SECTION

6

ELEMENTS AND PRINCIPLES OF ART AND DESIGN

DESIGN FOR LIFE

Design Thinking and Composition

INTRODUCTION

In section five, you were able to observe artworks and the environment around you in a more critical manner, by describing, interpreting, critiquing and writing about them. In this section, you will learn more about design elements and the principles that guide the creation of artistic compositions. This knowledge will help you in your studio practice as an, architect, painter or a designer or in any other field of speciality.

KEY IDEAS

Learning this section will help you to grasp deep knowledge of the following key ideas:

1. Design elements are core components of any artwork.
2. Design elements are composed or organised using design principles.
3. Different elements or techniques can be used to create visual interest in art works.
4. The concept of proportion is demonstrated through the relationship between the different sizes of parts of a composition.
5. Multiple design principles and elements can be applied to enrich a single composition.
6. Design elements exist in nature and in man-made environments.

KEY ELEMENTS AND PRINCIPLES OF ART AND DESIGN.

The elements of art and design are the fundamental components or building blocks used to create a visual composition. These elements are essential for constructing any artwork or design, whether in painting, drawing, sculpture, graphic design, or other creative fields. Here are the key elements:

Line: A line is a continuous mark made on a surface that can vary in width, direction, and length. It can be straight, curved, or zigzagged, each triggering different emotions. Horizontal lines evoke calmness and stability, vertical lines suggest strength and growth, diagonal lines create movement and energy, while curved lines convey softness and grace. Various media can be used to create lines, including pencils, pens, brushes, markers, and digital tools like styluses or software. In addition, lines can also be formed using wire, string, engraving tools, or other physical materials, depending on the medium and the artistic intent.

Lines play a key role in shaping forms, creating patterns, and guiding the viewer's eye through a composition. They add depth, structure, and movement, while also influencing the emotional tone of a piece. Whether in drawing, architecture, or graphic design, lines significantly impact the overall visual effect of the work.

Shape: Shapes are two-dimensional areas defined by boundaries, such as lines or colours. Shapes can be geometric (e.g., circles, squares) or organic (natural, free-form).

Geometric shapes are those that are defined in mathematics and have common names. They have clear edges or boundaries and artists often use tools such as protractors and compasses to create them, to make them mathematically precise. Shapes in this category include circles, squares, rectangles, triangles, polygons, and so forth.

While geometric shapes are well-defined, biomorphic or organic shapes are just the opposite. Draw a curving, semi-circular line and connect it where you began and you have an amoeba-like organic, or freeform, shape.

Organic shapes are individual creations of the artists: they have no names, no defined angles, no standards, and no tools that support their creation. They can often be found in nature, where organic shapes can be as amorphous as a cloud or as precise as a leaf.

Form refers to objects that have three dimensions, length, width, and depth. Examples include sculptures or objects in drawings that appear to have volume. Forms can be geometric, such as cubes, spheres, and pyramids, or organic, like the natural shapes found in nature. In art, form can be real, as in sculptures, or implied, as in two-dimensional works that use shading and perspective to create the illusion of three-dimensionality. The use of light and shadow also helps define form, making it appear more lifelike and solid.

Form is crucial in both visual and sculptural arts as it helps to convey a sense of reality and presence. Artists use form to represent the physical structure of objects, making them appear more tangible. Forms can also be positive or negative, where positive forms refer to the actual objects, and negative forms refer to the space around and between those objects. The manipulation of form allows artists to explore and express movement, depth, and spatial relationships, ultimately guiding the viewer's eye through the composition and enhancing the overall impact of the artwork.
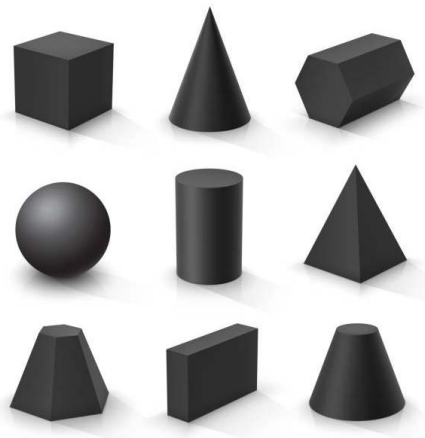

Fig. 6.1 Examples of 3D forms of

Colour: Colour is produced by light reflecting off objects. It has three properties: hue (the name of the colour), value (lightness or darkness), and saturation (intensity or purity). Hue refers to the actual colour, such as red or blue. Saturation describes the intensity or purity of the colour; a highly saturated colour appears vivid, while a less saturated colour looks more muted. Value indicates how light or dark a colour is. By adding white to a colour, we create a lighter tint, while adding black results in a darker shade.

