celebrates the traditional essence of Warli painting but also helps students develop skills in storytelling, composition, and craftsmanship using paper mache as a versatile medium. This approach supports individual exploration and fosters a deeper appreciation of India's indigenous artistic traditions.

Materials Required

- MDF board (any size as per the artwork)
- Paper Mache (prepared as discussed earlier, e.g., Type 2)
- Pencil and eraser

- Ruler (optional for borders)
- Adhesive or *gond* for sticking
- Small bowl of clean water (only for smoothing, not mixing into dough)
- Wooden modeling tools, ice cream sticks, or a butter knife
- Sandpaper (medium and fine)
- White acrylic paint or poster color
- Brushes of various sizes (thin for details)
- Dark-colored acrylic paint (like terracotta brown, black, or red) for the background
- Clear varnish or sealant
- Soft cloth

Procedure

Step 1: Prepare the MDF Surface

Start by wiping the MDF board with a dry cloth to remove dust. If the surface feels very smooth, lightly sand it with medium sandpaper so the dough sticks better. Wipe away any dust after sanding.

Step 2: Draw the Warli Design

Using a pencil, lightly sketch the Warli design on the board. Warli art usually includes human figures, animals, trees, huts, and borders made of triangles and dots. Plan the composition so that it fits well on the chosen board size.

Step 3: Prepare the Paper Pulp dough

Take the paper pulp dough you've prepared earlier. Knead it lightly so it's soft and smooth. If it feels a bit dry, wet the fingers lightly (do not add water into the dough) to help soften it.

Step 4: Apply the Background Color (Optional at This Stage)

Some artists prefer to paint the background color first. If choosing to do this, paint the entire board with the chosen dark color (like terracotta brown) and let it dry completely. This saves effort later.

Step 5: Start Creating the Relief Figures

Work on small sections at a time. Take small bits of dough and roll them into thin coils for making lines, limbs, or borders. Flatten tiny balls to create circular forms for faces or dots.



Fig. 3.1: Warli Murals

- **For Borders:** Roll the dough into long, thin coils. Place them along the pencil lines of the border design and press gently to stick them down. Use a modeling tool or the flat side of an ice cream stick to flatten or texture them if desired.
- **For Figures:** Break down the human figures into basic shapes—triangles for the body, circles for heads, straight coils for arms and legs. Shape each part separately and attach them to the board one by one, pressing gently to secure them.
- **For Animals or Trees:** Shape them from small pieces of dough, either as solid flat shapes or slightly raised for more depth.

Step 6: Blend the Edges

Once each shape is placed, use the thumb or a small modeling tool to smooth and blend the edges into the board. This helps the relief look neat and prevents cracks after drying.

Step 7: Texture and Details

Use pointed tools, toothpicks, or the tip of a brush handle to carve lines, dots, or patterns into the surface of the dough. For example:

- Press lines into tree trunks for bark texture.
- Add tiny dots along borders.
- Carve facial features or clothing details on figures.

Step 8: Dry the Board Thoroughly

Allow the Warli relief to dry completely. Keep it in a well-ventilated place away from direct sunlight to avoid warping. Depending on thickness, drying can take 1–3 days. Check for cracks during drying. If small cracks appear, fill them with fresh dough and smooth them out.

Step 9: Sand the Surface

Once fully dry, gently sand the raised surfaces with fine sandpaper. This smooths any roughness and sharp edges, preparing the relief for painting. Be careful not to break delicate parts.

Step 10: Apply Background Color (If Not Done Earlier)

If didn't paint the background earlier, paint it now carefully around the relief shapes. Use a fine brush to reach tight spaces. Let it dry completely.

Step 11: Paint the Warli Designs

Paint the raised relief figures and designs with white acrylic or poster paint. Use a thin brush for fine lines and small details. For a traditional look:

- Keep the figures entirely white.
- Add dots and patterns to decorate clothing or borders.

Step 12: Finishing Touches

After all painting is dry, check for any missed spots or touch-ups.

Step 13: Apply Varnish

Finally, apply a clear varnish or sealant over the entire board. This protects the artwork and gives it a nice shine. Let the varnish dry completely before handling or hanging the piece.



Fig. 3.2: Colored Warli Murals

Creative Tips

- Try creating scenes instead of single figures for storytelling.
- Use textured tools for interesting surfaces like leaf veins, hair, or clothing.
- Experiment with different background colors deep red, black, or ochre to see how the white figures pop.
- Keep the design simple if it's the first time. Warli art looks beautiful even in minimal styles!

By following these steps, one can create a beautiful Warli relief on MDF that's both artistic and durable.



Fig. 3.3: Creative Warli Murals

2. Mask

Masks are creative face coverings that have been used in many cultures for celebrations, storytelling, decoration, and art. When made with paper mache, masks can take on any shape or expression the maker desires—from animals to characters, or even imaginary faces. Working with paper mache allows students to experiment with various features, patterns, and colors, helping them explore form and creativity in a hands-on way. Creating a mask introduces the basics of modeling and gives everyone the opportunity to express themselves through their own unique designs.

Materials Required

- Type 2 Paper Mache (approx. 70% paper paste + 30% Multani mitti)
- Flat plastic or steel bowl (to use as a mold/base for face shape)
- Petroleum jelly or any cooking oil (as a separator)
- Cotton (optional, for texture or base)

- Imli (tamarind) seed paste (optional binder used regionally)
- Tissue paper
- White adhesive
- Thumb and fingers (main sculpting tools)
- Modeling tools (optional)
- Reference images of facial features
- Clean water (for smoothing only, not mixing)
- Cloth for wiping hands
- Paints and brushes
- Varnish or clear sealant

Procedure

Step 1: Prepare the Base

Choose a flat bowl as the mold for the mask. It should be shallow and slightly curved to mimic the shape of a human face.

- Apply a thin layer of oil or petroleum jelly on the outside of the bowl to act as a separator. This will help in the easy removal of the mask later.
- If desired, add strength or regional texture, place a thin layer of cotton or Imli seed paste over the bowl before applying pulp.

Step 2: Apply Pulp Base Layer

Using Type 2 pulp, apply a thin, even layer of the mixture directly over the bowl.

- Press the pulp smoothly and evenly with the thumb and fingers, making sure it covers the whole mold without air gaps.
- The thickness should be enough to hold its shape, but not so thick that it becomes heavy—around 0.5 to 1 cm is ideal.
- Let this base layer sit for 10–15 minutes before building features, so it settles slightly.

Step 3: Sculpt Facial Features

Refer to real or stylized images of eyes, noses, mouths, etc., but remember that mask features are often exaggerated for dramatic effect.

Nose:

- Roll pulp into a rough cone shape.
- Paste the cone vertically in the center of the mask, where the nose would go.

- Use the thumb to press and shape it, widening the base, narrowing the bridge.
- Add a small ball at the tip to form a rounded nose end and blend it in smoothly.



Fig. 3.4: Sculpt Facial Features

Tips:

- Apply a thicker oval shape of pulp where the mouth will be.
- Use fingers to divide and curve it into upper and lower lips.
- For exaggerated styles, increase the lip thickness and curl the edges upward or downward depending on the expression.

Eyes and Eyebrows:

- Roll two small balls of pulp for eyeballs. Place them symmetrically.
- For eyelids, flatten thin strips of pulp and shape them above and below the eyeballs.
- Eyebrows can be formed by rolling and slightly flattening two coils. Place above the eyes and shape into curves or expressive angles.

Ears:

- Flatten two medium-sized balls of pulp into oval shapes.
- Paste on either side of the mask base, close to eye level.
- Use fingers or tools to define ear curves or stylized earlobes.

Crown or Headgear (Optional):

- Use pulp to form decorative shapes like a tiara or crest above the forehead.
- Create small balls, petals, or spiral designs and arrange them along the top edge for a royal look.

Let each feature be expressive sharp angles for fierce masks, soft curves for calm or joyful ones.



Fig. 3.5: Facial Structure

Step 4: Smoothing and Detailing

- Once all features are placed and shaped, use slightly damp fingers (dip in water and wipe) to smooth surfaces gently.
- Avoid using too much water as it may weaken the pulp.
- Use the tip of a blunt knife or modeling tool to refine lines and add subtle detailing.

Step 5: Tissue Finish

- Apply a thin layer of tissue paper using adhesive mixed with water.
- This will help unify all the added features into one seamless mask and give it a smoother finish for painting.
- Press gently so that all curves and textures remain visible. Let it dry for a while.

Step 6: Drying

Place the entire mold in a dry, shaded place. Let the mask dry completely this may take 2–3 days, depending on the thickness and humidity.

- Do not remove the mask from the mold until it is completely hard and dry.
- If cracks appear during drying, fill with soft pulp and smooth it again.

Step 7: Demolding

Once dry, gently lift or slide the mask off the bowl mold. The separator layer will help it come off cleanly.

- Check the edges and corners for cracks or rough patches. Sand them lightly if needed.

Step 8: Painting and Finishing

- Apply a coat of white base paint or Gesso if desired.
- Then paint the mask using bright, bold colors. Traditional masks often use reds, blacks, whites, yellows, and metallics.
- Add fine details like teeth, nostrils, pupils, or decorative dots and lines.
- Let the paint dry completely.
- Finish with a coat of varnish or clear sealant to protect the surface and give it a shine.

Final Notes and Creative Tips

- One can pierce holes on either side and attach an elastic string or ribbon to wear the mask.
- Try making masks with different expressions: joy, fear, anger, devotion.
- Mix pulp colors for added depth or use metallic powders in the final coat for theatrical masks.





Fig. 3.6: Various types of facial Structure

Creating a paper mache mask is a fun and expressive form of sculpture. Each feature gives a chance to explore proportion, form, and creativity.

3. POP Art Mural

A POP Art Mural in paper mache is a colorful, bold wall panel made by filling a drawn composition with differently tinted paper mache dough. It turns simple shapes and everyday icons into eye-catching, high-contrast artwork. The result is a lightweight, durable mural that is easy to mount, decorate with, and customize for themes like festivals, interiors, or school displays.

The POP Art Mural showcases how paper mache can be modern, graphic, and sustainable. It is simple to learn, highly customizable, and visually striking—perfect for classroom projects, home décor, and themed displays. With minimal tools and recycled materials, learners create professional-looking panels that celebrate color, clarity, and creative expression.

Materials Required

- Coloured Paper Mache (Type 3)
- A Plywood/MDF Board of 12x12 Inches
- Eyebrows Plucker/Chimti
- Spoon for mixing
- Bowl/Cups
- Synthetic adhesive
- Sculpting tools
- Acrylic/Fabric Colours



Fig. 3.7: Pop art Mural

Procedure

Step 1: Make a drawing

Take the MDF board or plywood of your desired shape and make a simple drawing of what you want to make. You can also use the above images as a reference for it.

Then you have to decide which colour you want to fill in your drawing. Take a pencil and write down which color you want to fill in each section; you don't have to actually color it, just write down the names.

Step 2: Dividing the Paper mache dough

For the next step, pick out the colors you have decided on and place them in a straight line in front of you.

Now make balls of paper mache and place them in front of each color; the size of the ball should depend on how much space you have assigned to the color. If you are going to use blue color to make the sky and yellow color to make the sun. Then the ball in front of the yellow color should be smaller than the blue color.

If you are using one color in multiple places, make sure to calculate the paper mache required accordingly.

Step 3: Coloring the dough

Now select one color and the dough in front of it. Flatten the ball and add color to it (not too much at first). Now knead the ball for a good 2-3 minutes till the color spreads completely.

If you feel that the color is too dull, flatten your dough again and add color to it as required, and repeat the kneading process. Continue this till you achieve the desired color brightness.

Follow the same process for all the colors and prepare their dough. Make sure to clean your hands thoroughly after preparing one color of dough and then moving to the next. If you use dirty hands to colour the dough, it could change colour or become dull. Lastly, make a ball for the color black. This is an important colour, as we will make all the outlines from this.

Step 4: Making outlines

Now, take your tweezers and pick tiny parts of the black paper mache and place them on the lines of the drawing you just made.

You can shape this in a straight line with the help of tweezers themselves.

Try not to touch the colored paper mache with your hands, as it might mix colors and cause the mural to look dirty.

Step 5: Now, take one colored paper mache at a time and, with the help of tweezers, fill in the designated part.

You can use a fresh sculpting tool/butter knife to smooth the surface after each color.

Step 6: Leave the piece to dry for a day. You have successfully made your mural!

Sculpting With Armature

In Class XI, we learned different ways to do sculpting with an armature. Now, in this section, we will look at more product ideas. These examples will help students get new ideas. Students can take inspiration from these products to create, mold, try new things, and make their own designs using armature.

1. Centre Table and Stool

(Using Pipe and MDF Armature)

A centre table or stool made with a pipe-and-MDF armature combines a strong internal structure with a creative paper mache skin. The armature provides stability and load-bearing support, while paper mache offers form, finish, and decorative potential. The finished piece functions as a sturdy, usable stool or centre table with a handcrafted paper mache exterior. The method blends structural integrity with artistic freedom, enabling unique finishes to match interiors or thematic collections.

Materials Required

- 3 sturdy cardboard core pipes (from fabric rolls or mailing tubes) – same height
- 2 circular MDF boards (one for the top surface and one for the base) – choose size based on whether it is a table or stool
- Strong adhesive, like Adhesive or carpenter's glue
- Screws or nails and a screwdriver (for fixing pipes to boards)
- Prepared paper Mache (as discussed earlier)
- Paper or masking tape
- Rough paper (newspaper, brown paper) for shaping
- Sandpaper (medium and fine)
- Paintbrushes and a sponge

- Black enamel or desired base paint
- Poster or acrylic paints (for final design)
- Clear varnish or lacquer (for protection)
- Optional: drill machine for screw holes, hammer

Procedure

Step 1: Understand the Structure of the Armature

This paper mache product uses a solid internal armature to give strength. The three cylindrical cardboard pipes act as legs or a central pillar. The two MDF boards serve as the top (surface) and the bottom (base) of the stool or table. The same method can be used for both stool and table the difference lies in how the pipes are placed. For a stool, keep the pipes apart in a triangular layout to create three separate legs. For a table, keep all three pipes together at the center to form one thick central pillar.

Step 2: Prepare the MDF Boards

Choose two MDF boards of the same diameter for a symmetrical base and top. Sand the surfaces lightly to remove any dust and create better adhesion. Mark the positions where to attach the three pipes using a pencil and ruler ensure they are evenly spaced for the stool and tightly clustered in the center for the table.

Step 3: Attach the Pipes to the Base

Take the bottom MDF board. Apply strong adhesive (Adhesive or wood glue) at the end of each pipe. Place the pipes firmly on the baseboard according to the markings. Hold the pipes in place for a few minutes until they begin to bond. For extra strength and long-term durability, screw or nail the pipes into the MDF board from below. Use a screwdriver or drill carefully to avoid breaking the board. Let the glued area dry for at least 2 hours.

Step 4: Attach the Top Surface

Once the pipes are firmly attached to the bottom, repeat the same process to attach the top MDF board. Apply glue to the top ends of the pipes and press the upper board on them. Use screws again to fix them from above, if possible. Make sure the structure is aligned and vertical. Let the entire armature dry and settle overnight for best strength.

Step 5: Reinforce with Paper and Tape

Wrap the pipes and joints with crumpled newspaper to bulk them out and provide a base shape for the paper mache. Use paper or masking tape to tightly secure the newspaper onto the pipes and boards. This step also hides any gaps or screws and helps the dough stick better.

Step 6: Apply the First Layer of Tissue or Rough Paper

Before applying the dough, apply a thin layer of tissue paper or newspaper over the entire surface using diluted Adhesive. This creates a thin buffer between the hard armature and the dough. Let it dry completely.

Step 7: Begin Applying the Dough

Take small amounts of prepared paper pulp dough and start applying it over the taped and covered structure. Begin with the pipes spread the dough evenly in a 2–3 mm thickness around the surface using the hands. Use the thumbs and fingers to smooth it as one goes. Cover the pipes, the lower baseboard, and finally the upper top board. Don't apply dough on the underside of the base or the top surface unless you plan to decorate it too. If the dough is sticking to the hands, use a little water to dampen the fingers but do not add water to the dough.

Step 8: Blend the Dough and Smooth the Shape

Use the fingers and thumb to blend the edges between the pipes and boards. If there are gaps or corners, press the dough in carefully and shape it until the transition looks seamless. A spatula or spoon can also be used to smooth difficult areas. The dough should be evenly spread and shaped all around. If desired, extra coils or designs made from dough can be added for decoration, such as vine patterns or embossed motifs.



Fig. 3.8: Stools

Step 9: Drying the Structure

Allow the entire structure to dry completely in a shaded, ventilated space. Avoid strong sun or damp areas. Depending on thickness and weather, drying may take 2 to 4 days. Do not move the piece while drying, as this may cause cracks or dents in the surface.

Step 10: Surface Finishing

Once the dough is dry, inspect for rough patches, cracks, or fingerprints. Use medium and fine sandpaper to smooth out the entire surface. If small cracks appear, fill them with soft leftover dough or a thin paste made from paper pulp and water. Let it dry and sand again. Wipe the entire piece with a dry cloth to remove dust.

Step 11: Apply Base Paint

Use a brush to apply black enamel or any preferred base coat. A sponge can also be used for a more even texture. Cover the pipes, base, and top completely with paint. Allow the base coat to dry fully. Apply a second coat if needed for a rich finish.

Step 12: Paint and Decorate

Use acrylic or poster colors to add designs to the dried and painted surface. One can create traditional floral patterns, geometric designs, or abstract textures depending on the theme. Metallic paints (gold, silver, copper) work beautifully for giving a high-end finish to tables and stools. Let the painted surface dry completely.

Step 13: Varnishing

Apply a clear varnish or lacquer with a soft brush. This step protects the paint, increases shine, and makes the item more durable, especially for furniture that will be handled often. Allow the varnish to dry thoroughly before using the stool or table.

Step 14: Optional Touches

One may stick felt pads or rubber stoppers on the bottom of the baseboard to prevent scratching the floor. If used as a table, a glass or acrylic sheet can be added to the top for extra protection.



Fig. 3.9: Centre Tables

This table or stool can now be used both as a functional and decorative piece. The armature gives it strength, while the paper mache finish allows for creativity and beauty in the design.

2. Doll Figurine

The Doll Figurine is a handcrafted paper mache sculpture constructed on a simple internal armature to ensure strength, balance, and stability. It demonstrates the medium's versatility for intricate detailing—facial features, hands, garments, hair, and accessories—while staying lightweight, eco-

friendly, and cost-effective. The finish is achieved through controlled drying, careful sanding, and precise hand-painting, enabling vibrant attire, natural skin tones, and ornamental accents such as earrings, bangles, and necklaces that add cultural character and display appeal. Similar traditions of crafting dolls and small human figures have been popular across Southeast India; learners are encouraged to explore its versatility and creative possibilities through both online and offline resources.

Materials Required

- Paper Mache (Type 2 or 3)
- A wooden plank (to be used as a base)
- An Iron rod (approximately 12 inches in height)
- Small iron nails
- Hammer
- Soft aluminium wire
- Plier
- Soft iron mesh(to make an armature for the doll)
- Coconut rope(the thin type)
- Sand Paper
- Synthetic adhesive
- Sculpting tools
- Colours
- Colouring brushes

Procedure

Step 1: The first step to make your figurine is to make a drawing of what shape you want it to be. Make sure you write down the height and width you want to give it. Do this in parts, like:-

- height of the legs
- from the stomach to the shoulders
- the head
- length of the arms, in two parts
 - from the shoulder to the elbow
 - Then the elbow to the hands



Fig. 3.10: Drawing the Figurine Layout

Step 2: Now, take the wooden base and find its center. Now, with the help of an adult, attach the iron rod to the center of the base.



Fig. 3.11: Wooden base

Step 3: To start with the base, make a circle around the iron rod of the measured diameter of the skirt of the doll. Take up your small nails and hammer and put the nails down inside the circle, don't hammer the nails down in, leave half the nail above the board.