The colour wheel is a useful tool for understanding how colours relate to each other. It includes primary colours (red, blue, and yellow), which cannot be created by mixing other colours. Secondary colours (orange, green, and purple) are made by mixing primary colours. Tertiary colours result from mixing a primary colour with a secondary colour, like red-orange or blue-green.
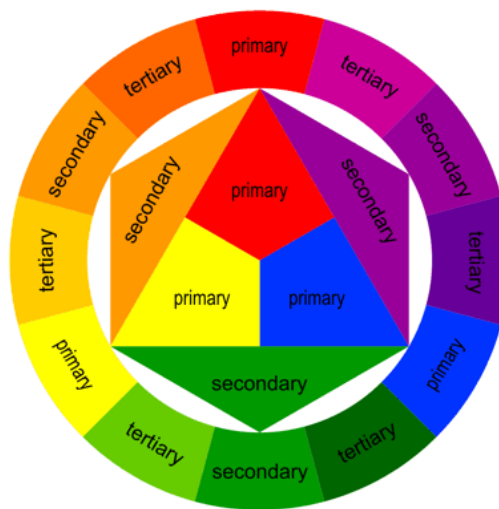

Fig. 6.2. Sample colour wheel

Colours can be combined in various ways to create pleasing or striking effects. Complementary colours are opposite each other on the colour wheel (e.g., blue and orange) and create strong contrast. Analogous colours are next to each other on the wheel (e.g., blue, blue-green, and green) and provide a harmonious look. Triadic colours involve three colours evenly spaced around the wheel (e.g., red, yellow, and blue), offering a balanced and vibrant scheme. Monochromatic colours are different shades and tints of a single hue, creating a unified appearance.

The psychology of colour reveals how it affects our emotions and behaviours. For example, red often evokes feelings of energy and excitement, while blue can bring about calmness and tranquillity. Yellow is commonly associated with happiness and warmth.

In art and design, colour is used to convey messages, set moods, and attract attention. Artists use colour to enhance the emotional impact of their work, while designers apply colour to improve usability and visual appeal in various applications.

Additionally, colours can have varied meanings in different cultures. For example, white may symbolise purity in one culture but be associated with mourning in another. Similarly, red might represent good fortune and festivity in some societies, while in others, it can signify danger.

Texture: Texture is how something feels or looks like it feels. It can be an actual (tactile) texture, like the surface of a sculpture, or implied texture, like the illusion of texture in a painting.

Value: This refers to the lightness or darkness of a colour. Value helps to create contrast, define form, and suggest depth or emphasis.

Space: Space refers to the area between and around objects. It can be positive space (the objects themselves) or negative space (the empty or open areas around the objects). Space also creates the illusion of depth in a two-dimensional work.

Critically reflect on the image below and discuss what you see with your peers.

Figure 6.3 Design elements

Here are examples of Design elements that exist in 3D forms for artistic creations

Liquids	
Smoke / Fireworks (pyrotechnics) / lighten	
Particles	
Other forms	

Fig. 6.4 Examples of 3D design elements in natural and manmade environment

Activity 6.1 Understanding Design Elements

You can do this independently or with a group of your peers at home or at school.

Do the following:

1. Search for the meaning of art and design elements from this learning material or any other available reading material/internet.

2. Identify the various types of the art and design elements and their various characteristics or nature.

3. Write short notes on the concept and types of art and design elements from your search findings.

4. Present your write-up to your peers for their comments.

5. Improve your write-up with the comments from peers and file in your digital or manual portfolio.

TRY THIS CHALLENGE

Do the following alone

1. Select any artwork of choice.

2. Critically analyse the artwork to identify the design elements used in the composition.

3. List all the elements you have identified in the work.

4. Analyse the work to identify how the art and design elements have been combined to produce it.

5. Use your information to generate a pictorial concept map on how art and design elements influence the creation of artworks and compositions.

6. Present the concept map to your peers for their comments.

7. Use the comments from your peers to improve the concept map.

8. Preserve the final concept map in your digital or manual portfolio.

KEY ELEMENTS AND PRINCIPLES OF ART AND DESIGN

Art and Design Principles

Art is a universal language that transcends cultural and linguistic barriers. It is about expressing your ideas, emotions, and stories visually. To create meaningful and compelling artworks, you need to understand the basic principles of art and design. These principles should help guide you in making decisions about how to arrange and organise the elements of your art to communicate your ideas effectively.

Let's explore these principles in a clear and simple way. Imagine each principle as a tool in your artist's toolbox. The more you understand how to use these tools, the more confident you will feel in your creative work.

1. Balance

Balance in art is like balancing a scale. It's about arranging the elements of your artwork so that no part of it feels too heavy or too light. There are two main types of balance: symmetrical and asymmetrical.

- **Symmetrical Balance** is when both sides of your artwork are the same or very similar. Imagine a butterfly with its wings spread out. Both wings are almost identical, and that creates a sense of harmony and order.

Fig: 6.5: Example of symmetrical balance

In a pastel painting of an African Palace. The symmetrical balance is found in the settings of the King's palace, the garden design, and the reflecting pool with ducks. The composition of the painting also contributes to the overall symmetry. The fountain heads that line the centre of the reflecting pool serve to bisect the entire artwork, wherein each side mirrors the other.

a. **Asymmetrical Balance** is when the two sides of your artwork are different, but they still feel balanced. Think of a seesaw with a large rock on one side and two smaller rocks on the other side. Even though the rocks are different sizes, the seesaw can still be balanced.

Fig. 6.6: An example of Asymmetric balance

This painting demonstrates **asymmetrical balance** through the composition of the cow and the dog in the foreground. The cow takes up two-thirds of the painting while the dog, which is markedly smaller, takes up one-third. Simultaneously, the background reciprocates the asymmetry in the foreground.

b. **Radial balance**: the elements are arranged around a central point and may be similar.

Fig. 6.7: Radial balance demonstrated in the furthers of a peacock

This male peacock displays its train into a fan-like formation, which fills the entirety of the frame. Focussing on the bird's body as the centre point of its plumage is an example of **radial symmetry**. We can also see repetition of this type of symmetry in the eyespots along each feather as well as the white lines of light that shine through from behind the bird.

When you create a balanced artwork, it feels stable and pleasing to look at. Without balance, your work might feel chaotic or uncomfortable.

2. Contrast

Contrast is all about difference. It's the difference between light and dark, big and small, rough and smooth. Contrast makes your artwork interesting and draws the viewer's attention. Without contrast, everything in your artwork would look the same, and it might seem less interesting

a. **Light vs. Dark**: Using light and shadow can make certain parts of your artwork stand out.

b. **Big vs. Small**: Placing a large object next to a small one can create emphasis and focus.

Fig. 6.8: Examples of contrast

3. Emphasis

Emphasis is about making one part of your artwork stand out more than the others. It's like telling the viewer, "Look here!" You can create emphasis by using contrast, bright colours, or a unique shape that draws attention. For example, if you are painting a landscape and you want the viewer to focus on a tree, you might make the tree larger, brighter, or more detailed than the surrounding elements. This way, the viewer's eyes are naturally drawn to that tree first.

Fig. 6.9: An example of Emphasis

This painting of a bird demonstrates **emphasis** through the contrast of subject and background. The bird is sharply in focus, revealing its morphological traits, whereas the background is blurred into soft patches of colour, which allows the viewer to focus solely on the bird. The colours in the image also serve to emphasise the bird.

Emphasis helps guide the viewer through your artwork, showing them what's most important.

4. Movement

Movement in art is not about things actually moving, but about guiding the viewer's eye through your artwork. Good movement makes the viewer feel like they are travelling through the piece, following a path that you've created.
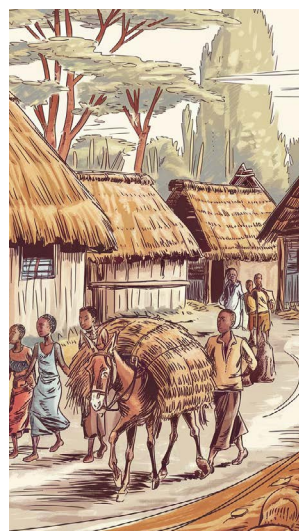

Fig. 6.10: An example of movement shown in a painting

In this illustration:

a. **Directional Movement**: The people and the horse are walking along a path, which creates a natural line that guides the eye from one side of the image to the other, suggesting motion. This is reinforced by the direction they are facing and the position of their limbs.

b. **Rhythmic Movement**: The repetition of similar shapes and forms, like the rounded roofs of the huts and the trees, creates a rhythm that leads the eye through the entire scene, fostering a sense of ongoing movement that is both harmonious and dynamic.

c. **Implied Movement**: Although the subjects are depicted without blur or other motion effects, their poses and the arrangement of their bodies imply that they are in the middle of walking. The bent legs and the position of the arms suggest forward motion.

d. **Leading Lines**: The path, along with the arrangement of huts and trees, creates lines that the eye follows, enhancing the sense of movement. These elements act as cues that suggest where the viewer should look next, effectively moving the gaze through the scene.

These elements of movement work together to make the scene lively and engaging, directing the viewer's attention through the composition and suggesting the story and dynamics of the depicted scene.

5. Pattern

Pattern is the repetition of an element, like a shape or a line, over and over again. Patterns can create rhythm in your artwork, like a beat in music. They can also add texture and make your work more visually engaging.

Patterns can be regular and predictable, like the tiles on a floor, or they can be irregular, like the spots on a leopard. Both types of patterns can add interest to your artwork and help to unify different elements.

The artwork below demonstrates the principle of pattern through the complex repetition of geometric shapes and bold lines. The symmetrical arrangement of the elements creates a continuous, rhythmic pattern that flows vertically across the composition. The use of warm colours, such as yellows, oranges, and reds, enhances the visual impact of the pattern, while the contrast with the darker background adds depth and complexity. The repetitive motifs evoke a sense of order and structure, while the slight variations within the repeating forms introduce visual interest. This balance of repetition and variation makes the pattern both captivating and dynamic.
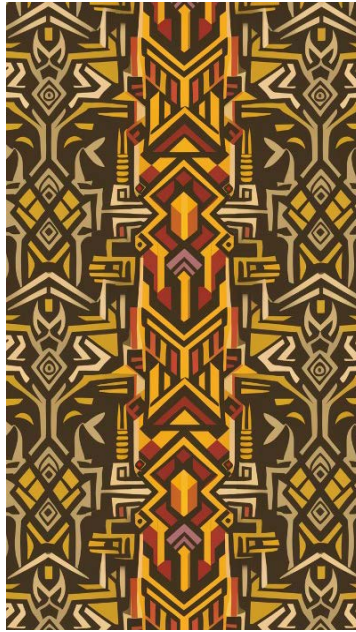
Fig. 6.11: an example of pattern