Fig. 3.12: Attaching the Iron Rod to the Wooden Base

Step 4: Take your coconut rope and cover the nails with it. Move the shape of the number 8 and make a mesh of the rope all within the circle.



Fig. 3.13: Preparing the Base Mesh with Coconut Rope

Next, take your Paper mache and lay it down on the area within the circle on top of the coconut rope and nails, push it in with your hands well. When all the nails are covered with paper mache, let them dry for 15-20 minutes.



Fig. 3.14: Covering the Rope Mesh with Paper Mache

Follow this process of applying paper mache and then letting it dry till you have reached the height of the skirt. Again, let it dry for 15-20 minutes.

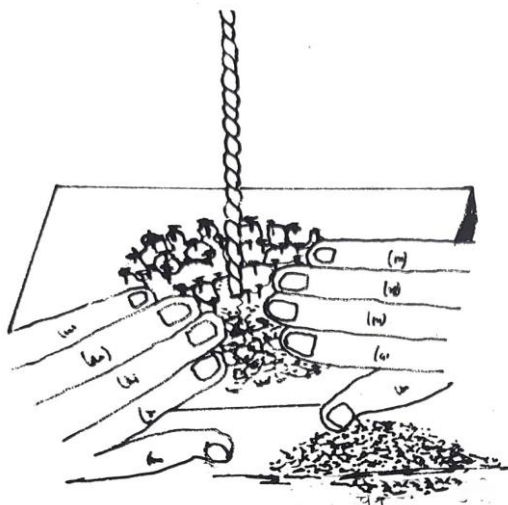


Fig. 3.15: Filling the Framework with Paper Mache Pulp

Now, as the paper mache has dried a little, use your hands to give it the desired shape.

Step 5: Now measure the length of the waist and the shoulders. Take your aluminium mesh and cut it to the desired height. Roll the sheet around the rod in the center on top of the shape of the skirt, and estimate the width of your figurine for the part. Mark this part, make a straight line. Now, keep the mesh down again and cut any extra parts after measuring the width.

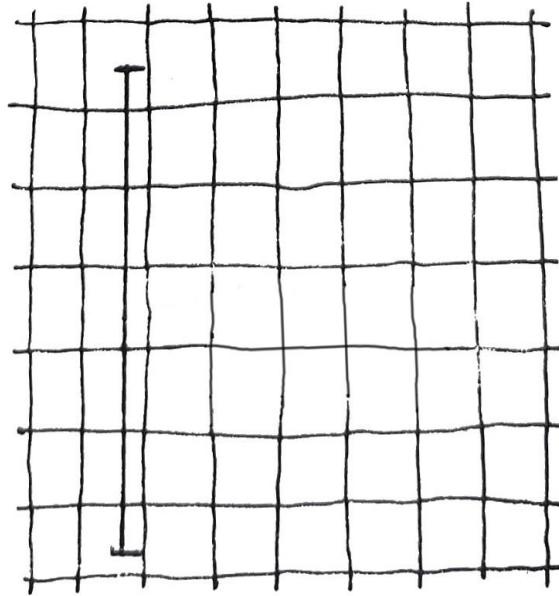


Fig. 3.16: Making the Upper Body Shape

Step 6: Take your measured mesh and attach it around the rod at the center, on top of the lower structure you made out of paper mache. Do this with the help of the soft aluminium wire.

Cut out small parts of the wire with the help of the pliers, roll and twist them around the parts you want to join.

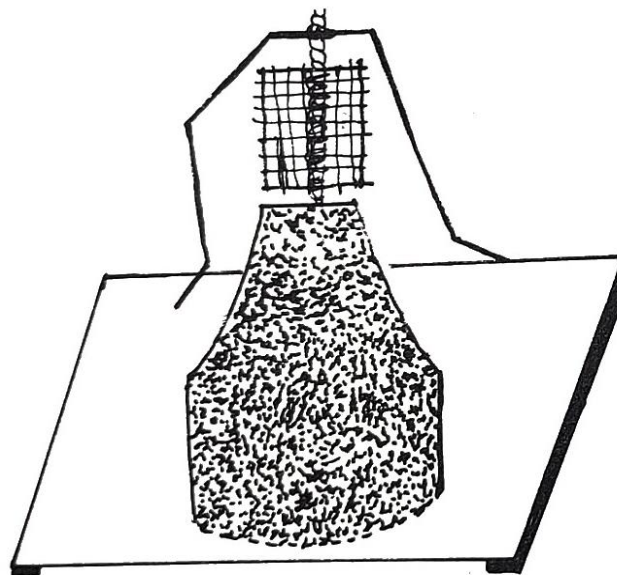
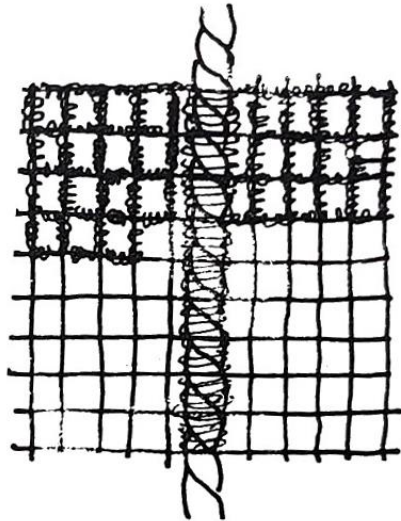


Fig. 3.17: Fixing the Upper Structure with Aluminium Wire

Step 7: Not with the help of the same soft wire, repeat the measurement of the hands we had calculated earlier, and make an armature for the arms and the hands. Attach this at the top of the center rod resting on the cylindrical mesh; these will work as the shoulders and arms.

Step 8: Take your coconut jute and wrap it around the mesh and the wire armature you just made. Make sure to cover all the parts with the rope.



Important

Point

Wrapping all the parts of the armature with the coconut rope is an important step because it is the rope that holds the paper mache. This prevents paper mache from falling off the armature as it dries off.

Fig. 3.18: Binding the Structure with Coconut Rope

Step 9: Wet the rope very little using a brush or your fingers. Now take the paper mache, in small parts, and start applying it to the wet rope.

Keep applying the paper mache in small parts, add bigger chunks where you want the body to bulge out, such as the chest and shoulders, and add smaller chunks for the parts that are lower, like the wrist, fingers, neck, etc.

Make sure to stop and let the paper mache dry for 10-15 minutes after you are done with one layer, then move onto the next one.

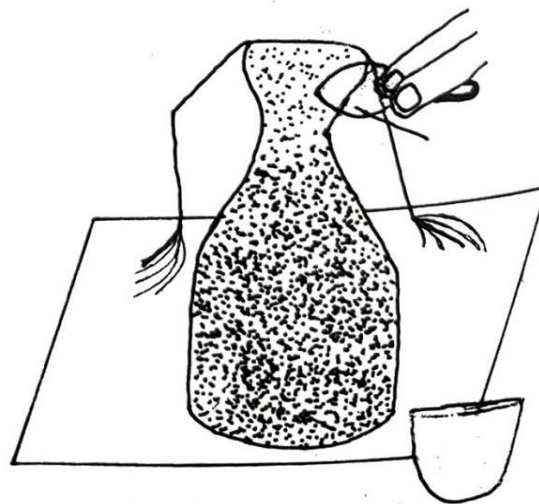


Fig. 3.19: Layering Paper Mache to Shape the Body

Step 10: Now, to come to making the face of the figurine!

Take a ball of paper mache, in proportion to the body. This will be used to make the head. Shape it like an egg, broad on the top, thin at the bottom.

The size of the ball should be 90% of the size of the head, as you will add more mache to make the features of the face. And if you take too big a ball for the base, the head might become bigger than the body in the end.

Now, with the help of one of the sculpting tools (one with a sharp tip), make rough outlines for where the eyes, nose, lips, and chin should be on the face. Taking small chunks of clay, start with making the nose at the center, and then add all the other features of the face.

Then, with the help of a sculpting tool, finish the face and make it smooth.

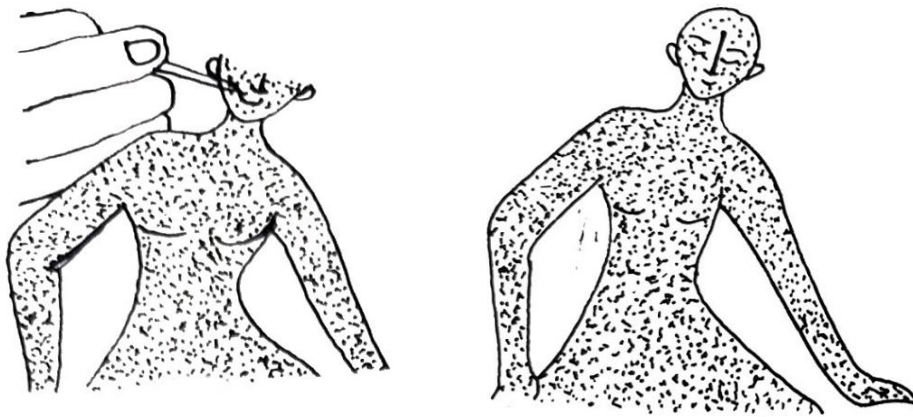


Fig. 3.20: Final Shaping of the Face

Step 11: To make the hair and *dupatta* of the figurine, use a pencil to mark the length of the hair and make an outline where the hair should fall.

Take a lump of mache and add it at the top of the head and flatten it a little; this will act as the hair under the *dupatta*.

Now, make the *dupatta* by adding layers of mache till the marks you made with the pencil. Use a sculpting tool to make it smooth and finish the *dupatta*. Leave your figurine to dry for at least a day till all the moisture dries off.



Fig. 3.21: Making the Hair and Dupatta

Step 12: Use the same paper to smooth all the parts of the figurine. You can use a small dinner for smaller parts, such as the fingers, and features of the face.

Use a damp cloth to remove all the dust from the sandpaper.



Fig. 3.22: Refining the Surface with Sandpaper

Step 13: Now we come to the decoration!

Take your brushes and colour the skirt, top, and *Dupatta* in bright colours of your choice. Colour the hands and face in skin tones. Let the colour dry off completely.

Next, once the colour has dried, take a thin brush and make outlines for the features of the face with black color. For the last part, using the same thin brush makes the ornaments of the figurine, the earrings, necklace, bangles, etc. Also at this point you can make designs that you wish to make on the clothes of the figurine.

Congratulations! you have made a doll figurine.

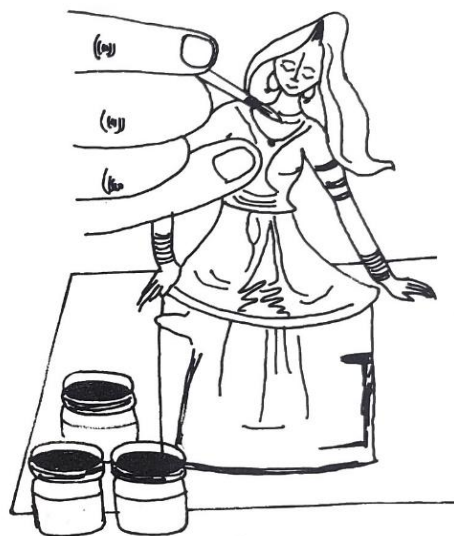


Fig. 3.23: Colouring and Finishing of the Products



Fig. 3.24: Final Products

Activities

Activity: Create a Sculpted Product Using Paper Mache (Without or With Armature)

Objective: Students will design and create one sculpted product using paper mache either:

- A Warli Relief Mural (without armature),
- A Decorative Mask (without armature), OR
- A Small Doll Figurine / Mini Stool Model (with armature).

The focus will be on understanding structure, proportion, layering, drying control, and finishing techniques.

Materials Required

Depending on product choice:

- Prepared Paper Mache (Type 2 or Type 3)
- MDF board / plywood (for mural)
- Bowl mold (for mask)
- Wooden base + wire/mesh (for figurine)
- Adhesive
- Modeling tools / butter knife / ice cream sticks
- Sandpaper (medium and fine)

- Acrylic or poster colors
- Brushes
- Varnish or sealant
- Cloth for cleaning
- Pencil and ruler

Procedure

Step 1: Planning and Design - Begin by making a rough sketch of the chosen product with proper proportions and measurements. Mention approximate height, width, and depth to maintain balance. Break the design into simple shapes like circles, cylinders, cones, and slabs. This helps in understanding volume and structure before sculpting begins.

Step 2: Structure Preparation - Prepare the working surface or armature depending on the project type. If without armature, clean and sand the board or mold for better adhesion. If with armature, fix rods, mesh, or wire securely to ensure stability. A strong base prevents collapse and improves durability.

Step 3: Layering and Sculpting - Apply paper pulp in small portions instead of one thick mass. Build the form gradually in layers, allowing each layer to settle. Maintain even thickness to avoid cracks and excess weight. Careful layering increases strength and structural balance.

Step 4: Shaping and Detailing - Refine edges and forms using fingers and basic sculpting tools. Blend all joints smoothly to avoid visible seams. Add textures, patterns, and fine details carefully. Proper detailing enhances realism and overall finish.

Step 5: Controlled Drying - Dry the product in a shaded, well-ventilated area. Avoid direct sunlight to prevent rapid shrinking and cracks. Allow sufficient time for complete drying based on thickness. Repair minor cracks with soft pulp if necessary.

Step 6: Surface Finishing - Lightly sand the dried surface to remove rough patches. Apply a base coat of white paint or gesso evenly. Add final colors, highlights, and decorative details. Seal the piece with clear varnish for protection and durability.

Check Your Progress

A. Fill in the Blanks

1. Sculpting without an internal support structure is known as sculpting without _____.

2. In Warli art, triangles often represent _____ and mountains.
3. A thin layer of oil applied on a bowl mold helps in easy _____ of the mask.
4. When building a stool or table, MDF boards act as the _____ and base of the structure.
5. Proper drying in a _____ and ventilated place helps prevent cracks and warping.

B. Short Answer Questions

1. Why is armature important in large paper mache products like tables or figurines?
2. Explain how basic geometric shapes help in constructing Warli figures.
3. Why should paper mache layers be applied gradually instead of in one thick mass?
4. What is the purpose of sanding before painting a sculpted product?

C. Long Answer Questions

1. Compare sculpting with armature and sculpting without armature in paper mache. Discuss structure, strength, detailing possibilities, and suitable products for each method.
2. Explain the complete process of creating a paper mache mask from mold preparation to finishing. Discuss how proportion, drying control, and detailing affect the final result.

Session 2: Product Making Using Molding and Casting Technique

Mold and Cast (Using One Piece Mold)

In Class XI, learners were introduced to the mould and cast technique and the basic process of product development using this method. Building upon this foundational knowledge, the present section focuses on the systematic and advanced application of mould and cast techniques for the development of paper mache products. The section primarily emphasizes the use of one-piece mould and two-piece mould techniques to achieve improved accuracy, uniformity, and quality in product making. It is important to understand that mould and cast techniques are not limited to one-piece and two-piece moulds. In certain cases, especially for complex product forms, the use of multiple moulds may be required to complete a single product. Although the detailed procedures for multiple mould techniques are not included in this section, an awareness of this approach supports better planning, design understanding, and advanced product development at this level.

1. Memento

A memento is a small handcrafted object made to preserve memories of a place, event, or occasion. In paper mache craft, mementos are created using lightweight materials and decorative techniques. They are often painted or embellished to enhance their appearance. Such items are commonly used as souvenirs or gifts.

Materials Required

- Type 1 paper mache (as prepared earlier) – approx. 500 grams or more, depending on mold size
- Marble dust (selkhadi powder) – for use as a separator
- Rolling pin or flat wooden block
- Mold for the memento (e.g., face, emblem, logo, or trophy design) – approx. 6–8 inches in height and 4–5 inches width for standard mementos
- Water in a bowl
- Clean cotton cloth
- MDF board for base – approx. 8 inches x 6 inches x 12 mm thick (size can be adjusted to fit memento size)
- Adhesive or strong adhesive
- Metal file (reti) or sandpaper (medium and fine)
- Small spatula or butter knife
- Small paintbrushes

- Acrylic or enamel paints
- Gesso or white enamel paint for base coating
- Clear varnish for finishing
- Airtight plastic container or polythene bag for storing leftover pulp
- Wet cloth for wiping hands
- Knife or blade for trimming edges

Procedure

Step 1: Prepare Work Area and Mold

Select a clean, flat workspace. Place the mold on the table. Check that the mold surface is free of dust or leftover material from previous casts. If the mold is reusable, gently dust the inside with a thin layer of marble dust (*Salkhadi* powder).

To apply marble dust, place a small amount into a thin cotton cloth, tie it into a small bundle (*potli*), and tap it all over the inner surface of the mold. This acts as a separator so the paper pulp does not stick to the mold, making removal easier later.

Step 2: Flatten the Paper Pulp

Take out the required amount of Variety 1 paper pulp. Using the palms or a rolling pin, flatten the pulp on a clean surface.

- The flattened sheet of pulp should be at least $\frac{1}{2}$ inch larger than the mold on all sides to ensure full coverage. For a mold about 6 inches tall, prepare a pulp sheet about 7 x 8 inches.
- Keep the thickness even, ideally around 4–5 mm. Uneven thickness may cause cracks or weakness in the final memento.



Fig. 3.25: Flatten the Paper Pulp

Step 3: Place Pulp Inside the Mould

Carefully lift the flattened pulp and place it inside the mold. Start pressing the pulp gently into the mold with your thumbs. Work from the center outward, pressing into all corners and fine details.

- In delicate areas, like facial features or logos, apply a bit more pressure to help the pulp capture fine lines and curves. However, always press gently to avoid cracks or tearing.
- Dip the thumb or fingers in water before pressing. This prevents the pulp from sticking to the fingers and pulling out of the mold. Alternatively, one can use a damp cotton cloth to press and smooth the pulp into the mold surface.

Step 4: Remove Excess Pulp

Once the pulp is evenly pressed into the mold, check the sides and edges. Use a butter knife or small spatula to trim away any pulp that extends beyond the edge of the mold. Keep edges neat for easy release and a clean finish.

Step 5: Dry the Cast in Mold

Allow the pulp to dry in the mold for about 1 hour in a shaded, airy place. Avoid direct sunlight initially, as it may cause the pulp to shrink too quickly and crack.

Drying time can vary based on humidity and thickness. The surface should feel firm and slightly dry to the touch before removing from the mold.

Step 6: Demold the Memento

Once partially dry, gently loosen the edges of the pulp from the mold. Slowly lift out the cast, supporting it from the back to prevent it from bending or breaking. If the cast sticks, tap the mold gently or run a plastic knife around the edges to help release it.

Step 7: Smooth and Refine

Check the surface of the cast for rough spots, seams, or small cracks:

- Lightly sand the surface with medium or fine sandpaper.
- For bigger bumps, gently scrape with a metal file or butter knife.
- If cracks or holes are present, fill them with a soft paste made from leftover pulp mixed with a few drops of water. Let it dry again and sand smooth.

Step 8: Prepare the MDF Stand

Cut an MDF board to approximately 8 x 6 inches or slightly larger than the

cast size. Sand the edges to smooth them out. Paint the MDF board with one or two coats of white gesso or white enamel paint. Let it dry completely.

Step 9: Attach the Cast to the Stand

Apply a thin, even layer of Adhesive or strong adhesive to the back of the memento cast. Press it firmly onto the center of the prepared MDF stand. Let it dry completely, preferably under a slight weight so it bonds flat and securely.

Step 10: Painting and Decoration

Paint the memento as desired:

- Apply a base coat of white or black enamel paint and let it dry.
- Use acrylic paints for details, highlights, or metallic finishes like gold and silver.
- Fine brushes work best for intricate designs.

Step 11: Final Finishing

Once the paint is dry, apply a layer of clear varnish with a soft brush to protect the colors and give a glossy finish. Allow to dry completely.