6. Rhythm

Rhythm is closely related to pattern, but it's more about the flow of your artwork. It's like the rhythm in music; it can be fast or slow, regular or irregular. In art, rhythm is created by repeating elements in a way that feels natural and organic.
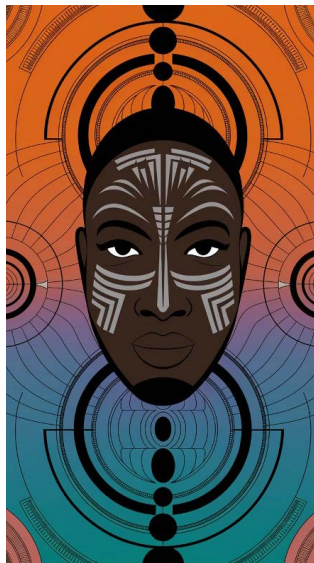
Fig. 6.12: An example of Rhythm

This artwork employs the principle of rhythm through the repetition and progression of geometric patterns and lines, creating a dynamic and cohesive visual flow. The circular motifs and concentric patterns echo across the composition, leading the viewer's eye rhythmically around the central figure. The use of symmetry enhances this rhythmic movement, while the varying line thickness and gradient colour shifts add a sense of pulsation and vibrancy. The rhythmic arrangement of these elements emphasises the central face, integrating the organic and geometric in a harmonious, flowing design that draws on cultural and symbolic motifs.

7. Unity

Unity is the feeling that everything in your artwork belongs together. It's like when all the pieces of a puzzle fit perfectly to create a complete picture. Unity is achieved when all the elements of your design—colour, shape, line, texture—work together in harmony.

To create unity, you can repeat certain elements throughout your artwork or use a limited colour palette. Unity doesn't mean that everything has to be the same, but it should all feel connected.

The artwork below exemplifies the principle of unity through its harmonious arrangement of shapes, colours, and lines. The repeated leaf-like forms, all sharing similar hues and gradients, contribute to a cohesive visual experience. The central alignment of the elements around a symmetrical axis further strengthens the sense of unity, creating a balanced and integrated composition. The interplay between the soft, organic shapes and the precise, linear details ties the entire piece together, making each part feel connected to the whole. This unity fosters a sense of completeness and balance, making the artwork visually satisfying and coherent.

Fig. 6.13: An example of a design showing Unity

8. Proportion

Proportion is the relationship between the sizes of different parts of your artwork. It's about creating a balance to ensure that objects are the right size in comparison to each other. For example, if you are drawing a person, the head should be smaller than the body, and the hands should be smaller than the head. If the proportions are off, your artwork might look strange or unrealistic.

Fig. 6.14: An example of Proport

Proportion can also be used creatively. Sometimes, artists intentionally change the proportions of objects to create a certain effect, like making a person's hands very large to show strength.

9. Variety

Variety concerns the use of different elements in your artwork to ensure that it remains entertaining. If the artistic work does not contain some variety, it may become somewhat less interesting to the viewer.

Variety may arise from the use of diverse colours, shapes, textures, or patterns. It gives flavour to your work and attracts the audience's attention.

Fig: 6.15 Image by Y.B. Ampadu, 2024

Bringing it all Together

Now having learned about the key principles of art and design, you will be able to put them into practise in your own work. These principles are not dogmas that must be adhered to on all occasions. Rather, treat them as suggestions, which can enable you to make choices when you are being creative. With time and practice, you will develop styles that are distinctive with regard to those principles.

Art is communication and conveying emotions through form. It is a medium in which someone's ideas, emotions, and experiences are relayed to other people. Employing these concepts in your artwork, it is possible to create art that is beautiful and has deeper meanings.

Art is a journey, and like any journey, it takes time and practice. Don't be afraid to make mistakes along the way—every mistake is an opportunity to learn and grow. Keep exploring, keep experimenting, and most importantly, keep creating.

Activity 6.2: Understanding Design Principles

You can do this independently or with a group of your peers at home or at school.

Do the following:

1. Find information about concepts of design principles in your learning materials or online.

2. Identify types of art and design principles and learn about the different kinds of design principles and their characteristics.

3. Create notes on the concepts and types of design principles you find.

4. Present your notes to your classmates for feedback.

5. Use the comments from your peers to make your notes better and save them in your portfolio.

TRY THIS CHALLENGE:

1. Select any artwork you like.

2. Carefully examine the artwork to identify the design principles used.

3. Make a list of all the design principles you find in the artwork.

4. Show an Understanding of how these design principles work together to create the artwork.

5. Draw a visual diagram showing how design principles influence the creation of artworks.

6. Present your concept map to your peers for feedback and use their comments to make it better.

7. Keep your final concept map in your portfolio.

IDENTIFICATION AND APPLICATION OF ELEMENTS AND PRINCIPLES OF DESIGN

With the knowledge of art and design elements and principles you have already gained, you should be able to identify and explain the various types found in both natural and manmade environments. These elements and principles are used in everyday artistic compositions by artists. This content area will help you understand further how they are applied to make creative compositions.

How are the art and design elements and principles applied in making artistic compositions?

Artistic composition encompasses the merging of types of art as well as artistic-design principles to visually inform, trigger emotions, and produce beautiful works. These sets of elements and principles are the basis upon which the various visual constituents are arranged and organised to produce works that are pleasing and effective. Let's examine how these elements and principles are used in the making of artistic compositions:

Application in Artistic Compositions

In practice, these elements and principles are intertwined and used in combination to create a visually compelling and meaningful artwork. Here's how they might come together in a specific composition:

1. **Creating a Landscape:** An artist might use lines to direct the viewer's eye toward the horizon, balancing the composition with large shapes of mountains on one side and smaller trees on the other (creating balance). The use of colour and tonal value creates depth and emphasises the focal point—the sunset—by using vibrant warm colours contrasted against cooler, darker tones of the surrounding landscape (contrast and emphasis). The artist ensures unity by repeating similar textures in the grass and trees while adding variety with different types of foliage and variations in the terrain (unity and variety).

2. **Designing a Poster:** In a poster design, an artist might use bold, contrasting colours to capture attention (contrast), placing the main message or image at the top or centre to create emphasis. Movement might be introduced through the arrangement of text and images, guiding the viewer's eye from the headline to the details. The rhythm could be established by repeating certain graphic elements or colours throughout the design, ensuring that the composition feels cohesive (rhythm and unity). The overall proportion of text to images will be carefully considered to maintain clarity and readability (proportion).

The elements and principles of art and design can be understood and utilised by artists and designers such that the resulting compositions are not only attractive but can also convey the intended meaning or emotion. These artistic concepts are basic functions understood by the artists as they help them in converting ideas into visual masterpieces.

Critically observe the images below and identify the art and design elements and how they have been applied to create the composition.
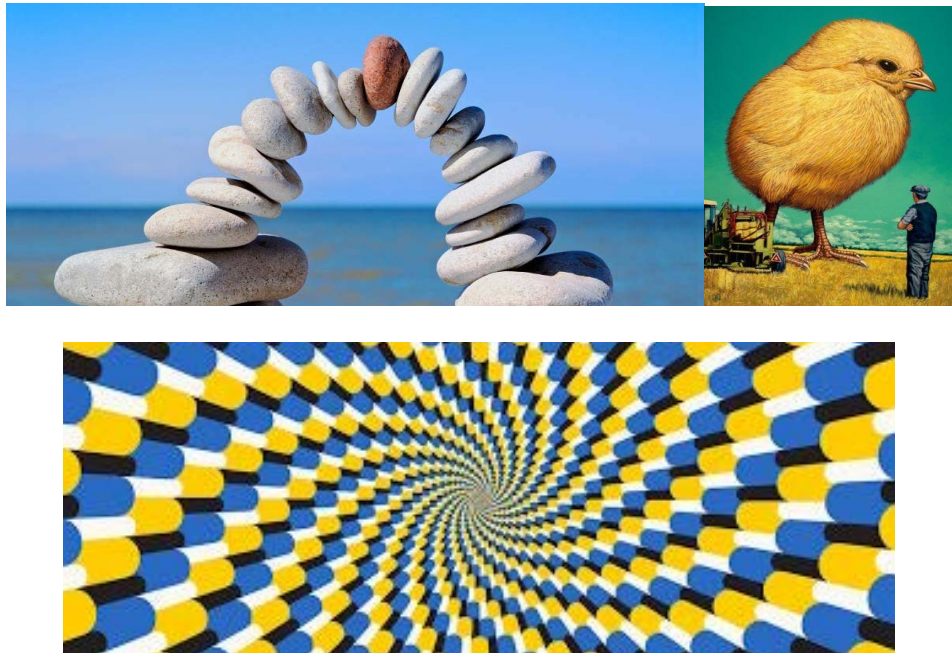

Fig. 6.16: Sample compositions that reflect application of art and design elements and principles

Activity 6.3: Understanding the application of art and design elements and principle

You can do this independently or with a group of your peers at home or at school.

Do the following:

1. Select any artistic or creative composition of your choice (this can be natural or manmade found in your own physical or virtual environment) as presented in Figure 22.1, for example.

2. Critically analyse the composition by identifying the art and design elements and principles.

3. Identify and describe with specific examples how the design principles have been used collaboratively to create the work.

4. Write down your findings or observations and present them to your classmates for their comments.

5. Refine your write-up using the feedback from your peers and save it in your digital or manual portfolio for future reference.

IDENTIFICATION AND APPLICATION OF ELEMENTS AND PRINCIPLES OF DESIGN

The art and design elements and principles are integrated in every art and design process. As a young artist, it is vital to know about how products are designed. This will help you to build strong skills and competencies for innovating and creating designs. This content area will guide you to achieve that.

1. What is Design Thinking?

Design thinking is a problem-solving process that primarily involves identifying people's needs and creating viable, yet new, solutions. Quite often you are presented with a problem. For example, let's say you need to come up with a new mobile application, design a poster for a school concert, or even organise a community garden. Design thinking has been compared with a map that will take one stage after another: coming up with ideas, trying them out, and improving them even more, until you come up with something that works.