Step 12: Storing Leftover Pulp

Always store leftover Variety 1 pulp in an airtight container or polythene plastic bag to keep it from drying out. This ensures it stays soft and ready for the next project.



Fig. 3.26: Memento

This procedure ensures a professional quality paper mache memento, sturdy and beautifully finished.

15. Fort Relief

A Fort Relief is a decorative paper mache artwork that showcases the raised design of a historic fort. The relief technique creates depth and texture, highlighting architectural details like walls, gates, and towers. It is painted to enhance the form and appearance. Such mementos are used as souvenirs to represent heritage and history.

Materials Required

- MDF board – approx. 18 inches (width) × 12 inches (height) × 12 mm thickness (for the base)
- Type 1 paper mache(as prepared earlier) – approx. 1.5 to 2 kilograms
- Adhesive or strong adhesive
- Rolling pin or wooden board (for flattening pulp)
- Knife or cutter
- Metal file (reti) for shaping edges
- Water in a small bowl (for moistening fingers and tools)
- Small sculpting tools (optional for fine details)
- Sandpaper (medium and fine)
- Brushes of various sizes (thin for details, medium for larger areas)
- White plastic paint or white gesso (for base coating)
- Acrylic or enamel paints in desired colors (browns, greys, ochres for fort stones and walls)
- Soft cotton cloth for wiping
- Clear varnish for finishing
- Hooks and screws for wall hanging
- Drill machine (for fixing hooks)

Procedure

Step 1: Prepare the MDF Base

Take the MDF board measuring 18 × 12 inches and clean the surface to remove dust or dirt. This will serve as a strong backing for the fort relief.

Lightly sand the surface to help the paper mache adhere better. Wipe it clean with a dry cloth.

Step 2: Outline the Fort Design

Using a pencil, lightly sketch the rough outline of the fort directly on the MDF board. Include key features like fort walls, towers, doors, windows, steps, and decorative battlements. This will act as the guide during sculpting. Keep the main raised areas of the relief about 1cm to 2cm thick from the surface for a prominent 3D effect without becoming too heavy.

Step 3: Apply Paper Pulp Base Layer

Take a portion of Variety 1 paper pulp. Place it on a flat surface and roll it into a thin sheet, approximately 3–4 mm thick, using a rolling pin. Lift this flattened pulp carefully and apply Adhesive generously onto the MDF board. Lay the rolled pulp over the entire board and press it firmly into place. Mooth it down with your fingers to eliminate air bubbles. This first layer ensures a solid base for building raised relief features.

Allow it to semi-dry for 15–20 minutes before starting the next step.

Step 4: Build the Fort Structure in Relief

Working section by section, take small amounts of pulp and start building up the fort's walls, towers, and details:

- Walls and Towers: Roll pulp into coils about 1 cm thick. Press these coils along the sketched lines of the fort walls. Flatten and shape them slightly with the thumb to create stone or brick-like textures.
- Doors and Windows: Form small rectangular or arched shapes with pulp and place them in the designated areas. Use a sculpting tool or knife to gently carve lines indicating wooden panels or grill patterns.
- Battlements: Roll small balls or flat pieces and press them along the top edge of walls to create battlement details. Keep each battlement block around 1 cm wide for balance and detail.
- Steps or Ramps: Form small sloped shapes from pulp and press them in areas where desired steps or paths leading into the fort.

Always press gently but firmly, using slightly wet fingers to avoid sticking and to blend the pieces seamlessly into the background.

Step 5: Create Stone Texture and Fine Details

Once the main shapes are built, start adding finer details:

- For stone texture, lightly press the tip of a small stick or sculpting tool into the pulp to create irregular stone lines and cracks.

- Gently tap the surface to create subtle indentations that resemble weathered fort walls.
- Use a metal file (reti) or the blunt edge of a knife to define joints between stone blocks or bricks for realism.

Keep checking the reference sketch and photographs of forts for accurate details.

Step 6: Smooth and Refine the Relief

Inspect the relief for any rough or unintended lumps. Smooth the surface with damp fingers, gently blending edges to ensure a natural, cohesive look. Remove any excess pulp that spreads beyond the edges of the MDF board. Use a knife to trim cleanly along the borders for a neat finish.

Step 7: Dry the Relief Completely

Leave the entire relief to dry in a shaded, well-ventilated space for at least 24–48 hours. Drying times may vary based on thickness and humidity. Do not expose it directly to sunlight, as this can cause cracks.

Step 8: Sand the Surface

Once fully dry and hard, lightly sand the relief with medium and then fine sandpaper. This step removes fingerprints, tool marks, or minor imperfections. Wipe off dust with a dry cloth.

Step 9: Apply Base Coat

Apply a layer of white plastic paint or white gesso over the entire relief surface. This seals the pulp and creates a smooth, uniform background for painting. Let it dry thoroughly.

Step 10: Paint the Fort Relief

Using acrylic or enamel paints, begin painting the relief:

- Walls and towers: Use earthy tones like ochre, grey, brown, or sandstone shades to mimic stone structures.
- Doors and windows: Paint in darker shades to create depth and contrast.
- Highlights: Dry-brush lighter colors along edges and raised areas to accentuate details and create a realistic stone effect.

Apply at least two coats for a rich, durable color. Let each coat dry before applying the next.

Step 11: Apply Varnish for Protection

Once the paint is fully dry, apply a thin coat of clear varnish to protect the artwork and enhance the colors' vibrancy. Allow the varnish to dry completely before handling the piece.

Step 12: Fix Hooks for Hanging

Turn the MDF board over and mark two points about 3 inches from each top corner. Drill small holes and attach sturdy metal hooks with screws. Check that the hooks are aligned and secure to support the weight of the relief when hung on a wall.



Fig. 3.27: Fort Relief

This detailed process will give a beautiful, highly detailed paper mache fort relief suitable for wall display, blending artistry with the traditional craft of paper mache.

Mould and Cast (Using Two Piece Mould)

This section focuses on the two-piece mould technique, which is used for casting products with complex forms that cannot be produced using a single-piece mould. The two-piece mould technique involves dividing a single product into two separate parts for ease of casting. Each part of the product is cast separately using paper mache pulp within the mould. After proper drying, the two cast pieces are carefully joined, aligned, and finished to form a complete product. This method helps in achieving accurate detailing, ease of mould removal, and better structural control in complex designs. Although the process requires careful planning and precision, the two-piece mould technique enables learners to develop products with intricate shapes, undercuts, and defined forms that are otherwise difficult to achieve through one-piece moulds. This technique supports systematic product development and helps learners enhance their technical skills, quality control, and finishing abilities.

1. Paper Mache Box (Traditional Kashmiri Style)

This paper mache box is inspired by traditional Kashmiri craftsmanship, known for its intricate hand-painted motifs and rich colour palette. Made using layered paper pulp over a mould, the box is lightweight yet sturdy in structure. Fine floral and paisley designs are painted by hand and finished with a protective lacquer, giving it a smooth, glossy surface. It is commonly used for storing small valuables, jewellery or as a decorative artefact.

Material Required

- Paper Mache (Type 4)
- Male and Female molds of a box you want to make (Aluminum/Wooden/Plastic)
- A separator (lime powder in a *potli*)
- Waste paper strips (for finishing)
- Sandpaper (optional)
- Damp cloth (for cleaning)
- Thin round brushes
- Pigments (preferably natural)

Procedure

Step 1: As described earlier, when preparing paper mache for making products in the regional style of Kashmir, wheat or rice flour is commonly used as a binder, similar to how they are incorporated in type 4 paper mache. These act to strengthen the pulp mixture during the formation process.

Step 2: Once the pulp is ready, form the two main parts of the box: the base and the lid. Typically, wooden, aluminum, or plastic molds are preferred for shaping because materials like Plaster of Paris (POP) or cement tend to cause the sticky pulp (which contains wheat, rice, and 'saresh' glue) to adhere to the mold, compromising product quality and shape. Alternatively, skilled artisans sometimes use existing cardboard boxes as molds, applying pulp evenly over their surfaces to achieve the desired shape.

Step 3: The process uses two kinds of molds:

- The male mold is used for shaping the main (bottom) part of the box, which is the container.
- The female mold is designed for casting the box lid (top). Rabbet joints (for a tight fit) can be formed either manually or using additional molds.



Fig. 3.28: Rabbet joint

Step 4: Before adding paper mache, a separator is applied to the molds to facilitate easy removal. Paper mache is then pressed onto the molds, forming the shape.

Step 5: Once the shaped bottom container and lid are thoroughly dried, they are ready for decoration. At this stage, artisans paint traditional Kashmiri motifs and patterns by hand, as previously discussed in the unit on Kashmiri artwork and motifs.



Fig. 3.29: Some popular motifs, design and paintings in Kashmiri paper mache

Step 6: To ensure a smooth surface suitable for the intricate naqashi (painting) work, 1–2 layers of paper strips are glued over the shaped pulp using 'sares' or other adhesives.



Fig. 3.30: Paper Mache Box

As discussed, the process of crafting Kashmiri paper mache boxes is versatile and allows artisans to create a wide range of shapes and varieties using the same fundamental techniques. By selecting different molds and applying

artistic skill, makers produce an array of box designs such as round, oval, rectangular, hexagonal, and heart-shaped boxes each distinguished by the region's characteristic decorative naqashi work. This adaptability is a hallmark of Kashmiri craftsmanship, enabling the creation of unique and functional art pieces for various purposes and occasions. Some of the most popular varieties include jewelry boxes, pen cases, pill boxes, and decorative gift boxes, all crafted with the meticulous methods we have outlined.



Fig. 3.31: Variety of boxes

2. Display Head

This paper mâché display head is a decorative showpiece created with detailed sculpting and a smooth finish. Mounted on a firm base, it offers stability and enhances visual appeal. The final surface treatment gives it a stone-like appearance, showcasing the artistic and versatile nature of paper mâché in decorative craftwork.

Material Required

- Two Pieces of Mold, generally a front and a back (can be made of Plaster of Paris/terracotta/cement)
- All other materials are the same as “Using One Piece Mold.”



Fig. 3.32: Colour Variation in Display Head

Procedure

The steps for making a sculpture from two pieces of mold are the same as those of a One-piece mold.

1. Take the two-piece mold Set, clean it with the help of a brush, and apply marble/chalk powder as a separator
2. Make a *loi* of the paper mache and flatten it like a roti/thin slab, big enough to fit the molds.

Keep the slab thick enough so that it does not break while we push it inside the mold for impression.

3. Place the paper mache slab on both molds separately and press them using thumbs and fingers.

Use enough pressure on all parts of the mold so that no area is left to be embossed.

4. Remove any extra paper mache on the outer edges of the mold and cut the extra paper mache with the help of a knife.
5. Now, make a coil and paste it on the corners/borders of the slab we pressed in the mold. Make sure this coil does not touch the flat edges of the mold.
6. After the coil is attached, take both molds (front and back) and join them by applying pressure.
7. Now, from the hollow/open side of the mold, use your fingers or a long sculpting tool to merge coils on both molds into one seamless part.
8. Make another small slab and place it at the bottom of the cast work. This will pack your piece from the bottom. Use fingers or tools to fix this slab in place by merging the edges.

Using a sharp tool, make a small hole through the center of this slab. This part is important as it allows the air to circulate while the piece dries. You can attach this head to a pedestal in order to display it. To make a pedestal, you can get the mold of the desired shape online or from a local vendor. Then you can follow the process of Two-piece mold-cast technique and prepare the pedestal. Once ready, we have to attach the Head and the Pedestal before it is left to dry. To do so, you can attach thin coils of paper mache at the bottom of the head and the top of the pedestal where you wish to join them. Now press them together, and then use your fingers or a thin sculpting tool to remove any excess paper mache and finish the joined part neatly. Now let the piece dry for at least 8-9 hours. You have completed your Buddha head and it is now ready to be display! Another example of this kind of casting, where you have to join the peice with the pedestal is this sculpture of the Gwalior fort made below.

Here, the fort and the pedestal were made separately. Latter they were joined together with the help of a coil.



Fig. 3.33: Sculpture of the Gwalior fort

3. Decorative Container

This paper mâché decorative container is a functional and aesthetic craft object designed for storage and display. It is created using layered or molded paper mâché techniques to achieve strength and durability. After proper drying, the surface is smoothly finished and decorated with paint or textures to enhance its visual appeal. Being lightweight and eco-friendly, the container highlights the sustainable use of paper mâché in utility-based handicrafts.

Material Required

- Two Pieces of Mold, generally a front and a back (can be made of Plaster of Paris/terracotta/cement)
- All other materials are the same as “Using One Piece Mold.”



Fig. 3.34: Container

Procedure

1. To make this decorative container, you have to follow the procedure of the two-piece mold-cast.
2. Once you have made the body of the container, you can add various elements to it using a single mold process. This is useful when you wish

to decorate your container with intricate designs as shown in the image.

3. As shown in the image, if you want to add these 4 protruding small figures as decoration, you can do so by procuring a separate 1-piece mold of the design you want.
4. Now, follow the one-piece mold process and make these decorative parts separately.
5. Once they are ready, attach them to the main body of the container while both parts are wet.
6. Leave the product to dry for at least 4-5 hours. Once dried, it is ready for you to color as per your choice.

4. A Statue of Swami Vivekananda

This paper mâché statue of Swami Vivekananda represents strength, wisdom, and spiritual leadership through carefully sculpted form and posture. The statue is created using layered or molded paper mâché techniques, ensuring a lightweight yet stable structure. Fine detailing in facial features and attire adds realism and dignity to the figure. After drying, the surface is finished and painted to enhance durability and give a refined, stone-like appearance suitable for display and educational use.

Material Required

- Two Pieces of Mold, generally a front and a back (can be made of Plaster of Paris/terracotta/cement)
- All other materials are the same as “Using One Piece Mold.”



Fig. 3.35: Statue of swami Vivekanand

Procedure

1. Here, again we have to follow the same process of the two-piece mold.

2. You can start by procuring a set of two-piece mold. You can get it custom made from a local vendor or you can order one online.
3. Once you have your mold and have prepared the required type of Paper mache. You can now follow the steps mentioned in Session 2 of Unit 4.
4. Here, the mold has the piece and the base attached from the beginning itself. So, here you don't have to attach the piece and the pedestal together once they have been cast.
5. Another example of this kind of casting is is this sitting buddha on a pedestal, its image has been attached below.



Fig. 3.36: Statue of Buddha

Activities

Activity: Develop a Paper Mache Product Using One-Piece or Two-Piece Mould Technique

Objective

Students will create one product using molding and casting technique such as:

- Memento (One-piece mold)
- Fort Relief (One-piece base build-up)
- Paper Mache Box (Two-piece mold)
- Display Head / Decorative Container (Two-piece mold)

The focus will be on mold preparation, thickness control, demolding, joining technique, surface finishing, and painting quality.

Materials Required

- Prepared paper mache (Type 1 or Type 4 as required)
- One-piece or two-piece mold
- Marble/chalk powder (separator)
- Rolling pin or wooden board
- MDF board (if required for base)
- Adhesive
- Knife or trimming tool
- Sandpaper (medium and fine)
- Paints (acrylic/enamel)
- Brushes
- Gesso or base coat paint
- Clear varnish
- Clean cloth
- Water bowl

Procedure

(Product Making Using Molding and Casting Technique)

Step 1: Mold Preparation - Begin by cleaning the mold thoroughly to remove dust, debris, or leftover material from previous casts. A clean mold ensures a smooth and accurate impression. After cleaning, apply a thin layer of marble or chalk powder using a small cloth bundle (potli). This separator prevents the pulp from sticking to the mold surface and helps in easy removal after drying.

Step 2: Prepare and Flatten Pulp - Take the required quantity of prepared paper pulp according to the mold size. Knead it lightly to make it soft and workable. Flatten the pulp into an even slab of approximately 4–5 mm thickness using your palms or a rolling pin. Ensure that the slab is slightly larger than the mold so it fully covers the surface when pressed.

Step 3: Pressing in Mold - Carefully place the flattened pulp slab inside the mold. Start pressing gently from the center outward to avoid trapping air bubbles. Use thumbs and fingers to push the pulp into fine details and corners of the mold. Maintain uniform thickness throughout to prevent weak spots or cracking during drying.

Step 4: Trimming Edges - Once the pulp is properly pressed into the mold, check the outer edges. Remove any extra pulp extending beyond the mold using a knife or trimming tool. Keep the borders neat and even to ensure a

clean finish. Proper trimming also helps in easier demolding and joining if required.

Step 5: Drying - Place the molded piece in a shaded, well-ventilated area to semi-dry. Avoid direct sunlight at this stage, as rapid drying may cause shrinkage or cracks. Allow sufficient time for the surface to become firm before attempting removal. Drying time may vary depending on thickness and weather conditions.

Step 6: Demolding - Once the cast is partially dry and firm, gently loosen the edges from the mold. Carefully remove the piece while supporting it from the back to prevent bending or breakage. If the pulp sticks slightly, tap the mold gently or run a tool along the edge. Handle the piece carefully as it may still be fragile.

Step 7: Joining (For Two-Piece Mold) - If working with a two-piece mold, cast both halves separately and allow them to semi-dry. Apply soft coils of fresh pulp along the edges to act as adhesive. Press both halves together carefully and blend the seam smoothly using fingers or tools. Make a small air hole if required to allow airflow during complete drying.

Step 8: Surface Refinement - After the product has dried completely, inspect the surface for rough areas or cracks. Lightly sand the surface using medium and fine sandpaper to achieve smoothness. If cracks or gaps appear, fill them with soft pulp paste and allow it to dry again. Clean the surface with a dry cloth before painting.

Step 9: Base and Finishing - If required, attach the finished piece to an MDF stand using strong adhesive. Apply a base coat of gesso or white paint to seal the surface and prepare it for decoration. Paint the product using acrylic or enamel colors, adding fine details carefully. Finally, apply a layer of clear varnish to protect the surface and enhance durability.

Check Your Progress

A. Fill in the Blanks

1. Marble dust or chalk powder is used as a _____ to prevent sticking of pulp to the mold.
2. In a two-piece mold technique, the product is cast in _____ separate parts.
3. Uneven thickness of paper pulp may cause _____ or breakage during drying.
4. A thin air hole is made in hollow cast pieces to allow proper _____ during drying.
5. Applying a coat of clear _____ protects the painted surface and increases durability.

B. Short Answer Questions

1. Why is a separator applied before pressing paper pulp into a mold?
2. What is the main advantage of using a two-piece mold over a one-piece mold?
3. Explain why drying should be done in a shaded and ventilated area.
4. What precautions should be taken while joining two molded parts together?

C. Long Answer Questions

1. Describe the complete process of making a paper mache memento using the one-piece mold technique. Include mold preparation, pressing, drying, finishing, and painting steps.
2. Explain the two-piece mold casting technique with reference to making a paper mache box or display head. Discuss the importance of joining, seam finishing, and structural stability.

Module 4**Sustainability for Paper Mache Craft****Module Overview**

In today's world, the environment is facing many challenges like pollution, global warming, overuse of resources, and waste generation. These problems are mostly caused by human activities that use natural resources in a careless way. If we continue using resources like this, future generations may not have enough clean air, water, or forests to live a healthy life. That's why the idea of sustainability has become so important. Sustainability means using natural resources wisely, so that they last longer and do not harm the environment. It is about living in balance with nature meeting our needs today without destroying the ability of future generations to meet their needs. Sustainability is not only about big industries or governments it is also about the small choices we make every day. Even traditional arts and crafts like paper mache can play an important role in sustainability. Paper mache is a beautiful and eco-friendly craft that uses waste paper and simple materials to create useful and decorative items. It is a good example of how we can use old materials to make something new and valuable. In this session, we will understand the concept of sustainability and explore the key features that make paper mache a sustainable craft. We will see how it helps in reducing waste, saving energy, protecting nature, and also in creating jobs for local artisans. This knowledge will help us become more responsible craftspersons and protect the planet while doing creative work.