Psychology is important when we speak about design thinking— it is a human-centred approach. This implies that as well as looking at the problem from a technical point of view, you must also consider how the solution will affect the end users.

Not Only designers and artists employ design thinking It is a way of working through problems that can be embraced by many people regardless of their professions, whether researchers, managers, or-school teachers. It is an approach to solving such issues with common sense, creativity and ways to improve others' lives using their own visions.

2. Why is Design Thinking Relevant in Everything We Do?

Design thinking is applicable in every aspect of life since it is all about being inquisitive and not accepting issues at face value. In every sphere of life, or any aspect of life for that matter, there are problems, good or bad and the manner in which a person goes about such problems can make a difference. Design thinking encourages us to ask questions, explore different possibilities, and not be afraid to try new things. This mindset is incredibly valuable, not just in school or work, but in everyday life.

Think about it: Consider for example that every time you organise a party, choose attire for an occasion, or even assist a friend in a dilemma, you are almost always practising design thinking in its various forms. You are looking at the problem, coming up with ideas, and solving it.

Change is the only constant in the present-day culture, and therefore, the capacity to evolve is almost indispensable. Design thinking makes such evolution possible. It fosters teamwork, allowing people to generate ideas that are often superior to what they would create individually. It also endorses innovation and embraces failure, hence strengthening one's spirit and self-efficacy.

In today's world, where technology is rapidly advancing and global challenges are becoming more complex, the skills you develop through design thinking are more important than ever. Whether you're designing a new product, solving a social issue,

or simply trying to improve your daily routine, design thinking can help you find solutions that are innovative, effective, and human-centred.

4. The Design Thinking Process

Since we know what design thinking is and why it matters, let us now look at the design thinking process in detail. The process can be broken down into five main stages: Empathise, Define, Ideate, Prototype, and Test. These stages aren't always linear—you might find yourself moving back and forth between them as you refine your ideas—but they provide a solid framework to guide your thinking. Let us consider the product design of a skin care package and go through the different steps of the design thinking process.

5. Empathise

The first stage of the design thinking process is to core understand the feelings of the clients who will make use of the package under consideration. To achieve this, one needs to tap into the requirements, likes, and pain points. Suppose you are responsible for creating a design for the packaging of a new body care line of nature-friendly products. Begin with potential customers and understand their buying patterns and key things they look for in the package. For instance, it will be interesting to see if customers get annoyed at packaging that is hard to open for a product and eventually left in the bin. Or they will show interest in the packaging which emphasises the eco-friendly aspects. Another approach is to see how customers use the skincare packaging with a focus on what attracts them and what, if any problems they may have with it.

6. Define

After gathering information from your empathise stage, the next step is to define the problem. This means summarising your insights into a clear and focused problem statement. In the case of the skincare packaging, you might define the problem as: "Eco-conscious consumers need packaging that is easy to open, aesthetically pleasing, and environmentally friendly because current options are either not fully sustainable or inconvenient to use." This problem statement helps you stay focused on what really matters to the customer as you move forward with the design process. It highlights the key challenges you need to address sustainability, ease of use, and visual appeal.

7. Ideate

Once you've defined the problem, it's time to brainstorm ideas for the packaging. The ideation stage is all about generating a wide range of possible solutions without worrying too much about whether they're practical yet. This is where creativity really comes into play. For the skincare packaging, you might come up with ideas like:

    a. A reusable container that customers can refill in-store.

    b. Packaging made from biodegradable materials that break down easily in the environment.

    c. A package that unfolds or peels open easily, without the need for scissors or excessive force.

    d. A design that includes a minimal amount of material to reduce waste.

During ideation, no idea is too wild or unrealistic. The goal is to explore as many options as possible, which would later be refined or combined into the final design.

8. Prototype

After brainstorming, you'll want to start turning some of those ideas into physical prototypes. A prototype is a simple model or mock-up of your design that allows you to test and refine your ideas. For the skincare package, you could create several prototypes using different materials and designs. For example, you might make one prototype out of recycled paper with an easy-peel tab, another out of biodegradable plastic that customers can compost, and another that includes a reusable glass jar with a stylish, eco-friendly label. These prototypes don't have to be perfect. The idea is to create something tangible that you can test and get feedback on. You might even make quick, rough prototypes using materials like cardboard, tape, or paper to quickly explore different ideas.

9. Test

The final stage of the design thinking process is to test your prototypes with real users. Testing allows you to gather feedback and see how well your packaging design meets the needs identified in the empathise stage. For the skincare package, you could conduct user testing by giving your prototypes to potential customers and observing how they interact with them. Do they find the packaging easy to open? Do they like the look and feel of it? Does it meet their expectations for sustainability?

You might discover that the biodegradable plastic prototype, while eco-friendly, feels too flimsy, or that the reusable glass jar is loved by customers but needs a better seal to prevent leaks. Based on this feedback, you can refine your design, perhaps combining the strengths of multiple prototypes into one final solution.

Remember, testing is not the end of the process—it's an opportunity to learn and iterate. You might go back and make more prototypes, test again, and continue refining your design until you've created a package that truly meets the needs of your customers. Using design thinking to create a new package involves empathising with your users, defining the problem, ideating possible solutions, prototyping your ideas, and testing them to see what works best. This process helps ensure that the final packaging design isn't just visually appealing, but also functional, user-friendly, and aligned with the values of the people who will be using it. By following these stages, you can develop packaging that stands out in the market and truly resonates with your target audience.