Learning Outcomes

After completing this module, you will be able to:

- Identify Emerging Trends in Paper Mache Products
- Planning for Entrepreneurial Success with Paper Mache Craft

Module Structure

Session: 1 Sustainability in Paper Mache Craft

Session: 2 Sustainable Development Goals 2030

Session 1: Sustainability in Paper Mache Craft**1. Introduction to Sustainability**

Sustainability means using resources in such a way that they are available for both present and future generations. It is about reducing harm to the environment and living a life that supports nature.

We all depend on nature for water, air, food, and materials. But if we keep cutting trees, polluting rivers, and throwing waste everywhere, nature will get damaged. Sustainable living means using what we need without wasting and thinking about the future. It also includes protecting the environment, saving energy, and using eco-friendly methods in our work.

Example: Using paper bags instead of plastic bags, saving water while washing brushes, and recycling old newspapers for paper mache are all examples of sustainable actions.

By understanding sustainability, we can take better care of the environment and create a better future for all.

2. Key Features of Sustainability in Paper Mache Craft

a. Use of Waste Material

One of the best features of paper mache is that it uses waste materials. Instead of using new or expensive materials, paper mache uses old newspapers, cardboard, and other paper waste that would otherwise be thrown away. This reduces the amount of garbage and saves trees because less new paper is needed. A paper mache artisan collects old newspapers from homes and shops and uses them to make decorative vases and trays. Using waste material in paper mache helps clean the environment and reduces the need for cutting trees.

b. Eco-Friendly Aspects

Paper mache is an environmentally friendly craft. It uses simple and natural materials like paper, flour-based glue, and water-based colors. These materials do not contain harmful chemicals and do not pollute the air or water. Even children can work with paper mache safely.

Example: Instead of using plastic or synthetic colors, natural colors made from turmeric, beetroot, or clay can be used in paper mache items. Eco-friendly practices in paper mache protect both the environment and the health of artisans.

c. Low Energy Process

Another important feature of paper mache is that it uses very little energy. Most of the work in paper mache is done by hand. There is no need for big machines, electric tools, or industrial processes. Even the drying process is done in sunlight, not in electric dryers.

Example: A group of artisans sits together, handcrafts paper mache toys, and dries them naturally in the sun, without any machines. Because it uses low energy, paper mache helps reduce pollution and saves electricity.

d. Biodegradable

Biodegradable means something that can break down naturally without harming the environment. Since paper mache products are made from paper, glue, and natural colors, they decompose easily when thrown away. They do not stay in the environment like plastic, which takes hundreds of years to break down.

If a paper mache decorative item is thrown in the soil, it will slowly break down and mix with the soil without creating pollution. Biodegradable products like paper mache are good for nature because they do not leave harmful waste behind.

e. Supports Local Livelihood

Paper mache provides work and income to many local people. This craft is mostly practiced in villages and small towns. People, especially women and youth, can make paper mache items at home and sell them in markets or online. It helps preserve traditional skills and supports families financially.

Example: In Kashmir, many families are involved in paper mache making. They earn their living by selling these items to tourists and in exhibitions. Sustainable crafts like paper mache improve the lives of local people and promote traditional art forms.

f. Promotes Recycling

Recycling is a key part of sustainability, and paper mache supports it well. Instead of throwing paper waste into dustbins, it is reused to make something new. This reduces garbage and teaches people the importance of recycling and creative reuse.

Example: Old paper from notebooks and newspapers is turned into paper pulp and used to make lamps, wall hangings, and masks. Paper mache promotes the idea of giving new life to waste materials, which helps in keeping the environment clean.

In this session, we learned that sustainability is not just a concept but a responsibility that all of us must follow. It is about using natural resources carefully, reducing waste, and protecting the environment.

Paper mache is a wonderful example of a sustainable craft. It teaches us that beautiful products can be made using waste materials without harming nature. From using recycled paper and eco-friendly materials to promoting local jobs and reducing pollution, paper mache supports many goals of sustainable development. As students and future artisans, it is important for us to understand the value of sustainability in our craft. By practicing eco-friendly methods, we can not only create beautiful products but also become protectors of the earth. Let us carry forward this knowledge and become

responsible citizens who create, reuse, and care for the environment through the art of paper mache. Here is a complete, ready-to-use practice set for Unit 4, Session – 1: Sustainability in Paper Mache Craft.

Activities

Activity: Conduct a “Waste-to-Value Paper Mache Makeover”: students will collect clean paper waste at home/school, sort and quantify it, convert it into paper mache pulp, and create one small functional item (e.g., coaster, pen stand liner insert, gift tag) while documenting sustainable choices (materials, water use, drying method, non-toxic colors).

Material required

- Clean paper waste (old notebooks, newspapers, corrugated packaging offcuts).
- Water, bowl/bucket, sieve/strainer, old blender/hand-mashing tool (as available).
- Natural or water-based adhesive (e.g., flour paste/starch or white glue).
- Optional natural colorants (turmeric, beetroot water, clay/earth pigments) or water-based colors.
- Molds/templates (small tins, cups, cardboard tubes), old cloth/towel, waste cardboard/MDF scrap as a drying board.
- Measuring cup, simple log sheet (to record inputs/outputs, drying method, energy used).
- Sunlight/shade area for air-drying, sandpaper (optional for finishing), clear eco-friendly varnish (optional).

Procedure

1. Audit and sort: Gather paper waste; sort by type (newsprint, notebook, corrugation) and weigh/estimate volume; remove plastic/staples. Note how much virgin material is avoided.
2. Soak and pulp: Tear paper small, soak 2–12 hours, then mash/blend with minimal water until fibrous; strain to a workable moisture level.
3. Make eco binder: Prepare flour/starch paste or use water-based glue; avoid solvent-based options. Mix into pulp to form a cohesive dough.
4. Form the product: Press the pulp into/onto a small mold (e.g., coaster disk, pen-stand insert, gift tag), aim for even thickness; integrate a small loop or flat base as needed.
5. Dry sustainably: Air-dry in shade with airflow; rotate to prevent warping; avoid electrical dryers; record drying time and conditions.

6. Finish safely: Lightly sand if needed; color with natural or water-based paints; optionally seal with clear eco-friendly varnish; avoid plastic glitter/solvents.
7. Reflection log: Record inputs (paper type/weight, water used), process choices (binder, drying), and outputs (final use, durability), then write 5–6 lines on how the activity reduces waste, saves energy, and supports local livelihoods.

Check Your Progress

A. Fill in the blanks

1. Using old newspapers and notebooks in paper mache reduces waste and saves _____ by lowering demand for virgin paper.
2. Air-drying paper mache in _____ instead of using electric dryers conserves energy and cuts emissions.
3. Flour or starch paste is an example of an _____-friendly binder suitable for student use.
4. Products made from paper mache generally _____ naturally at end of life, unlike many plastics.
5. Collecting, reusing, and crafting with local waste paper can support _____ livelihoods and traditional skills.

B. Short answer questions

1. List two environmental benefits of using waste paper as the primary raw material in paper mache.
2. Why is shade/air drying recommended over electric drying in student paper mache projects?
3. Give two examples of safe, low-toxicity materials suitable for coloring or binding paper mache crafts.
4. How does paper mache craft promote the idea of recycling and responsible consumption in daily life?

C. Long answer questions

1. Explain how paper mache embodies sustainability across the product life cycle from sourcing to end-of-life. In the answer, discuss material selection, energy use, health and safety of materials, and biodegradability, with at least one classroom-scale example.
2. Many communities rely on small crafts for income. Describe how scaling student-led paper mache initiatives (collection drives, school craft clubs, local fairs) can simultaneously reduce waste, conserve resources, and support local livelihoods. Propose practical steps to make such a program sustainable year-round.

Session 2: Sustainable Development Goals and their Targets

Sustainable Development Goals (SDGs) are a global initiative by the United Nations to create a fair, healthy and sustainable world by 2030. With 17 goals, they address critical issues like poverty, hunger, inequality, climate change and environmental protection, ensuring no one is left behind. These goals aim to balance human well-being and planetary health by promoting sustainable practices worldwide.

Green Design, or sustainable design, complements SDGs by focusing on eco-friendly products and processes. Paper, a prime example, is celebrated for its rapid growth, minimal environmental impact and versatility in creating biodegradable, durable alternatives to plastic and wood.

This session highlights the significance of SDGs and the role of green design in achieving a sustainable future through conscious choices and innovation.

1. Introduction to Sustainable Development Goals (SDGs) – 2030 and their Targets

Have you ever thought about what makes the world a better place for everyone? On earth presently, lives are under threat, be it humans, animals, birds, rivers, land, all living creatures and even the temperature, which is rising rapidly, is a major threat to the existence of lives.

During the past few decades, man has exploited resources and nature, which impacted badly and now it is resulting in threats to the existence of lives. People from all around the world came together and created a plan to improve life on Earth.

This plan is called the Sustainable Development Goals (SDGs) and it was made to make the world a fairer, healthier and happier place for all by the year 2030.

There are 17 SDGs that focus on different important areas, like ending poverty, protecting the environment and making sure everyone has the chance to live a good life.

Sustainable Development Goals (SDGs)

The SDGs are a set of goals created by the United Nations in 2015 to help guide countries to work together for a better world by 2030. These goals aim to solve problems like poverty, hunger, inequality and climate change. The idea behind the SDGs is to make sure that everyone has the chance to live a good life without harming the planet.

Importance of SDGs

The SDGs are important because they provide a clear path to a future where everyone has what they need to live well and the environment is protected. These goals are a way to ensure that no one is left behind—whether it's providing food for the hungry, making sure all kids get to go to school, or acting to protect the planet from climate change.

Reasons to develop goals

- a. Ending Poverty and Reducing Inequality
- b. Fighting Hunger and Ensuring Food for All
- c. Protecting the Environment
- d. Promoting Good Health and Education
- e. Ensuring Clean Water, Sanitation and Energy for All
- f. Building Sustainable Cities and Communities
- g. Promoting Peace and Justice
- h. Creating a Better Future for All



Fig. 4.1: 17 Sustainable development goals

Source: <https://www.un.org/sustainabledevelopment/news/communications-material/#FAQ>

There are 17 goals in total and each one has specific targets to be achieved by 2030.

Goal 1: No Poverty

This goal aims to **end poverty** everywhere. Poverty means not having enough money to meet basic needs like food, shelter and education. This goal ensures that everyone has access to resources and opportunities to improve their lives.

Goal 2: Zero Hunger

Hunger is when people don't have enough food to eat. Goal 2 is about ending hunger and ensuring that everyone, especially children, has enough nutritious food. It also focuses on improving farming methods to grow more food in a sustainable way.

Goal 3: Good Health and Well-being

Good health is the foundation for a happy life. **Goal 3** focuses on ensuring everyone has access to **healthcare** and living in a healthy environment. It aims to reduce illnesses and promote healthy living for people of all ages.

Goal 4: Quality Education

Education is important for everyone. This goal ensures that all children, no matter where they live, can go to school and learn the skills they need to succeed in life. It also aims to improve the quality of education worldwide, ensuring that everyone has equal access to learning opportunities.

Goal 5: Gender Equality

This goal is about giving equal rights and opportunities to both girls and boys, women and men. Goal 5 focuses on ending discrimination, ensuring that women and girls have the same chances as men and boys in education, work and decision-making.

Goal 6: Clean Water and Sanitation

Water is essential for life. Goal 6 is about making sure everyone has access to clean water and proper sanitation, like clean toilets and safe waste disposal. It also focuses on protecting water sources from pollution and ensuring they are available for future generations.

Goal 8: Decent Work and Economic Growth

Goal 8 promotes jobs and opportunities for everyone. It aims to create safe and productive jobs, ensure fair wages and protect workers' rights. It also focuses on growing the economy in ways that benefit all people, not just a few.

Goal 9: Industry, Innovation and Infrastructure

This goal is about building strong infrastructure like roads, bridges and the internet and promoting innovation and new technologies. It ensures that industry and technology grow in a way that helps people, supports the environment and improves everyone's lives.

Goal 10: Reduced Inequalities

Inequality happens when some people have more opportunities or resources than others. Goal 10 focuses on reducing the gap between rich and poor and making sure everyone has equal chances, no matter where they are born, what gender they are, or how much money they have.

Goal 11: Sustainable Cities and Communities

Many people live in cities and communities and this goal is about making sure they are safe, healthy and sustainable. It includes building better public transportation, affordable housing and protecting cultural and natural heritage in cities.

Goal 12: Responsible Consumption and Production

Goal 12 encourages everyone to use resources wisely. This means reducing waste, recycling and making products in ways that are good for the environment. It aims to make sure we don't take more from the Earth than we need and we protect resources for future generations.

Goal 14: Life below Water

Goal 14 focuses on protecting the oceans, seas and marine life. Oceans provide food, regulate climate and support marine animals. This goal aims to stop overfishing, reduce ocean pollution and protect marine habitats like coral reefs.

Goal 15: Life on Land

Forests, animals and plants are essential for life on Earth. Goal 15 is about protecting the land and the animals that live on it. It aims to stop deforestation, protect wildlife and restore ecosystems that have been damaged.

Goal 16: Peace, Justice and Strong Institutions

This goal is about promoting peaceful and fair societies. It focuses on reducing violence, ensuring access to justice and building strong, accountable governments that protect human rights.

Goal 17: Partnerships for the Goals

No country can achieve the SDGs on its own. Goal 17 encourages countries to work together and share knowledge, resources and technologies. It focuses on building partnerships between governments, businesses and communities to achieve the SDGs faster and more effectively.

How goals can be achieved?

The SDGs can be reached if countries, communities and individuals all work together.

Here are some ways as an individual can help contribute to these goals:

- Reduce waste: By recycling and reusing materials, we can reduce pollution and can save resources
- Save water and energy: Turning off the tap while brushing your teeth or using less electricity can help conserve resources.
- Be kind to others: Helping people in need, sharing with friends and treating everyone equally are ways to support goals like ending poverty and
- Plant trees and clean up: Planting trees and keeping your surroundings clean can protect the environment and help fight climate change.

The Sustainable Development Goals are all about making the world a better place by 2030. Each goal is important and together, they form a roadmap for helping people live better lives while taking care of our planet.

2. SDGs Through Paper Mache Craft

The Sustainable Development Goals (SDGs) are a set of 17 global goals adopted by the United Nations in 2015 to create a better, more sustainable world by the year 2030. These goals aim to reduce poverty, protect the environment, support equal opportunities, and improve quality of life for people all over the world.

Many people believe that only large businesses, industries, or governments can work toward these goals, but in reality, even small-scale crafts like paper mache can play a meaningful role in achieving them.

Paper mache is an environment-friendly and community-based handicraft that reflects values of sustainability, innovation, and empowerment. It uses waste materials like old newspapers and natural paste instead of chemicals, and it provides employment to local artisans. In this session, we will understand how this traditional craft contributes to six important SDGs in a very practical and impactful way.

No Poverty (Goal 1)

Poverty is one of the biggest challenges in many parts of the world. It means a lack of basic needs like food, education, proper shelter, and job opportunities. Through paper mache craft, people especially in rural areas—get a chance to earn a living using simple tools and low-cost materials. They don't need expensive machines or big factories. Anyone with basic training and creativity can make useful and decorative products at home and sell them in local markets or even online.

For instance, a group of women in a village may come together and start making paper mache trays, boxes, or toys using waste paper. By selling these items, they are able to earn money regularly, support their families, and improve their standard of living. In this way, the craft becomes a source of livelihood and helps reduce poverty at the community level.

**1 NO
POVERTY**

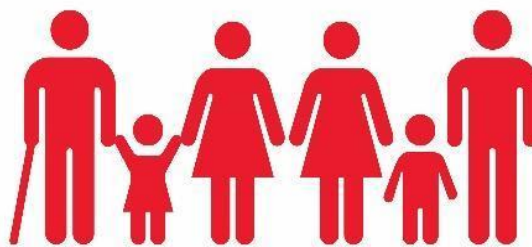


Fig. 4.2: No Poverty (Goal 1)

Decent Work and Economic Growth (Goal 8)

Work is not just about earning money it should also be safe, respectful, and meaningful. Many people, especially youth and women, do not have access to proper employment. Paper mache craft offers them an opportunity to work with dignity, creativity, and independence. Since this craft does not require high investment or technical machinery, individuals can start their own small-scale units or join self-help groups. It encourages entrepreneurship and also strengthens the local economy.

Imagine a group of school-leavers in a town learning paper mache through a government training program. They begin producing artistic items, packaging them well, and selling them through exhibitions and fairs. Soon, they become self-sufficient and also inspire others to start similar ventures. Through such efforts, paper mache becomes a tool for decent work and supports the overall economic development of the community.

8 DECENT WORK AND ECONOMIC GROWTH



Fig. 4.3: Decent Work and Economic Growth (Goal 8)

Industry, Innovation and Infrastructure (Goal 9)

This goal focuses on building industries that are inclusive and sustainable, encouraging innovation, and supporting small businesses. Paper mache, though a traditional craft, encourages innovation in design, production techniques, and marketing. Artisans often come up with new and creative ideas to make modern products using this age-old technique.

For example, a craftsperson may design mobile phone holders, clocks, pen stands, or wall hangings using paper mache and decorate them with local patterns and themes. They may also experiment with eco-friendly packaging and digital promotion. In this way, paper mache supports innovation and helps create small industries based on culture, creativity, and sustainability. It builds local infrastructure and encourages young people to become creative entrepreneurs.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

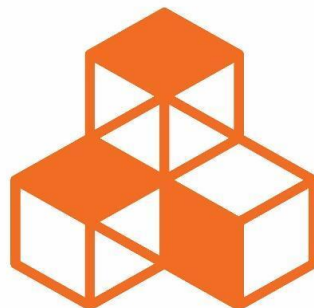


Fig. 4.4: Industry, Innovation and Infrastructure (Goal 9)

Sustainable Cities and Communities (Goal 11)

Cities and communities grow when people live together in safe, clean, and supportive environments. Crafts like paper mache help create such communities by encouraging people to use eco-friendly, handmade products instead of factory-made goods that harm the environment. By involving local people in the making and selling of such items, the community becomes more active, proud of its culture, and connected.

When paper mache workshops are set up in schools, homes, or community centers, they not only provide training and employment but also bring people together. Residents take part in exhibitions, local fairs, and awareness drives about environmental care. As a result, the community becomes more sustainable, self-reliant, and respectful of its cultural traditions. The craft helps shape better living spaces where culture and the environment are both valued.

11 SUSTAINABLE CITIES AND COMMUNITIES



Fig. 4.5: Sustainable Cities and Communities (Goal 11)

Responsible Consumption and Production (Goal 12)

Modern lifestyles often involve buying and throwing away things without thinking. This creates a lot of waste and pollution. Responsible consumption means using only what is needed and choosing products that do not harm nature. Paper mache supports this idea by using recycled materials like newspaper, old books, and boxes. It also uses natural glue and colors that are safe for the environment.

Instead of purchasing plastic-based decorative items, people can choose paper mache products that are handcrafted, beautiful, and safe. In schools and homes, students can learn how to make paper mache items and understand the value of reuse and recycling. This habit reduces garbage, saves natural resources, and supports conscious, mindful living. The entire process from material selection to final product teaches the importance of being thoughtful while producing and using things.



Fig. 4.6: Responsible Consumption and Production (Goal 12)

Climate Action (Goal 13)

Climate change is a serious threat to the planet. Rising temperatures, floods, droughts, and pollution are warning signs that we need to change how we live and work. One of the main causes of climate change is pollution caused by industries and the use of fossil fuels. Paper mache, being a handmade and low-energy craft, creates very little pollution. It is a climate-friendly craft that helps reduce the negative impact on the environment. Artisans usually dry paper mache items in natural sunlight rather than using electric dryers. They avoid plastic, harmful paints, and chemicals. The entire process encourages clean and green practices. By choosing paper mache items or making them, people automatically become part of climate action. They help reduce carbon footprint, spread awareness, and support nature through simple choices.