Analyse the image below individually and discuss it with your peers.
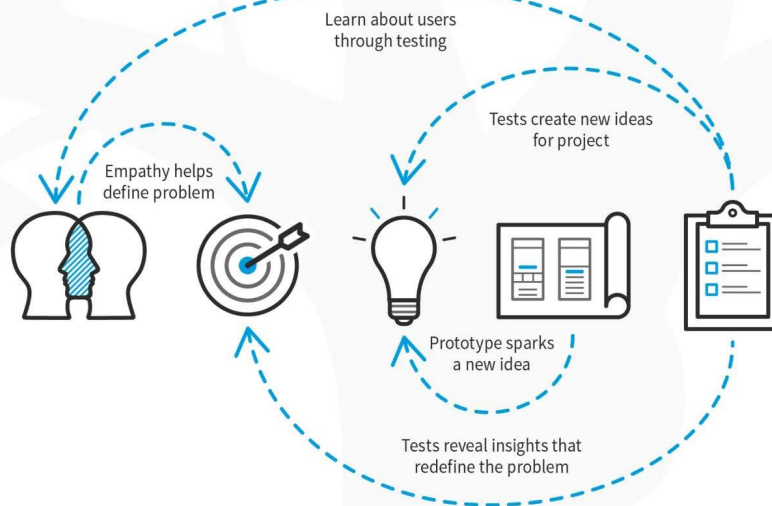
Figure 6.17: Sample concept map of the design thinking process

Activity 6.4 Applying Design Thinking Process in artistic Creations

You can do this independently or with a group of your peers at home or at school.

You have been tasked to design a package for cooked food vendors in your community. The package should have limited negative effects on the natural ecosystem. How will you complete this task through the design thinking process?

1. Think deeply about the problem to gain much understanding of the current packaging challenges faced by food vendors in your community.

2. Try to identify the needs and preferences of both food vendors and consumers regarding the current packaging through interviews.

3. Identify the common packaging materials used by food vendors and analyse their environmental impacts.

4. Clearly define the problem you are trying to solve (e.g., unsustainable packaging materials, food safety concerns).

5. Establish specific and measurable goals for your packaging solution (e.g., reduce waste, improve food safety, maintain product quality).

6. Brainstorm a variety of packaging ideas that address the identified problems and meet the goals.

7. Explore materials and designs that minimise environmental impact (e.g., biodegradable materials, reusable containers).

8. Evaluate the feasibility and effectiveness of each idea based on the criteria you have set.

9. Develop a prototype (physical or digital model) of your packaging solution to test its functionality and effectiveness and get feedback from consumers and vendors.

10. Test your packaging solution in real-world conditions to assess its performance and sustainability.

11. Analyse the data collected from the trials to identify any issues or areas for improvement.

12. Reiterate by refining the design based on the feedback and results, make necessary adjustments to your packaging solution.

13. Present a report on your experience of applying the design thinking process in class for appreciation and feedback.

NB: This knowledge on design thinking process is vital for every studio activity you do and everything you do including planning of events.

Try this Challenge

You can do it with a group of friends

1. Identify any problem in your community.

2. Explore the design thinking process to deal with the problem.

3. Present your design innovations in class for feedback.

4. Use the feedback from your peers to improve on your design innovation.

5. Organise a community exhibition to showcase your innovation for feedback.

6. Improve on the innovation using the feedback from the community.

REVIEW QUESTIONS

1. What are the main elements of art?

2. Name two principles of design

3. Explain the difference between line and shape in art

4. How does the principle of balance contribute to the overall composition of a piece of art?

5. Create a simple sketch that demonstrates the use of the principle of unity.

6. How could you use the element of colour to evoke a sense of joy and happiness in a painting?

7. Analyse a famous piece of art and identify the key design principles used by the artist.

8. How does the use of negative space contribute to the overall meaning of a piece of art?

9. Imagine you are designing a new logo for a local business. How would you use the principles of balance and emphasis to create a visually appealing and memorable design?

10. Evaluate the effectiveness of a specific piece of art in terms of its use of design elements and principles. Justify your response with evidence from the artwork.

11. How did the designers of the Tesla Model S electric car use the design thinking process to disrupt the traditional automotive industry?

12. Evaluate the effectiveness of the design thinking process in addressing complex social problems like poverty or climate change.

13. What are the potential ethical implications of using design thinking to develop new technologies or products? Support your answer with a pictorial concept map.

14. How might the design thinking process evolve in response to emerging technologies and societal challenges?

ANSWERS TO REVIEW QUESTIONS

1. Line, shape, form, colour, texture, value, and space.

    Sample Answers

2. Balance and emphasis.

3. A line is a continuous mark made by a point moving across a surface. A shape is a two-dimensional enclosed area defined by lines.

4. Balance creates a sense of equilibrium and harmony, making the artwork visually pleasing and stable.

5. This question requires creativity and expression through drawing. Example, a sketch of a vase with a matching background colour, creating a sense of visual unity.