Fig. 4.7: Climate Action (Goal 13)

The Sustainable Development Goals are not just meant for world leaders or large companies they are meant for everyone. Every action we take, big or small, has an impact on the world around us. Through this session, we understood that even a humble craft like paper mache can contribute to many SDGs in real and powerful ways. By reducing poverty, creating employment, encouraging innovation, supporting eco-friendly production, strengthening communities, and caring for the environment, paper mache becomes more than just a craft it becomes a force for change. As students and young learners, when we understand and practice such sustainable crafts, we not only develop skills but also become responsible citizens. With our hands and hearts, we can shape a better, cleaner, and fairer world through the beauty and values of paper mache.

Activities

Activity: Students will design and present a small, SDG-aligned paper mache product and a one-page “impact brief” that explains which SDGs it supports, how materials and processes reduce environmental impact, and how the product can create social or economic benefits in the community. The product should demonstrate responsible consumption/production and at least one additional SDG (e.g., No Poverty, Decent Work, Sustainable Cities, Climate Action).

Materials required

- Waste newspaper/cardboard, old notebooks for pulp.
- Eco-safe binder (flour/water paste) and water-based/natural colors (turmeric, beetroot, clay)
- Simple tools: bowl, spatula/butter knife, brushes, cloth, scissors
- Sunlight/air for low-energy drying; no electric dryer
- A4 sheet for the impact brief (includes: SDGs targeted, lifecycle notes, community benefit plan)

Procedure

1. Select SDGs: Choose Responsible Consumption and Production (SDG 12) and at least one more SDG (e.g., SDG 1, 8, 11, or 13) the product will support. Briefly note how the product contributes to each.
2. Plan the product: Sketch a small utility/decor product (e.g., organizer, mask, planter, lamp shade) that can be made from recycled paper and uses minimal energy. List where waste is avoided and how the design is safe and durable.
3. Prepare eco-friendly materials: Make pulp from waste paper; use flour paste and water-based or natural colors to avoid harmful chemicals.
4. Craft and dry: Shape, assemble, and sun/air-dry the product to keep energy use low; avoid electric dryers.
5. Finish and document: Paint with eco-safe colors; create a one-page impact brief covering:
 1. SDGs targeted and why
 2. Material choices (recycled inputs, non-toxic colors)
 3. Low-energy steps used
 4. Potential livelihoods/market (who could make/sell it and where)
 5. Packaging plan that is recyclable/biodegradable

- Present: Showcase the product and impact brief; explain how this micro-innovation can scale in schools, SHGs, or local fairs.

Check Your Progress

A. Fill in the Blanks

1. The SDGs are a UN blueprint with 17 goals to achieve a fair, healthy, and sustainable world by the year _____.
2. Using recycled inputs and non-toxic colors in paper mache supports SDG _____ on Responsible Consumption and Production.
3. Sun-drying paper mache instead of electric dryers demonstrates low-energy practice linked to SDG _____ (Climate Action).
4. Training youth and women to make and sell paper mache products can contribute to SDG _____ on Decent Work and Economic Growth.
5. Choosing biodegradable packaging for craft products helps protect ecosystems and aligns with SDG _____ on Life on Land.

B. Short Answer Questions

1. How does using waste paper and flour paste in paper mache directly support SDG 12? Provide two concrete points.
2. Give two ways a paper mache micro-enterprise can advance SDG 8 in a local community.
3. Explain one design or process choice in paper mache that reduces carbon footprint for SDG 13.
4. Suggest one community action that uses paper mache crafts to strengthen SDG 11 in schools or neighborhoods.

C. Long Answer Questions

1. Select any three SDGs from: SDG 1 (No Poverty), SDG 8 (Decent Work), SDG 11 (Sustainable Cities), SDG 12 (Responsible Consumption), SDG 13 (Climate Action). For each, explain specific paper mache practices (materials, energy, design, packaging, and market linkages) that contribute to the goal, and propose one measurable indicator to track progress over a school term.
2. Design an SDG-aligned implementation plan for scaling paper mache crafts through a school-community partnership: include materials sourcing from local waste streams, safe and low-energy production steps, capacity-building for women/youth, eco-friendly packaging, and a marketing pathway (exhibitions, fairs, online). Map each plan component to at least two SDGs and justify the mapping.

Module 5**Effective Team Work At Workplace****Module Overview**

In today's professional world, success depends not only on individual skill but also on the ability to collaborate effectively with others. The unit highlights the importance of accountability, adaptability, commitment, and trust as the foundation of a successful workplace. It also covers how clear roles, effective communication, and strong leadership contribute to team efficiency. Special attention is given to understanding one's responsibilities as a paper mache artisan, maintaining safety standards, and responding effectively to change.

Teamwork is more than just working alongside others it means communicating openly, respecting diverse perspectives, and sharing responsibilities to achieve common goals. When individuals support one another and stay committed to their roles, it leads to better decision-making, increased productivity, reduced stress, and personal as well as professional growth.

Through practical examples and real-world scenarios, learners will understand how effective teamwork and leadership create a healthy and high-performing work environment. Whether it's handling tools, contributing to production, or communicating within a team, every action impacts overall success. By the end of this unit, learners will be equipped with the mindset and skills needed to grow individually while contributing meaningfully to their team and organization.

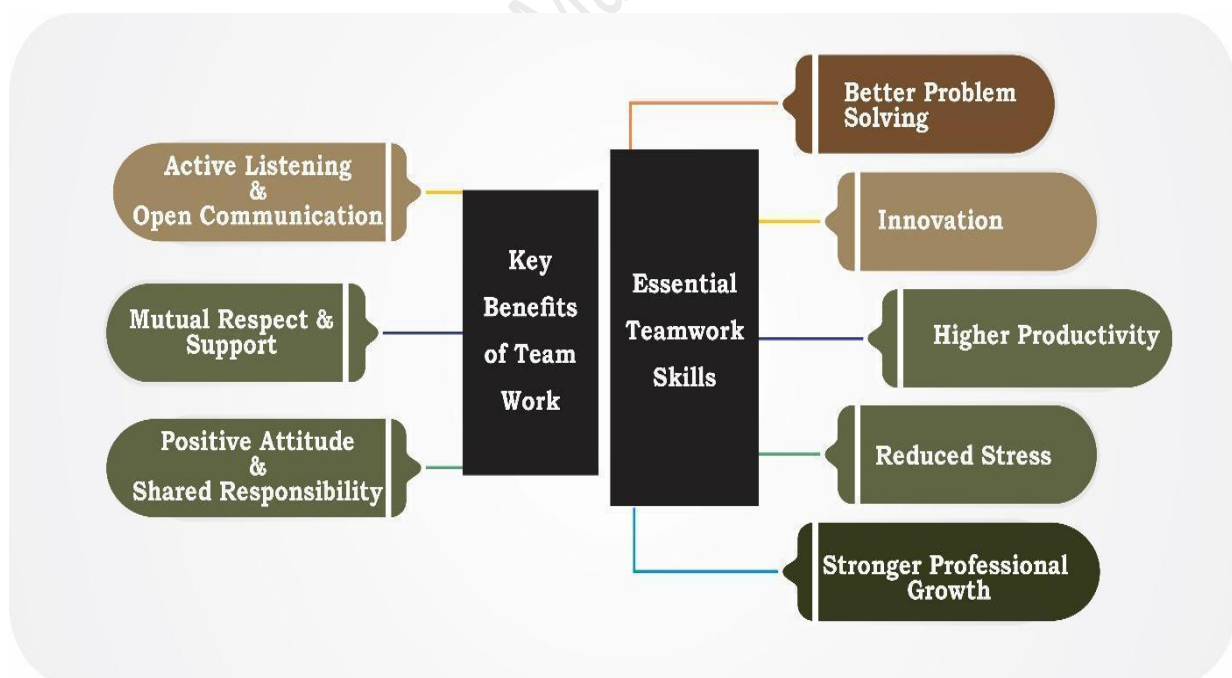


Fig. 5.1: Team work benefits and essential teamwork skills

Learning Outcomes
After completing this module, you will be able to: <ul style="list-style-type: none"> • Demonstrate Accountability, Adaptability, Commitment and Trust at Workplace • Foster Creativity and Efficiency at Workplace
Module Structure
Session: 1 Accountability, Adaptability, Commitment and Trust at Workplace
Session: 2 Creativity and Efficiency at Workplace

Session 1: Accountability, Adaptability, Commitment and Trust at Workplace

A successful workplace is rooted on accountability, adaptability, commitment, and trust. These philosophies determine how an individual behaves professionally, bolsters cooperation, and increases productivity. Accountability makes sure that the employees are responsible for their duties, allowing for optimum trust and productivity. Adaptability allows people to accept change and tackle challenges within the organization. Commitment enables motivation and dedication, fueling job satisfaction and success for the organization. Trust facilitates collaboration and builds a culture of care and support. This session will delve into how these fundamental values help a workplace function efficiently and the important components that help in practicing them every day.

Importance of accountability, adaptability, commitment and trust at workplaces

a. Accountability and its importance

A culture of accountability means that everyone in a team or organization is responsible for completing their tasks, working together to achieve goals, and solving problems. It is built on 4Cs:

1. **Clarity** – Everyone knows exactly what they need to do and what is expected.
2. **Commitment** – People take their tasks seriously and do their best to complete them.
3. **Comment** – Open and honest communication helps improve work and solve problems.
4. **Coach** – Leaders guide and support the team to help them succeed. When these 4Cs are followed, teams work better, reach their goals, and improve together.

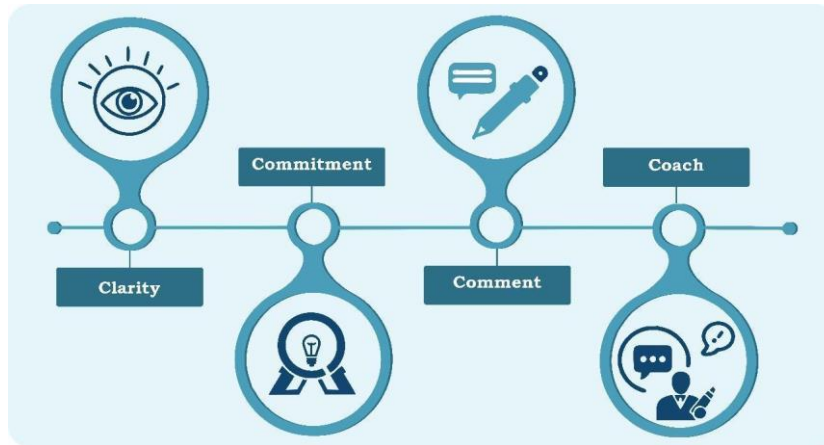


Fig. 5.2: 4Cs of accountability

Creating a culture of accountability in your workplace can have a variety of benefits, including:

- **Increasing trust:** The open communication involved with a culture of accountability can increase trust among employees as well as trust between employees and workplace leaders. This can contribute to job satisfaction and productivity.
- **Boosting employee morale:** A culture of accountability, which makes employees accountable to one another, can boost employee morale by increasing communication among employees.
- **Increasing productivity:** Often, accountability in the workplace makes employees feel more engaged with their work and helps them understand consequences that can occur if they don't complete their work. This can increase employee productivity.
- **Improving employee work quality:** Creating a culture of accountability can also help employees improve the quality of their work by making them feel more engaged with their work and accountable to their coworkers. This can heavily contribute to workplace success.
- **Fostering creativity:** A culture of accountability can also increase employees' confidence in their work. Feeling confident in their work and understanding their role and responsibilities can help employees feel comfortable being creative, which can lead to new innovations.

Accountability applies at every level, from individual artisans to workshop leaders and management.

Personal Accountability Includes:

1. Representing the workshop's values in the community and market
2. Arriving on time and completing assigned work hours
3. Taking responsibility for assigned tasks and craftsmanship
4. Maintaining high-quality standards in production
5. Collaborating with peers and following work processes

6. Reporting progress, challenges, or improvements to supervisors

Leadership Accountability Includes:

1. Setting clear expectations for work processes and quality
2. Encouraging teamwork and professional growth
3. Ensuring fair treatment and equal responsibility for all artisans
4. Promoting ethical and sustainable practices
5. Representing the workshop's values in the community and market

When accountability becomes part of a craft culture, it leads to efficiency, quality, and innovation, ensuring long-term success

b. Adaptability and its importance

Adaptability is the ability to adjust to new approaches, problems, and expectations in a changing working environment. Adaptability involves flexibility of mind, technique and attitude. Creative craftsmen who can adapt are capable of reducing pressure, increasing efficiency, and creating long-term success in their craft.



Fig. 5.3: Adaptability Skills

Most Critical Adaptability Skills for Success:

1. **Cognitive Adaptability** - Having the ability to think differently, learn again, and adapt to new tools or designs.

2. **Emotional Flexibility** - Handling stress, having a positive mindset, and dealing with unexpected change with confidence.
3. **Personality Adaptability** - Receptive to feedback, growth-oriented, and adapting personal habits to fit evolving work demands.
4. **Interpersonal Adaptability** - The ability to interact, work, and function in multicultural teams.
5. **Creative Problem-Solving** - Encouraging innovative solutions when challenges arise and being creative out of the box.
7. **Active Learning** - Continuous skill development, awareness of trends, and learning to drive craftsmanship forward.

Through the development of these skills, artisans can continue to compete, improve their craftsmanship, and be in a thriving working culture.

c. Commitment and its importance

Commitment to work refers to how responsible and committed an individual is towards their work in a workshop. It shows their interest in fulfilling the organization's or workshop's goals, mission, and vision that they are a part of. When workers are dedicated to their job, they own up their responsibility and work towards perfection. Strong work commitment enhances organizational performance, resulting in enhanced productivity, efficiency, and collaboration.

Work Commitment Significant

Commitment to work is essential for both individuals and organizations. It helps in achieving long-term success by promoting discipline, persistence, and resilience. However, commitment does not develop overnight; it grows over time through experience and a supportive work environment.



Fig. 5.4: Benefits of work commitment for workers

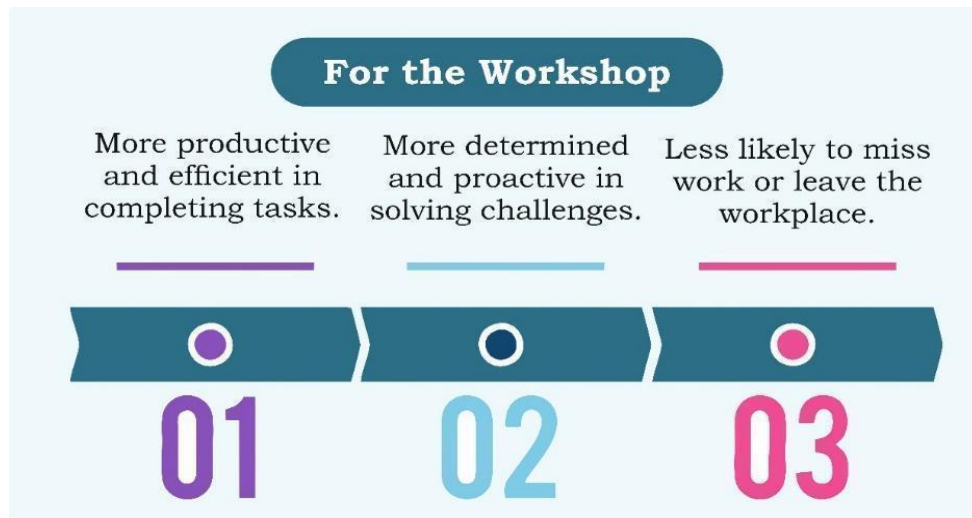


Fig. 5.5: Benefits of work commitment in workshop

Commitment in the Workplace

1. **Giving a Supportive Environment:** A positive and supportive workplace environment keeps employees motivated.
2. **Establishing Clear Goals:** Employees must know their role and responsibilities clearly.
3. **Fostering Skill Acquisition:** Acquiring new skills and enhancing existing ones increases confidence and dedication.
4. **Rewarding Efforts:** Appreciation and remuneration for effort make workers more committed.
5. **Fostering Teamwork:** A teamwork culture makes work enjoyable and reinforces commitment.

Dedication to work is the secret to success in any profession. It enables a person to develop professionally and keeps an organization or workshop running effectively. Through inducing devotion, discipline, and collaboration, a workplace can deliver excellent outcomes and long-term viability.

d. Trust and its importance

Trust is the pillar of any effective workshop. Trust establishes a healthy working environment wherein workers feel secure, appreciated, and empowered. Trust is not an overnight phenomenon; it is established through regular behavior, respect, and honest communication.

The Importance of Trust in a Workplace

A trusted workplace makes employees more inclined to work together, take charge, and look out for each other. It reduces conflict, enhances productivity, and promotes responsibility among all team members.

Benefits of trust in the Workplace

1. Leads to smoother collaboration and improved coordination.
2. Increases efficiency and work quality.
3. Reduces conflicts and misunderstandings.
4. Generates a work environment that keeps skilled laborers and attracts them.

How to Reinforce Trust in a Workshop

1. **Promoting Open Communication:** Employees should freely discuss problems and ideas.
2. **Establishing Clear Expectations:** Clarity in functions and responsibilities instills confidence.
3. **Rewarding Efforts:** Appreciation of diligent work reinforces trust and drive.
4. **Fostering Equality and Fairness:** Treating everyone with dignity and offering equal opportunity creates trust.
5. **Keeping Commitments:** Being true to one's word demonstrates reliability and credibility.



Fig. 5.6: Trust at workplace/workspace/unit

A trusting workshop enables workers to excel and guarantees long-term success. Trust becomes a crucial element in expansion and sustainability through the promotion of transparency, equality, and cooperation.

Understanding own Roles, Duties and Accountability

A role is the specific position or function a person holds within a team, workplace, or organization. It defines what you are responsible for in a broader sense and what purpose you serve in achieving common goals. Each role comes with a set of expectations and responsibilities that contribute to the smooth functioning of the team or unit.

Duties are the specific tasks and responsibilities that a person is expected to perform as part of their job or role. While a *role* defines the broader function a person serves in a team or organization, *duties* are the day-to-day actions that help fulfill that role. While technical job descriptions may be concise or even absent in small establishments, craftspeople are supposed to be aware of their tasks based on training, experience, and shop needs. Knowing this includes being responsible fully taking charge of your work and choices. Accountability goes hand in hand with role awareness. It means taking full responsibility for one's tasks, meeting deadlines, maintaining standards, and learning from mistakes. Accountable artisans are dependable, self-motivated, and valuable to the organization.

The artisan's role includes multiple functions that are vital to production and innovation. Some major Key roles and duties include: In the process of executing their job, workers also have to abide by some standards regarding safety, sustainability, and teamwork. The following are the typical responsibilities on which they are expected to perform:

Principal Responsibilities

Responsibilities are the broader obligations that go beyond daily tasks. They reflect the artisan's attitude, behaviour, and commitment to the work, team, and customers.

While duties focus on *what* to do, responsibilities focus on *how* it is done with honesty, punctuality, discipline, and respect.

A. Responsibility Towards Work Quality

- Delivering work that meets agreed design and quality standards
- Paying attention to details like symmetry, colour consistency, and smooth surfaces
- Checking products for errors before handing them over

Example: If an artisan notices a defect in the painted design, responsibility means correcting it before it reaches the customer—even if no one else notices the flaw.

B. Responsibility Towards Time and Deadlines

- Starting work on time
- Completing assigned tasks as per production schedule
- Informing team members in advance in case of any delay

Example: If an order of 100 paper mache masks is due in 5 days, and one artisan delays the drying or painting stage, the whole team may miss the deadline. A responsible artisan respects timelines and plans work accordingly.

C. Responsibility Towards Teamwork

- Cooperating with fellow artisans during group tasks
- Not interfering in others' work without consent
- Sharing tools and materials respectfully
- Supporting others when help is needed

Example: If one team member is sick or absent, a responsible artisan may volunteer to assist temporarily with their tasks, ensuring that work continues smoothly.

D. Responsibility Towards Resource Use

- Minimising wastage of paper, paints, and adhesives
- Reusing materials wherever possible
- Handling tools and equipment carefully to avoid breakage

Example: A responsible artisan mixes only as much paint as required instead of making excess that may dry out and go to waste.

E. Responsibility Towards Customer Satisfaction

- Listening carefully to customer specifications
- Delivering products that meet expectations
- Maintaining polite and professional communication

Example: If a customer requests a minor change in colour or packaging, a responsible artisan accommodates the change if possible, instead of arguing or refusing rudely.

Performing roles effectively at workplace

After understanding one's role and duties, it becomes essential to perform these effectively in the workplace. For a Paper Mache Artisan, this means going beyond just "doing the job" it means contributing to a safe, productive, and high-quality work environment. Performing roles effectively ensures that individual efforts align with team goals, customer expectations, and the values of sustainability and tradition in paper mache craftsmanship. It helps build trust, improve coordination, and strengthen the overall success of the Workplace/Unit/Workshop.

Understanding Roles and Responsibilities

- Roles are what a person is doing or does in a team or organization.
- Responsibilities are the actual work and tasks done for that role.

Understanding the difference between them makes employees perform better. Roles and responsibilities stated clearly not only assist in giving the right job to the right person but also enhance the working experience and overall efficiency of the organization. Every job in a team has some responsibility that aligns with its purpose. For instance, a customer service representative's job is to respond to customers' queries and make the client satisfied. They are part of the team's structure, but their responsibilities are the work they have to do in that role.

Key Ways to Perform Roles Effectively

- **Understand Your Role Clearly:** Know your responsibilities, daily duties, and how your work supports the larger goals of the workshop.
- **Follow Instructions and Standards:** Adhere to established procedures, safety rules, and quality benchmarks for every task.
- **Be Punctual and Reliable:** Arrive on time, meet deadlines, and be consistent in your performance.
- **Maintain Quality in Every Task:** Focus on accuracy, neatness, and durability in your shaping, joining, and finishing work.
- **Use Tools and Materials Responsibly:** Keep tools in good condition and avoid wasteful use of paper and other materials.
- **Work as a Team:** Communicate clearly, share knowledge, and support your fellow artisans to ensure smooth workflow.
- **Practice Safety and Hygiene:** Use protective gear, maintain a clean workspace, and follow health and safety measures.
- **Stay Open to Learning and Improvement:** Accept feedback, upgrade your skills, and be willing to try new methods or designs.
- **Respect Traditions and Promote Innovation:** Preserve traditional craftsmanship while being open to new designs and market trends.



Fig. 5.7: Story on how performing roles effectively at the workplace promotes efficiency

When roles are performed effectively, the overall productivity and quality of the paper mache workshop improve. Products meet customer expectations, the work environment becomes safer and more efficient, and team members work in harmony. Artisans gain respect, confidence, and personal growth, while also helping preserve traditional skills and promote sustainable practices. In the long run, this builds a strong reputation for both the individual and the enterprise, leading to better opportunities and a more sustainable livelihood.

Adapting to the changing work situation

Being adaptable is the ability to change to fit into new situations and adjustments. It is a valuable skill not just in the workplace but also in life. Adapting enables individuals to cope with challenges, remain relevant, and thrive in a dynamic world.

Adaptability and its Importance

Nowadays, everything changes rapidly. Workplaces are faster than ever, and companies must stay current with trends in the marketplace. For craftspeople and creative workers, knowing what the customers desire and creating items accordingly is essential to maintaining a successful enterprise. For artisans and crafts persons, this means being aware of what the market wants, and being ready to develop new products or techniques in response. Adaptability supports:

- Better problem-solving
- Continuous personal and professional development
- Long-term sustainability of craft businesses

Effective response to technological or environmental shifts

Some of the key components of employee adaptability are as follows:

- **Convinced and doing innovative to problem-solving:** Changes are always brought in for a reason, specifically to solve a problem. Creative problem solving includes out-of-the-box thinking and learning by testing new ideas. Individuals who are used to creative problem solving will embrace change as a natural aspect of creative problem solving. Because creative problem solving entails the utilization of new ideas and processes, individuals who engage in this would readily adapt themselves to the new changes at work.
- **Life-long learning:** Embracing and adapting to changes also means learning new things. Thus, only the ones who are ready to learn new things will be prepared to accept and adapt changes. Along with the readiness to learn, we also have to learn continuously and imbibe new learning habits. We are presently in the era of the Internet and artificial intelligence, and this has given us new chances and avenues to learn.

We have to learn as a continuous process throughout life to stay responsive to changes.

- **Resilient attitude:** Change does not always equate to a smooth adjustment from the current to the future. There are instances when changes may have a downfall or pain points before we are able to acquire the skill and vigor to deal with the change. It is convenient to quit and not change at all. We therefore have to build a resilient attitude towards life and the issues it generates every now and then. Embracing the changes in the workplace will thus demand a tough mindset of the workers.

Adapt to Change

The following are easy methods to become more flexible:

1. **Stay Open-Minded:** Observe the changes around you and be prepared to learn new things.
2. **Think Positively:** Positive thinking helps turn challenges into opportunities instead of threats.
3. **Ask Questions:** If it is not understood, ask for clarification to have a better comprehension.
4. **Be Patient:** Adjustments take time, so allow time to adjust accordingly.
5. **Develop Resilience:** Learn to bounce back from troubles and continue pushing forward.
6. **Keep Learning:** Have an open attitude towards new skills and responsibilities in order to advance.
7. **Work Well with Others:** Cooperate with your colleagues, exchange ideas, and be willing to receive advice.
8. **Communicate Effectively:** Speak with your co-workers, listen attentively, and articulate your ideas clearly.
9. **Follow Trends:** Keep current with new technologies and techniques to remain ahead.
10. **Help Others:** Helping others adjust to change also assists you in building your own adaptability skills.

Methods to enhance you're adapting to the changing work situation

1. **Be Willing to Learn:** Be curious and be open to acquiring new knowledge.
2. **Experiment with New Challenges:** Working on various projects or roles may assist in developing your skills.
3. **Work on What You Can Control:** There are some things you cannot control, so direct your energy towards working on what you can control.

4. **Work on New Projects:** Work on various teams to learn and see things from other people's points of view.
5. **Suggest Improvements:** If you have suggestions to simplify work or make it more efficient, don't hesitate to voice them.
6. **Stay Informed:** Stay updated with industry developments and changes in your domain.

Adapting to a changing work situation is not just about survival, it's about thriving in a dynamic environment. When paper mache artisans embrace change, they become more creative, productive, and valuable to their teams and customers. Whether it's learning a new technique, responding to market demands, or working with new team members, adaptability ensures long-term success and personal growth in the workplace.



Fig 5.8: Story to understand adapting to the changing work situation

Activities

Activity: Make a flow chart to demonstrate accountability, adaptability, commitment, and trust in real workplace situations through a structured approach.

Material Required

- Chart paper or digital flowchart software (Lucidchart, Miro, MS Visio, etc.)
- Markers and sticky notes (if using paper)
- Predefined workplace scenarios

Procedure

- Introduce the concept of workplace values and decision-making using flowcharts.
- Divide participants into small groups and assign workplace scenarios.
- Guide them to identify key decision points and possible actions.
- Instruct them to map out the process using a structured flowchart.
- Have each group present their flowchart and explain their approach.
- Facilitate a discussion on the impact of structured decision-making in workplaces

Check Your Progress

A. Fill in the blanks

1. The 4Cs of accountability are Clarity, Commitment, Comment, and _____.
2. _____ is the ability to adjust to new approaches, problems, and expectations in a changing working environment.
3. A _____ attitude helps individuals to bounce back from troubles and continue pushing forward during changes.
4. Commitment to work enhances organizational performance, resulting in improved _____, efficiency, and collaboration.
5. Trust in a workplace increases _____ and reduces conflicts and misunderstandings.

B. Short Answer Questions

1. What are the key benefits of accountability in a workplace?
2. Why is adaptability important for artisans in a paper mache craft workshop?
3. How does commitment influence the success of a workshop?

C. Long Answer Questions

1. Explain the significance of trust in a workplace. How can an organization build a culture of trust among employees?
2. Discuss the importance of understanding roles and responsibilities in a paper mache workshop. How does it contribute to efficiency and cost control?

Session 2: Creativity and Efficiency at Workplace

Creativity and efficiency are fundamental aspects of any contemporary workplace. Creativity stimulates the formulation of new ideas, innovative solutions, and innovative methods of handling tasks and challenges. It fuels expansion, problem-solving, and ongoing improvement in different jobs and sectors. Efficiency looks at how to increase productivity while keeping the use of time, effort, and resources to a minimum. Efficiency looks at simplifying procedures, cutting out unnecessary steps, and using wiser ways of working. When creativity and efficiency are used together, they create an environment that is productive and dynamic.

This session emphasizes the value of developing innovative thinking in conjunction with process enhancements. It looks at how organizations can gain from promoting innovation with high standards of performance. The emphasis is on establishing a balanced workplace culture where innovative ideas and effective practices build long-term success.

Creative Freedom and Its Importance

Creativity is the ability to think in new and original ways. It involves imagining fresh ideas, finding unique solutions, and approaching challenges from different perspectives. Rather than following set patterns, creativity encourages thinking beyond conventional methods to bring about innovation and improvement. Creative expression values the individuality of each person. It allows for free exploration without judgment or expectation, especially in children. This freedom supports confidence, self-awareness, and the development of personal identity. Creative freedom means having the space to express ideas within certain boundaries, such as time, materials, or skills. While these limits may exist, they can inspire creative thinking by turning constraints into opportunities. It's like solving a puzzle where the challenge itself sparks new ideas.

Importance of Creative Expression

Human creativity and development, social advancement, and imaginative expression largely depend on creative freedom. It promotes self-expression and imagination in many areas.

1. **Promotes innovative thinking and problem-solving:** Permitting people to think innovatively can create innovative solutions for challenges in all industries.
2. **Speeds up the development of technology, art and science:** Numerous ground-breaking technologies and artistic masterpieces are products of free creativity.

3. **Promotes personal and professional growth:** Freedom to create encourages creative thinking and problem-solving skills, which can apply to any profession.

Promoting Creative Freedom

Creative freedom means having the space and courage to think in new ways and express your own ideas. Whether you are designing a paper mache product, solving a problem, or thinking of a new use for paper mache, creativity helps you do something unique and meaningful. Here are some easy ways to build and protect your creative freedom:

1. **Question Limits:** Don't be afraid to ask "Why do we do it this way?" or "What if I try something different?" Many times, rules or traditions stop us from thinking of better ways. Creativity grows when we are brave enough to challenge old ideas and think beyond them.
2. **Take Risks Without Fear:** It's okay to try something new even if it doesn't work at first. Many great inventions and beautiful paper mache designs came from failed attempts. Mistakes are part of learning. Every time you try something, you are moving closer to a great idea.
3. **Surround Yourself with Creative People:** Spend time with people who enjoy making things, sharing ideas, and thinking differently. Talking to creative friends or mentors can give you new energy and help you see things from a different angle. Working in groups can also lead to better and more exciting ideas.
4. **Keep Learning New Things:** Read books, watch videos, visit craft fairs, or take part in workshops. The more you learn about paper mache, materials, tools, and techniques, the more ideas you will have. Learning new things can give your imagination new sparks.
5. **Choose a Positive Environment:** If you are around people who always say "That won't work" or "That's a silly idea," it can hurt your creativity. Try to be in places and with people who support your ideas and encourage you to try. Your environment plays a big role in how creative you feel.
6. **Do Creative Activities Often:** Keep your imagination active. Try sketching, story writing, doodling, or solving puzzles. Even playing with clay can give you creative ideas. These small practices help your mind think differently and discover new things.
7. **Make Time for Creativity:** Creativity needs time and attention. Try to set a regular time every day or week just for creative thinking or making something. It could be drawing, weaving, designing, or just exploring new shapes. The more you practice, the better you get.

Creativity makes work more interesting, unique, and personal. It helps us turn simple ideas into something special and meaningful. Creative freedom allows people to think in new ways, express their thoughts and feelings, and

make their work stand out. When we create from the heart and mind, it brings joy, freshness, and a true sense of achievement.

Using Creative Freedom in Different Fields

Creative freedom can be used in many different areas of work and learning. It helps people try new ideas, solve problems in smart ways, and make their work better and more meaningful.

Here's how creative freedom is used in different fields:

- **Paper Mache Craft and Design:** In paper mache work, creativity helps artisans design unique and useful products. It also helps them explore new trends and techniques in paper mache crafting.
- **Technology and Innovation:** Creative freedom allows designers and craftsman to experiment and invent new tools, machines, and products that improve our daily lives.
- **Business and Marketing:** Businesses use creativity to create strong brands, eye-catching advertisements, and special products. This helps them stand out in the market.
- **Education and Research:** Creative thinking in education leads to new ways of teaching and learning. It helps students think deeply, ask questions, and explore ideas.
- **Entrepreneurship:** Entrepreneurs need creative freedom to start new businesses, find smart solutions, and offer something different from others in the market.



A single artisan (Riya) holding papers in one hand and a lightbulb icon above her head.



Riya seated at a simple table, making clay by paper using papermache technique.



Riya seated at a simple table using papier macché technique.



Her friends support her creative freedom and help her improve.



With creative bowl, Riya made a paper mache bowl.



Riya presenting the bowl to another artisan who looks inspired and thoughtful.

Creative freedom gives artisans the power to explore, learn, and express themselves through the work.

Fig. 5.9: Short story on creative freedom

Improving the existing techniques to increase process efficiency

Process Improvement can work in two ways: it can flow through a structured path, or take a more informal route. Either way, though, it tends to follow four common steps.

1. Process Audits, And Finding Improvement Opportunities

- The audit is usually the best place to start process improvement efforts. Here's what you should be looking for: opportunities to improve process, and potential risk areas. This will help you strategize business improvement, especially in regard to prioritizing specific areas.
- At this stage, it's a good idea to get an understanding of how tweaking a particular process will impact resources, as well as stakeholders—which may be the organization itself, teams, individual employees, partner organizations, vendors, or customers.

2. Analyze Process That Are Currently in Use

- Once you've established which area you want to improve, spend time analyzing the processes that are in place. You can do this through process mapping (workflows), cause/effect studies, and operational surveys.
- Ask the right questions: Check if the process is broken, and where. Which steps cause delays/bottlenecks, and which ones are costly? Which steps cause quality losses?

3. Build Commitment and Support

- A commonly skipped step, and often the difference between a token effort and one that brings real change.
- Process improvement isn't an instant do-over. It requires a dedicated commitment across the board, and that's why getting senior management support is crucial. Managerial support will make the difference when you explain the change in the status quo, and why it is necessary.
- Improving processes takes a lot of time and resources, so make sure you get the all-important upper management approval and support.

4. Strategize Your Process Improvement Plan

- A good strategy will include the steps you've isolated as problem areas, why they are problem areas, and how you plan to improve them. Make sure that your process improvement objectives are realistic, measurable, and necessary in the context of your organization's strategic long-term and short-term goals.

Here are some ways to improve process efficiency:

- **Analyze existing processes:** Define and analyze existing processes to improve efficiency and performance.
- **Automate:** Use automation to improve the efficiency and effectiveness of processes.
- **Eliminate waste:** Identify and eliminate waste in production processes to improve efficiency, reduce costs, and improve product quality.
- **Map processes:** Use process mapping to improve process efficiency and effectiveness.
- **Track time:** Use real-time production monitoring to improve efficiency, productivity, and quality.
- **Continuous improvement:** Focus on an organization's waste and productivity levels to improve efficiency.
- **Reduce costs:** Reducing costs can help eliminate waste and increase efficiency.

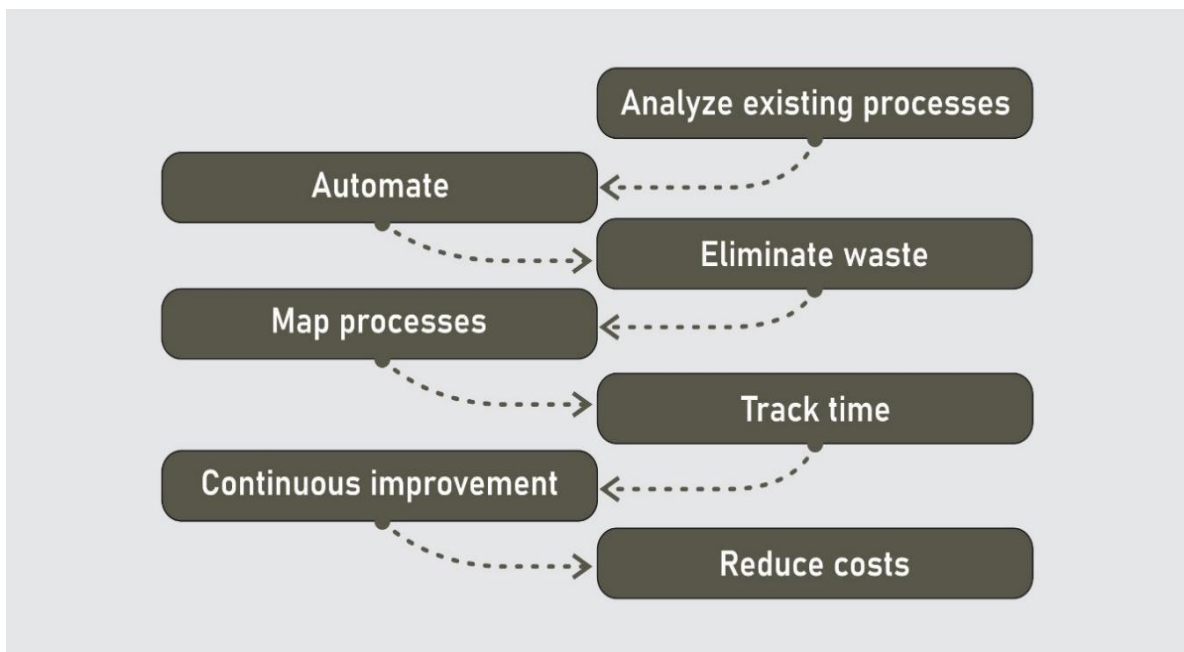


Fig. 5.10: Some ways to improve process efficiency

Working standards can drop:

- Inefficiently built processes often mean that work becomes defective. Reports can go missing, deadlines can be missed, and employees can drop the ball in so many areas.
- The bottom line in any business is the finances, and productivity losses first hit this vital area. If you're paying a team to do a job that could be easily automated, you're literally losing money by the minute.

Besides these reasons, you'll also want to stay ahead of radical improvements in technology, industry trends, and how your competition operates.

DMAIC process

DMAIC is one of the two types of Six Sigma methodologies and is mainly used to improve existing processes. (The second approach, the DMADV, is used for improving new processes.)

DMAIC stands for:

D	Define the opportunity for improvement.
M	Measure the performance of existing processes.
A	Analyze how these processes are being carried out currently to identify defects and their root causes.
I	Improve processes by fixing the root causes.
C	Control the improved processes and assess the performance of future operations to correct deviations before they become defects.

Fig. 5.11: DMAIC

Total Quality Management (TQM)

The TQM methodology has been in use since the 1980s. The success of process improvement efforts in this methodology hinges on customer satisfaction.

With the TQM approach, you must consider how any change you make to processes will affect how consumers experience your product. Unlike the Six Sigma approach and other methodologies, Total Quality Management is a data-driven approach focusing more on the process than the results. The goal is to eliminate process inefficiencies and produce results that meet the consumer's definition of quality.

Lean manufacturing

As the name suggests, the lean manufacturing methodology aims to eliminate waste within business processes by identifying and focusing on activities that create customer value.