6. Colours can bring positive emotions. So, by using bright, vibrant colours like yellow, orange, and green, the painting can convey a positive and uplifting mood.

7. Analyse a famous piece of art and identify the key design principles used by the artist. Example: In Vincent van Gogh's "Starry Night," the artist uses the principles of rhythm and movement through the swirling lines and patterns of the stars and sky.

8. Negative space can create a sense of depth and mystery, as well as highlighting the positive shapes in the composition.

9. To create a balanced logo, I would ensure that the elements are distributed evenly or in a symmetrical way. To emphasise the business name or logo, I would use larger size, bolder font, or a contrasting colour.

10. Evaluate the effectiveness of a specific piece of art in terms of its use of design elements and principles. Justify your response with evidence from the artwork. Example, in Piet Mondrian's "Composition in Yellow, Blue, and Red," the artist effectively uses the principles of balance, unity, and rhythm through the grid-like structure and the harmonious use of primary colours. The composition is visually pleasing and thought-provoking, demonstrating the effective use of design elements and principles.

11. Tesla's designers used design thinking to empathise with consumers' desires for a sustainable and technologically advanced vehicle. They defined the problem as the need for a high-performance electric car with a long range and attractive design. Through ideation and prototyping, they developed the Tesla Model S, which is a vehicle that challenged traditional automotive norms and redefined the electric car market.

12. The design thinking process can be effective in addressing complex social problems by focusing on human-centred solutions. Empathising with the needs of those affected by poverty or climate change, designers can develop

innovative and sustainable solutions that address the root causes of these problems. However, the effectiveness of design thinking also depends on factors such as access to resources, collaboration, and the ability to implement solutions on a large scale.

13. **Example;**

Bias: Design thinking can be influenced by the biases of the designers, leading to products or solutions that may not be inclusive or equitable.

Privacy: New technologies developed through design thinking may raise concerns about data privacy and surveillance.

Job displacement: The introduction of new technologies can lead to job losses or changes in the workforce.

Environmental Impact: The development and use of new products can have negative environmental consequences, such as resource depletion or pollution.

NB: Generation of the concept map is a creative activity which may vary. The diagram should be explained when created.

14. As technology continues to advance, design thinking may become more integrated with artificial intelligence, machine learning, and other emerging technologies. This could lead to more efficient and innovative problem-solving processes. Additionally, as societal challenges become more complex, design thinking may need to incorporate a greater emphasis on ethical considerations, environmental protection and sustainability, and social impact.

EXTENDED READING

- What-is-art
- Elements and Principles of Design

REFERENCES

- Lee, J.H., Ostwald, M.J. and Gu, N., 2020. Design thinking: creativity, collaboration and culture (Vol. 12). Cham: Springer.

- Goldschmidt, G., 2014. Linkography: unfolding the design process. Mit Press.

GLOSSARY

Balance	A principle of design concerned with the arrangement of elements to create stability in an artwork. Balance can be symmetrical, asymmetrical, or radial.
Colour	Produced by light reflecting off objects, colour has three properties: hue (the name of the colour), value (lightness or darkness), and saturation (intensity or purity).
Contrast	Refers to the difference between elements in an artwork. High contrast draws attention and can make elements stand out, while low contrast can create harmony and unity.
Define	The stage where designers clearly articulate the problem that needs solving, based on insights gathered during the empathy stage.
Empathy	The first stage of the design thinking process, where designers gain a deep understanding of the needs, experiences, and emotions of the people they are designing for.
Emphasis	Creating a focal point in an artwork to draw the viewer's attention to the most important part of the design.
Form	Refers to objects that have three dimensions—length, width, and depth. Examples include sculptures or objects in drawings that appear to have volume.
Ideate	The creative phase where designers brainstorm and generate a wide range of ideas and possible solutions.
Iterate	The cyclical process of refining and improving ideas, prototypes, and solutions based on feedback and testing results.
Line	A continuous mark made on a surface, which can vary in width, direction, and length. Lines can be straight, curved, or zigzagged, each evoking different emotions and contributing to the overall composition of an artwork.
Movement	The path that the viewer's eye follows through an artwork, often directed by lines, shapes, colours, and edges.
Prototype	Involves creating simple, experimental models of ideas to explore their feasibility and refine the concepts.
Rhythm	Created when one or more elements are used repeatedly to create a feeling of organised movement, often leading to a sense of harmony within the artwork.
Shape	A two-dimensional area defined by boundaries such as lines or colours. Shapes can be geometric (like circles or squares) or organic (natural, free-form shapes).

Space	Refers to the area between and around objects. Space can be positive (the objects themselves) or negative (the empty areas around the objects), contributing to the illusion of depth in a two-dimensional work.
Test	The phase where prototypes are tested with users, feedback is gathered, and improvements are made.
Texture	The feel or appearance of a surface. It can be an actual (tactile) texture like the surface of a sculpture or implied texture like the illusion of texture in a painting.
Unity	The sense of harmony between all parts of the artwork, which creates a feeling of completeness.
Value	Refers to the lightness or darkness of a colour, helping to create contrast, define form, and suggest depth or emphasis.
Variety	The use of different elements to create visual interest in an artwork, preventing it from being monotonous.

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