It is based on five major principles:

- **Identify value:** The value of a business process depends on the customer. As the service provider, you must identify what customers consider valuable and seek to eliminate all waste.
- **Value stream mapping:** Document all the steps, materials, and resources needed to produce a product or service.
- **Create flow:** Identify and eliminate all functional barriers that may cause delays or waste within the process.
- **Establish pull:** A pull system is designed to work only when there's demand, eliminating waste and unnecessary costs.
- **Continuous improvement:** Lean manufacturing requires periodically assessing processes and making modifications to create a perfect waste-free system for the value stream.

Plan Do Check Act (PDCA)

The PDCA methodology involves strategizing and executing the process improvement plan while continually checking for areas of improvement.

The four main aspects of this methodology are:

- **Plan:** Decide on the processes that require improvement and create a plan
- **Do:** Test and implement the plan on a small scale.
- **Check:** Review the results of the plan you have executed
- **Act:** Implement changes and decide whether you want to implement the plan on a larger scale.

Process improvement strategies

Businesses can achieve significant financial benefits by identifying and eliminating inefficiencies within processes. Optimizing processes helps businesses cut costs, eliminate waste, decrease time to market, and improve the overall efficiency of operations, driving higher sales and revenue. For instance, consider a manufacturing company that modernizes or optimizes its inventory process by implementing a digitized inventory management system. The new system reduces stock outs and overstocking, saving costs. Efficient stock management also has a cascading effect on the manufacturing process, resulting in greater customer satisfaction. Process improvement techniques are great at revealing weaknesses in existing processes and finding ways to scale up processes or remove operating flaws altogether.

- Reduce wastage
- Build strength
- Save time
- Look better
- Easy to manage

Activities

Activity: Innovate Your Own Workspace by redesigning a familiar daily task or workspace routine for better efficiency and innovation.

Materials Required

1. A4 sheets or notebook
2. Pen/pencil
3. Colored pens or markers (optional)
4. Timer (phone/watch)
5. Personal observation (student's daily routine or school/virtual task process)

Procedure

1. Think of a process you do regularly (e.g., getting ready for school, organizing your study table, submitting assignments online).
2. Draw or describe the current steps involved in the process on paper.
3. Analyze the process using any of the improvement tools learned (DMAIC, PDCA, or the 7-step problem-solving process)
 - What is time-consuming?
 - Where do delays or errors happen?
 - What can be done faster or more creatively?
4. Redesign the process using diagrams, bullet points, or illustrations.
 - Introduce automation, reordering of steps, elimination of waste, or creative tweaks.
5. Give a name to your new improved process and write a brief explanation (100-150 words) about how and why your version is better.
6. Submit your sheet as your activity assignment

Check Your Progress

A. Multiple-Choice Questions (MCQs)

1. **Which of the following is NOT a step in the 7-step problem-solving process?**
 - a) Define the problem
 - b) Eliminate the team
 - c) Generate ideas
 - d) Create an action plan

2. What is the main goal of Lean Manufacturing?

- a) Maximizing employee wages
- b) Creating complex systems
- c) Eliminating waste
- d) Avoiding customer interaction

3. In the DMAIC process, what does the “I” stand for?

- a) Integrate
- b) Identify
- c) Implement
- d) Improve

4. What is one benefit of creative thinking in the workplace?

- a) Reduces product quality
- b) Increases paperwork
- c) Leads to new approaches to problems
- d) Creates more hierarchy

5. Which of the following is a principle of Total Quality Management (TQM)?

- a) Ignore customer satisfaction
- b) Focus only on profits
- c) Data-driven decision-making
- d) Avoid employee involvement

B. Short Answer Questions

1. Define creative thinking and give one real-world application in a workplace.
2. List any two ways to develop creativity in an individual.
3. Mention two advantages of automating a process.
4. What is meant by ‘value stream mapping’ in lean manufacturing?
5. Why is it important to build commitment and support during process improvement?

C. Long Answer Questions

1. Explain the 7-step creative problem-solving process with an example of how a company might use it to solve a packaging issue.
2. Describe the importance of creative freedom in the workplace and how it can contribute to organizational growth.
3. How can organizations balance structure and creativity when trying to improve workplace efficiency? Give your own suggestions.

Module 6 Complying with Workplace Requirements

Module Overview

In any professional environment, especially in paper mache crafting workshop, it is important to follow certain rules and responsibilities to ensure a safe, respectful, and productive workplace. This unit focuses on teaching students how to comply with essential workplace requirements, such as health and safety practices, proper conduct, teamwork, and effective communication.

It also explains the importance of understanding and following government regulations and organisational standards. Students will learn how to identify risks, use protective equipment, maintain cleanliness, and handle tools properly.

They will also explore how good behaviour, cooperation with team members, and respectful communication help in building a happy and efficient workplace. The unit further guides students in setting personal goals, improving their own performance, and motivating others to follow rules.

By the end of this unit, learners will understand how workplace policies not only protect everyone but also improve the quality of work, promote discipline, and create opportunities for personal and professional growth in the field of paper mache craft.

Here are several approaches of ensuring workplace compliance:

- Document policies and procedures: Create a guidebook outlining relevant policies and laws. This can help when problems develop.
- Provide employee training: Regular training ensures that personnel are up to date on legal, regulatory, and company needs.
- Conduct workplace inspections: Identify and report harmful circumstances at work.
- Conduct regular audits: Performance audits provide an independent assessment and highlight areas for improvement.
- Reinforce consistently: Establish company-wide expectations and guarantee that they are met consistently.
- Stay current with local standards: Failure to comply with industry regulations or local legislation may result in fines.
- Keep employee data secure: Educate staff about how to keep company and employee data safe

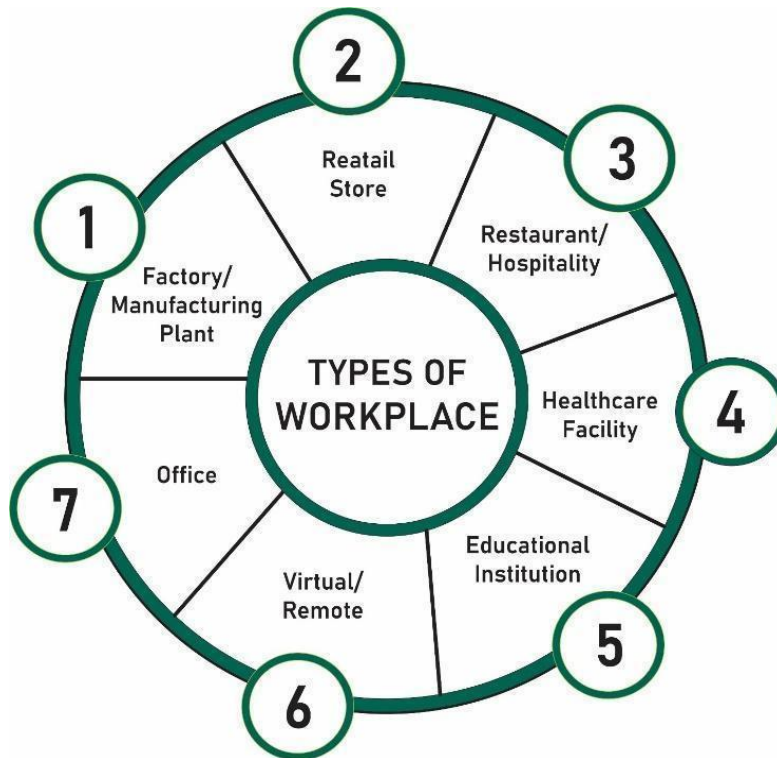


Fig. 6.1: Types of workplace

Learning Outcomes
After completing this module, you will be able to: <ul style="list-style-type: none"> • Workplace Environment, Security Measures, and Emergency Management • Applying and Promoting Workplace Requirements
Module Structure
Session: 1 Teamwork, Communication and Coordination at Workplace
Session: 2 Applying and Promoting Workplace Requirements

Session 1: Teamwork, Communication and Coordination at Workplace

This session focuses on the importance of working together as a team. In a paper mache workshop, teamwork helps artisans share responsibilities, solve problems together, and complete tasks more efficiently. Students will learn how to communicate clearly, listen actively, and respect different opinions.

They will also understand the role of good behaviour, trust, and coordination in building strong team relationships. The session highlights how a happy and respectful workplace leads to better creativity, quality work, and long-term success for both individuals and the team.

Team-work and coordination with team members

The importance of Collaboration

Collaboration occurs when individuals toward a shared objective. It may be a personal or professional objective. Teamwork necessitates collaboration, which calls for interpersonal and communication abilities. Every person has a unique set of abilities and strengths. Everyone has the chance to learn from one another when the team functions as a whole. The team gains resources as a result of this process, which also makes them more capable of handling new difficulties.

Collaboration is essential in any organization. Teamwork is essential in in-person, virtual, and hybrid settings that combine in-person and remote work. Only by working together can a team accomplish its common objectives. A great team never stops improving.

A good team can do the same work over and over like a well-oiled machine. A great team never gets to be efficient because they get tapped by leadership to take on all of the new, interesting challenges. A great team is always learning and evolving its practices.

Advantages of Teamwork

1. **Productivity and Efficiency:** The division of labour is crucial in a workshop. Craftspeople can fulfill production schedules and finish projects more quickly when they collaborate. Working as a team guarantees that the workload is divided fairly, avoiding burnout and preserving a constant work pace.
2. **Learning and Sharing Skills:** Newcomers are frequently mentored by seasoned craftspeople who impart traditional methods and abilities. In addition to maintaining the craft, this knowledge sharing raises the general caliber of the output. As craftspeople exchange new concepts and methods, collaborative work settings encourage ongoing learning and creativity.
3. **Solving Issues:** Any craft will inevitably face difficulties and roadblocks. Whether it's a logistical challenge in acquiring supplies or a technical problem with the process, team members can discuss and come up with innovative solutions. Open communication is promoted by a friendly team atmosphere, where craftspeople are at ease discussing and resolving problems together.

Coordination with Team Members and Colleagues

Effective coordination within teams and between departments enhances efficiency, decision-making, and teamwork. An organized team with effective leadership, defined roles, and efficient communication functions more effectively and creates a healthy work environment.

Key Features of Team Coordination

1. **Strong Leadership:** A good leader gives direction, inspiration, and strategic planning.
2. **Knowledge of Strengths & Weaknesses:** Delegate tasks according to individual strengths for enhanced performance.
3. **Clearly Defined Roles & Responsibilities:** Pinpoint tasks to prevent duplication and confusion.
4. **Simplified Internal Communication:** Ensure openness and lucidity in all communications.
5. **Cross-Departmental Collaboration:** Keep disparate departments aligned with organizational objectives.
6. **Regular Feedback:** Support continuous improvement and career development.
7. **Improved Employee Relations:** Create a harmonious and cordial working atmosphere.

Through combined effort, quality and efficiency are sustained in the workshop.

Team coordination is the act of coordinating the work of all team members to attain a common goal. It makes sure that the work is done effectively, communication is smooth, and everyone is working together in cohesion. Good coordination means open communication, clear roles, and collaboration tools to have everyone on the same page.

How to Improve Team Coordination

1. **Define Team Goals:** Set definite goals and a structured plan of action.
2. **Clarify Roles:** Delegate individual tasks to individual team members in order to minimize confusion.
3. **Use Project Management Tools:** Automate the workflow and track progress effectively.
4. **Encourage Open Communication:** Ensure openness and direct interaction.
5. **Provide Feedback & Recognition:** Motivate employees and enhance overall productivity.
6. **Improve Meetings:** Hold only the required and purposeful meetings.
7. **Develop Standard Operating Procedures (SOPs):** Document procedures in order to have consistency and continuation of knowledge.

There is clear communication and meetings** regularly so that each stage is done within the specified time and without delays while maintaining the

quality of the product. An effective chain of command and systematic communication channels are essential for a successful workplace. Through facilitating role clarity, teamwork, and transparency, organizations can increase efficiency, enhance decision-making, and increase employee motivation.

Good communication is an integral part of professional and social life. Good communication assists individuals in communicating their ideas, working together efficiently, and resolving issues in a speedy manner. Through clear communication, listening, and proper communication techniques, individuals can build stronger relationships and obtain more success in professional and social life.

Importance of happy workplaces

- 1. A happy workplace among crafts people:** a peaceful workplace promotes a feeling of connection and camaraderie. Good relationships foster a nurturing environment where artists may flourish and lessen friction. Better teamwork and a more pleasurable work environment result from members of the team having mutual respect and understanding.
- 2. Increased Innovation and Creativity:** Artists are more likely to exchange original ideas and work together on cutting-edge projects when they get along well. New designs and methods that improve the craft's marketability and appeal may result from this collaboration.



Fig. 6.2: Importance of happy workplace

- 3. Craft Sustainability Sustainable:** Artisan are more inclined to stick with their craft and spread its word when they feel appreciated and supported.

Younger generations are drawn to learn and continue the heritage in a stable and encouraging work environment, guaranteeing its continuation for future years.

To set the foundation for future successful teamwork, you and your teammates can complete these exercises:

1. A falsehood and two facts every team member records one lie and two facts about themselves. The team must predict which of the three assertions is false after each member has a turn speaking them. Three workplace team-building activities. This can be a great method for team members to get to know one another and have some fun. You may create the foundation for improved team communication by encouraging people to be a little vulnerable and to view one another as complete individuals. In the future, it could even give you a topic for conversation.
2. If your office is completely remote, it's quite simple to complete this task via video. Just be sure to establish certain ground rules, such as not discussing too much personal information or bringing these stories outside of team meetings. Icebreakers for teams are meant to be enjoyable, not therapeutic.
3. Present fresh platforms for sharing it's critical to ensure that each member of your team has a reliable platform on which to share and communicate. Slack and other chat apps offer a platform for easy communication and teamwork. However, keep in mind that these platforms can also be used for leisure. When it's appropriate, encourage your team members to post non-work-related content.

Create entertaining Slack channels, such as pets, so users may share their cuddly companions. You may also invite your team members to post something humorous for the week on a Weekly Laughs channel every Friday. Getting to know your team members outside of the workplace can be beneficial, particularly if your team works remotely.

4. The game of picture pieces to make your own puzzle, find an image and cut it into smaller, irregular pieces. To put the picture back together, your team members will need to collaborate and use their problem-solving abilities. To answer the challenge, they need to be more organized when the picture is larger.

Behavioural aspects of successful teamwork

In today's ever-changing workplace, effective teamwork has become critical to achieving any organization's goals.

While technical expertise and topic knowledge are important, the heart of cooperation is the subtle interplay of behavioural patterns and interpersonal dynamics inside groups. This article discusses the significance of noticing and understanding these behavioural patterns as a vital aspect in developing effective teams. In addition, we will look at several approaches to using behavioural insights, with the goal of creating work environments that are not only high-performing but also helpful and favourable to success.

The key to developing effective teams is not to gather a collection of all-stars and ask them to achieve a goal. I've seen personally the satisfaction of witnessing a group of people come together to achieve incredible team achievement, as well as the frustration of leading a great group of people who never quite reached their full potential. Successful teams recognize that they must invest in creating a team atmosphere and practicing behaviours that promote collective achievement.

The strength of behavioural tendencies

Behavioural patterns describe the predictable and routine ways in which people interact with others and approach different situations. These patterns apply to a wide range of human behaviours and traits, including communication styles, decision-making processes, conflict resolution procedures, and work routines. Furthermore, cultural aspects play an important role in developing these behaviours by affecting how team members from various backgrounds interpret interactions and duties.

The capacity to perceive and interpret both behavioural patterns and cultural influences in a group context can lead to a plethora of benefits for team dynamics:

Enhanced communication is the key to successful teamwork.

Here are some behavioural components of effective teamwork:

Communication: Teams that communicate well may establish expectations, listen to one another, and overcome obstacles.

- Trust fosters teamwork and belief in the process, leading to successful outcomes. Trust also promotes open communication, problem resolution, and teamwork.
- Effective collaboration requires using individual strengths and talents to achieve a shared goal. It also entails exchanging ideas during brainstorming sessions and communicating successfully with teammates.

Managing conflicts: Conflict resolution in a constructive manner develops team relationships and fosters greater understanding and respect among members.

Diversity: Promoting diversity and inclusivity can help everyone feel valued and welcomed. Diverse perspectives can lead to more inventive and creative ideas.

- Effective leadership: Strong leadership comprises guiding the team toward its goals, empowering team members, and establishing a positive work environment.
- Effective conflict resolution necessitates understanding opposing viewpoints, finding common ground, and working toward solutions that benefit the entire team.

If all five behaviours are optimized, the team will be the most efficient and effective it can be. The characteristics of a cohesive team are as follows. Trust, conflict, dedication, accountability, and results.



Fig. 6.3: Characteristics of a cohesive team

Communication Skills in the Workplace and Language Proficiency

Communication skills are what we utilize to connect with others, whether we're having a conversation or sending them an email. In the job, communication skills let you collaborate with team members, communicate information, and solve problems quickly.

Language competency refers to an individual's capacity to generate and understand a specific language. Proficiency test scores represent a person's ability to communicate in the language tested. Your skill level indicates how effectively you can read, write, and answer in a specific language. Language proficiency is vital in the job because it facilitates communication,

relationship building, and efficient collaboration with people from various cultures.

Here are some crucial communication skills for the workplace:

- Demonstrates fluency in speaking with others about a given topic.
- Active listening.
- The ability to listen to the speaker with respect and understanding, without passing judgment.
- Nonverbal communication.
- The ability to interpret what people are saying by body language such as eye contact, posture, and stance.
- Written communication.
- The ability to communicate via the written word, including handwritten and typed language.
- Provide helpful and thoughtful feedback, highlighting strengths, recognizing areas for growth, and making ideas.

Factors to consider while developing communication rules in an organisation:

1. **Quality Consistency and standardization:** Written instructions promote consistent methods among craftspeople, resulting in uniform product quality.
2. **Reproducibility:** Following instructions consistently ensures high-quality products every time.
3. **Efficiency and Productivity:** Clear guidelines eliminate misunderstanding and errors, resulting in more efficient workflows. Written procedures can improve time management and productivity.
4. **Safety:** Hazard Prevention: Written safety rules guide workers to use tools and materials safely, reducing accidents and injuries.
5. **Training and skill development. Structured learning:** Written instructions teach new artisans the proper skills and processes. Using written rules can help craftspeople improve their abilities and maintain high standards.
6. **Accountability:** Documented instructions make it easier to hold personnel accountable and maintain consistent standards.
7. **Error Tracking:** Keeping written records helps uncover process flaws and responsible parties, allowing for effective corrective actions.
8. **Compliance with Regulations:** Legal Requirements: Written instructions are often provided to comply with regulatory standards in many businesses.

9. **Quality Certifications:** Following written criteria is essential for achieving and maintaining quality. Certifications

Implementing Compliance

To guarantee that written instructions are properly followed:

1. Clearly document processes, procedures, and guidelines.
2. Regularly train craftsmen on compliance and written directions.
3. Monitor compliance through regular audits and inspections.
4. Create a feedback loop for craftsmen to report concerns and suggest improvements to written instructions.
5. Regularly update instructions to incorporate new methods, technologies, and input from craftspeople.

Language proficiency is vital in the job because it facilitates communication, relationship building, and efficient collaboration with people from various cultures.

Here are some crucial communication skills for the workplace:

Speaking. The ability to communicate eloquently with others on a particular topic. **Active listening.** The ability to listen to the speaker with respect and understanding, without passing judgment. **Nonverbal communication.** The ability to interpret what people are saying by body language such as eye contact, posture, and stance.

- **Written communication:** The ability to communicate via the written word, including handwritten and typed language.
- **Provide feedback:** The capacity to deliver positive and courteous feedback, emphasizing strengths, recognizing areas for growth, and making ideas.

Language proficiency can provide numerous advantages in the job, including: **Improved communication:** Employees with great language skills can speak clearly, listen actively, and express themselves unambiguously. This can result in improved collaboration, fewer misunderstandings, and higher production.

- **Improved problem-solving:** Employees with good language abilities can more effectively address difficult issues and devise novel solutions.
- **Improved credibility:** Employees with great language skills can clearly explain their vision, expectations, and plans. This can foster trust and mutual understanding.
- **Improved relationships:** Employees with great language skills can establish strong ties with coworkers and customers. This can help to

lessen frustration while also creating a more inclusive and collaborative atmosphere.

- **Opportunities for career progression:** Employees with excellent language abilities may have prospects for growth.
- **Improved earning potential:** According to research, bilingual or multilingual employees might earn 5% to 20% more per hour than non-bilingual staff.
- **Creating safer work conditions:** Language training can assist ensure that safety regulations are clearly communicated, hence reducing workplace accidents. Many firms have minimum language competency requirements for certain roles and provide language training options. They may also include language evaluation exams in the recruitment process.

Activities

Activity 1: Puzzle Collaboration – Picture Coordination Game: Students will work in teams to reassemble a puzzle made from a picture related to paper mache craft. This game builds coordination, planning, and problem-solving skills.

Materials Required

- A printed image of a paper mache product (e.g., paper mache lamp, basket, coasters etc.)
- Scissors
- Envelopes to hold cut pieces
- A flat table for each group

Procedure

- Choose a relevant paper mache product image and cut it into 8–12 irregular pieces (like a puzzle).
- Divide students into teams of 4–5 members.
- Give each team a set of puzzle pieces in an envelope.
- Set a time limit (e.g., 10 minutes) for teams to reassemble the image.
- Observe how teams communicate, assign roles, and collaborate.
- After completion, each team presents their picture and shares how they coordinated.

Activity 2: Two Truths and a Lie Team Communication Game Students will play a fun icebreaker where they share personal facts. It helps team members build trust and improve communication.

Materials Required

- Small slips of paper or index cards
- Pens/pencils

Procedure

- Each student writes two true statements and one false statement about themselves.
- One by one, each student reads out their three statements to the class.
- The rest of the class guesses which statement is the lie.
- Discuss how attentive listening and respectful communication helped them guess correctly.
- Reflect on how this can build better relationships in real work settings.

Check Your Progress

A. Fill in the blanks

1. In a workshop, effective _____ helps artisan's complete tasks more efficiently and with better quality.
2. One of the key features of team coordination is having clearly defined _____ and responsibilities.
3. Active _____ and clear expression are important parts of good communication at the workplace.
4. A happy and respectful workplace leads to better _____, innovation, and long-term success.
5. _____ proficiency helps employees work with people from different cultures and reduces misunderstandings.

B. Short Answer Questions

1. Define teamwork and explain its role in a paper mache workshop.
2. How does a happy and supportive workplace contribute to better teamwork?

3. Describe two communication skills that are essential for effective teamwork.

C. Long Answer Questions

1. Explain how teamwork enhances productivity and problem-solving in a paper mache crafting workspace. Give examples.
2. Discuss the importance of communication skills and language proficiency in workplace collaboration. How do they impact team coordination?

Session 2: Applying and Promoting Workplace Requirements

To ensure a productive and professional work environment, it is important for every employee to follow workplace rules and also encourage others to do the same. In this session, students will learn how to set personal and professional goals, evaluate their own performance, and work on improving their skills to meet workplace expectations.

They will explore self-improvement strategies and tools like SMART goal-setting and self-assessment, which help in tracking progress and staying focused. The session also highlights how students can guide and motivate their teammates to follow health, safety, and quality standards.

By promoting positive behaviour and good practices, students will understand how to build a disciplined, efficient, and respectful working culture in a paper mache crafting workshop, contributing to both personal growth and the success of the organisation.

Developing Personal Development Goals and Management tools and practices

The Importance of Personal and Professional Development Goals

The Significance of Personal and Professional Development Objectives Having personal and professional development objectives is a critical factor in career progression and general life fulfillment.

They enable one to acquire new competencies, enhance performance, and increase productivity.

Whether the target is acquiring new information, enhancing emotional intelligence, or enhancing time management, clearly stated development goals lead to success.

Development goals have numerous advantages:

1. **Adaptability:** Remain current with industry shifts and technological improvements.
2. **Motivation:** Enhance work satisfaction and commitment through clear guidance.
3. **Growth:** Ensure alignment of personal ambitions with work responsibilities.
4. **Balance:** Facilitate improved work-life balance through personal growth.

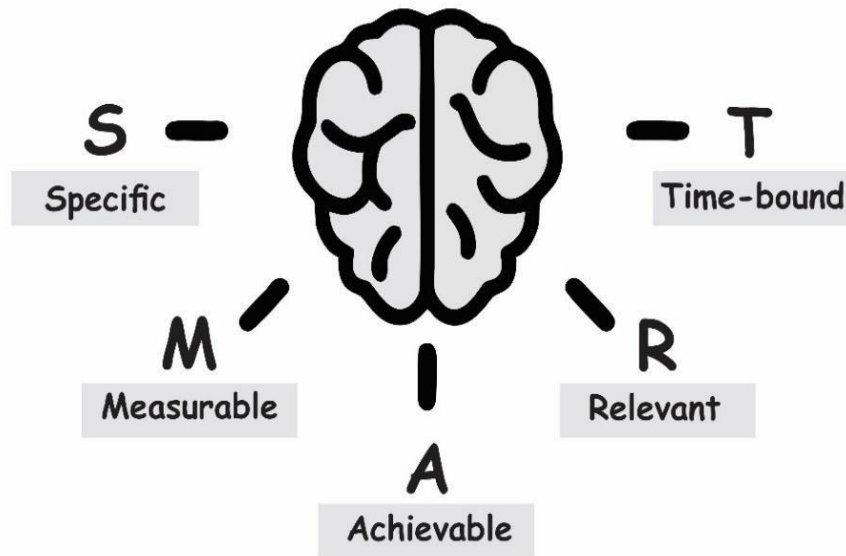


Fig. 6.4: SMART

With the SMART goal-setting process Specific, Measurable, Achievable, Relevant, and Time-bound goals become executable and attainable, enabling long-term development.

Personal Development and Its Impact

Personal growth increases self-awareness, motivation, and resilience. It facilitates stress management, fosters lifelong learning, and enables individuals to cope with adversity successfully. Practicing self-improvement at home and work ensures a healthy balance and overall well-being.

Important Areas of Development

1. **Time Management:** Effectively prioritize tasks to enhance productivity and minimize stress.
2. **Emotional Intelligence:** Enhance communication, empathy, and conflict resolution.
3. **Growth Mindset:** Adopt the challenges and be convinced that effort and learning could work wonders.
4. **Active Listening:** Treasure people's ideas and enhance relationship relationships.
5. **Decision-Making:** Gain confidence to make good decisions and sound judgment.
6. **Productivity:** Achieve more, faster, without taking up much space in schedules.
7. **Stress Management:** Develop positive practices to remain tranquil, attentive, and effective.
8. **Resilience:** Work on building resilience to rebound from failures and adjustments to change.

The Role of Goal Setting in the Workplace

Goal setting helps individuals understand expectations and how their work contributes to broader team or organizational success. It provides direction, fosters accountability, and encourages consistent performance.

However, effective development also involves understanding what support the organization can provide to its people. Developmental goals should be a two-way conversation focusing not only on organizational expectations but also on individual aspirations.

Development Should Be a Priority in Every Workplace

1. **Promote Two-Way Communication:** Developmental objectives enable employees to communicate their growth aspirations, resulting in mutual clarity and alignment.
2. **Facilitate Lifelong Learning:** By embracing new technologies and emotional intelligence, organizations enable employees to grow along with the sector.
3. **Encourage Engagement:** When people feel listened to and empowered, they tend to be motivated, productive, and committed.

Managers need to take an active role in identifying strengths, areas for development, and in supporting individual development plans. This not only improves individual skills but also helps create a more competent and dynamic workforce.

Evaluating one's own performance and achieving excellence

Self-evaluation is a powerful tool for professional and personal development. It encourages reflection, accountability, and proactive planning for the future. Follow these five structured steps to conduct a meaningful self-assessment.

- **Step 1: Reflect on Your Goals** - Before you begin evaluating your performance, examine your professional and personal goals. How have they changed since your last assessment? Which goals have you made progress toward, and which still require attention? By matching your self-evaluation with your goals, you can show your manager that you are taking Proactive steps toward professional development.
- **Step 2: Showcase Your Achievements** - Use your self-evaluation as an occasion to remind your management of your achievements over the previous year. Be explicit and quantifiable in your accomplishments wherever possible. This will not only provide your management with a clearer image of your contributions to the firm, but it will also boost your confidence and sense of accomplishment.

- **Step 3: Gather insights** - To conduct a complete self-evaluation, you must identify the breakthroughs, obstacles, behaviors, habits, and abilities that have influenced your performance in the previous year. Where did you do well and where did you fall short? Gathering insights about your performance allows you to identify opportunities for growth and improvement.
- **Step 4: Address Weaknesses** - Take responsibility and demonstrate your dedication to developing and progressing. Determine what is holding you back and what areas need to be addressed. Be honest with yourself about where you fell short, and find opportunities for development. Remember that no one is flawless, and everyone has flaws that can be worked on.
- **Step 5: Set Specific and Achievable Goals** - Set clear, attainable goals for the following year, and make sure they are consistent with the organization's goals and objectives. Setting defined goals and establishing a plan to attain them demonstrates your dedication to both your professional development and the organization's success.



Fig. 6.5: Steps to evaluate yourself

Self Evaluation: Self-evaluation means looking at actions and results. It helps to understand what is done well and what needs to change. By checking performance regularly, it becomes easier to see progress and find ways to improve. This habit supports setting goals and making better decisions. It guides focus and encourages learning from both success and stakes. Self-evaluation builds awareness and responsibility. Over time, this leads to better outcomes and continuous growth. By using self-evaluation, it becomes possible to take steady steps toward excellence

Motivating others to full-fill workplace requirements

Organizational standards are the guidelines and rules that an organization adheres to. Organizational standards guide everyone in the company to perform the same way and achieve shared objectives. They instill discipline,

enhance the quality of work, and establish a more comfortable working environment. Some of the most important types of organizational standards are listed below:

1. **Workplace Behavior:** This refers to the way individuals are supposed to behave in the workplace. It encompasses treating others with respect, speaking well, being truthful, and being responsible. Workers should not fight, shout, or be unjust to anyone. Good behavior promotes a harmonious and collaborative working environment.

Example: In a paper mache workshop, an artisan arrives on time, greets fellow artisans politely, listens closely during the morning briefing, and offers help when someone needs an extra pair of hands. Likewise a student comes early to class, says “good morning” to classmates, pays full attention when the teacher speaks, and helps a friend struggling with notes

2. **Quality of Products or Services:** Organizations prefer their work or products to be done correctly. This standard ensures that all products produced or activities performed by the company are up to a certain quality level. Employees should stick to the right procedures and prevent errors. This keeps customers satisfied and earns the organization a good reputation.

Example: Before selling, an artisan examines every products, checks its strength with a light load, and polishes rough edges to workshop standards. Similarly, when turning in a drawing exercise, a student inspects lines for straightness, keeps colors inside the boundaries, and sharpens pencils for a clean finish.

3. **Health and Safety Practices:** All workplaces must be safe for all. Safety standards for health and safety consist of guidelines such as wearing protective equipment, proper handling of tools, and a clean working environment. These regulations prevent accidents from occurring and keep the workers safe from injury. Adhering to safety measures indicates concern for oneself and others.

Example: While making paper mache product, an artisan never forgets to wear apron and gloves. Similarly, in art class, a student never forgets to wear an apron, cuts only on the mat with scissors, and puts tools back in their place after use.

4. **Environmental Practices:** Most organizations have guidelines to save the environment. Some of these may involve conserving electricity, avoiding wastage of materials, recycling, and not contaminating water or air. These regulations enable the organization to operate in a manner that is not harmful to nature. Everyone should contribute to helping achieve this aim.

Example: Once they have finished crafting, an artisan gathers remaining material, puts usable aside to use for tiny projects such as coasters, and puts unusable pieces in a compost. Likewise at home a student conserves

paper trimmings to doodle, recycles plastic bottles, and turns off the lights when leaving a room.

5. **Teamwork and Methods of Communication:** Team work involves sharing and assisting one another. Organizational norms dictate how individuals should communicate, listen, and provide feedback. These can be meeting on time, using clear and respectful language, and being receptive to ideas. Effective communication fosters good teamwork and facilitates work to be completed faster and better.

Example: Assembling a big paper mache structure, each craftsman identifies his job, checks up every 15 minutes, and provides advice if someone encounters a difficulty. In the same way, in a group science fair project, everyone chooses a position (researcher, designer, presenter), does brief updates during meetings, and solicits classmates' feedback about their slides.

6. **Dress Code or Use of Tools and Equipment:** Some workplaces have regulations regarding what to wear. For instance, employees might be required to wear uniforms or protective clothing. There could also be regulations regarding the use of machines, tools, or computers. These requirements make work safe, tidy, and professional.

Example: In the workshop, the craftsman wears closed-toe footwear, ties long hair back, and handles tools only after a formal demonstration and training by the master craftsman. Likewise, in a class, a student puts on the school-provided apron, has hair tied back, and uses the glue gun only after the teacher demonstrates the safe method

Organizational standards keep things in order. They inform employees of what is required, decrease confusion, and promote trust. If everyone abides by these guidelines, the workplace becomes more efficient, respectful, and secure. It also facilitates the organization to grow and prosper.



Fig. 6.6: Motivating others

Encouraging people to follow organizational standards is crucial to the maintenance of a unified and effective working environment. Below are some methods of encouraging this conformity:

1. **Clearly Define Expectations:** Make sure that all standards and guidelines are properly communicated. Giving written information, such as handbooks and checklists, can further explain expectations and minimize confusion.
2. **Involve Individuals in Goal Setting:** Involve team members in establishing goals about organizational standards. By being involved in defining goals, employees are more likely to adhere to them and be aware of their significance.
3. **Offer Constructive Feedback:** Give frequent feedback on performance in terms of compliance with standards. Positive feedback can reinforce continued compliance, while constructive feedback can facilitate improvements.
4. **Reward and Recognize Compliance:** Reward those who consistently adhere to organizational standards. It may be as straightforward as verbal recognition or as elaborate as awards, which can encourage others to act similarly.
5. **Lead by Example:** Practice compliance to standards in your own behavior. When leaders repeatedly comply with guidelines, it creates a model and inspires others to follow suit.
7. **Foster a Supportive Environment:** Develop a culture in which adherence to standards is encouraged and rewarded. Foster open communication and offer resources to enable individuals to comprehend and satisfy expectations.

Adopting these practices can foster a culture of accountability and excellence, whereby organizational standards are maintained by all members.

Activities

Activity: Create a Goal-Setting and Performance Improvement Plan

Materials Required

1. A4 sheets or notebooks
2. Pens or pencils
3. Printed SMART goal template (if available)
4. Access to a timer or stopwatch

Procedure

1. **Self-Reflection (10 min):** Each student will list three professional or personal goals they want to achieve within the next year.
2. **SMART Goal Setting (15 min):** Using the SMART framework (Specific, Measurable, Achievable, Relevant, Time-bound), students will refine their goals into clear and structured plans.
3. **Identifying Strengths and Weaknesses (10 min):** Students will list their strengths and areas for improvement related to their goals.
4. **Creating an Action Plan (15 min):** Each student will develop a step-by-step plan to achieve one goal, outlining specific actions, required resources, and expected challenges.
5. **Peer Review (10 min):** Students will pair up and provide constructive feedback on each other's goals and action plans.
6. **Presentation (Optional - 5 min per student):** Volunteers can share their goals and receive feedback from the group.

Check Your Progress

A. Multiple-Choice Questions (MCQs)

1. **What is the purpose of setting professional development goals?**
 - a) To increase company profits
 - b) To track employee attendance
 - c) To improve skills, productivity, and career growth
 - d) To reduce work responsibilities
2. **What does the "M" in SMART goals stand for?**
 - a) Measurable
 - b) Motivational
 - c) Manageable
 - d) Mandatory
3. **Which of the following is a key element of self-evaluation?**
 - a) Ignoring past performance
 - b) Blaming colleagues for failures
 - c) Identifying strengths and areas for improvement
 - d) Avoiding goal-setting
4. **How can managers motivate employees to follow organizational standards?**
 - a) By enforcing strict punishments only
 - b) By providing clear goals, recognition, and career development

- opportunities
- c) By reducing salaries
- d) By limiting communication between teams.

5. What is one benefit of self-learning?

- a) Reduced responsibility at work
- b) Increased reliance on formal training
- c) Improved problem-solving and adaptability
- d) Avoiding feedback from others

B. Short Answer Questions

1. Define self-evaluation and explain why it is important in professional development.
2. List three ways employees can contribute to maintaining quality in a workplace.
3. How does effective goal-setting contribute to employee motivation?

C. Long Answer Questions

1. Explain the importance of self-learning in career development. Provide examples of how it can enhance workplace performance.
2. Discuss different strategies that managers can use to motivate employees to follow organizational standards. Provide real-world examples to support your answer.

Answer Key

UNIT – 1

Session: 1

Fill in the Blanks

1. Lightweight
2. Eco-friendly
3. Fashion
4. Functional
5. Furniture

Session: 2

Fill in the Blanks

1. Customer segmentation
2. Sustainable
3. Packaging
4. Personalization
5. Online

UNIT – 2

Fill in the Blanks

Session: 1

1. Structured
2. Identifying
3. Prototype
4. Feedback
5. Improvement

Session: 2

Fill in the Blanks

1. Idea
2. User-Centered
3. Prototype
4. Research and Sketching
5. Value

Session: 3**Fill in the Blanks**

1. Aesthetikos
2. Balance
3. User
4. Culture
5. Creative Identity

UNIT – 3**Session: 1****Fill in the Blanks**

1. Armature
2. Trees
3. Removal
4. Top surface
5. Shaded

Session: 2**Fill in the Blanks**

1. Separator
2. Two
3. Cracks
4. Air Circulation
5. Varnish

UNIT – 4

Session: 1

Fill in the Blanks

1. Trees
2. Sunlight
3. Eco
4. Decompose
5. Local

Session: 2

Fill in the Blanks

1. 2030
2. 12
3. 13
4. 8
5. 15

UNIT – 5

Session: 1

Fill in the Blanks

1. Coach
2. Adaptability
3. Resilient
4. Productivity
5. Efficiency

Session: 2

Multiple-Choice Questions (MCQs)

1. b) Eliminate the team
2. c) Eliminating waste
3. d) Improve
4. c) Leads to new approaches to problems
5. c) Data-driven decision-making

UNIT – 6

Session: 1

Fill in the Blanks

1. Teamwork
2. Roles
3. Listening
4. Creativity
5. Language

Session: 2

Multiple-Choice Questions (MCQs)

1. c) To improve skills, productivity, and career growth
2. a) Measurable
3. c) Identifying strengths and areas for improvement
4. b) By providing clear goals, recognition, and career development opportunities
5. c) Improved problem-solving and adaptability

List of Credits

Prachi Verma (Graphic Designer)

Fig: 1.1, 1.2, 1.3, 1.4, 1.5, 2.11, 2.12, 2.18, 2.19, 2.20, 2.21, 2.22, 3.1, 3.2, 3.3, 3.10, 3.11, 3.12, 3.13, 3.14, 3.15, 3.16, 3.17, 3.18, 3.19, 3.20, 3.21, 3.22, 3.23, 3.24, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 5.1, 5.2, 5.3, 5.10, 6.2

Tarunay Singh (Graphic Designer)

Fig: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.13, 2.14, 2.15, 2.16, 2.17, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.25, 3.26, 3.27, 3.28, 3.29, 3.30, 3.31, 3.32, 3.33, 3.34, 3.35, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.11, 6.1, 6.3, 6.4, 6.5, 6.6

Ashish Kathane (DTP Operator)

Layout and Composing of Book