Chapter: The MYP Design Cycle (Core Framework)

Introduction

Design and innovation are at the heart of human progress. From the invention of the wheel to the development of artificial intelligence, design thinking enables us to identify problems, explore creative solutions, and improve the world around us. In the **Middle Years Programme (MYP)**, the **Design Cycle** serves as the core framework that guides students through this journey. It provides a structured approach to problem-solving that nurtures critical thinking, collaboration, and innovation.

Whether you're building an app, redesigning a product, or improving a process, the MYP Design Cycle helps you think like a designer. It's not just about the final product—it's about the *process*, the *reflection*, and the *growth* that occurs along the way.

What is the MYP Design Cycle?

The MYP Design Cycle is a structured framework consisting of **four key stages**:

1. **Inquiring and Analyzing**
2. **Developing Ideas**
3. **Creating the Solution**
4. **Evaluating**

Each stage contains specific objectives that help guide your thinking, research, creation, and reflection. The design cycle is iterative, meaning you may revisit stages as you refine your ideas and solutions.

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1. Inquiring and Analyzing

This is the foundation of the design process. In this stage, you aim to understand the problem you are solving, who you are designing for, and why your solution matters.

Objectives:

- **Explain and justify the need for a solution.**
- **Identify and prioritize primary and secondary research.**
- **Analyze existing products that inspire or influence your work.**

- **Develop a detailed design brief.**

Key Activities:

- Conduct user interviews and surveys.
- Research similar products or solutions.
- Identify user needs and market gaps.
- Write a design brief that summarizes the problem and the direction for your solution.

Example:

If you're designing an eco-friendly water bottle, you'd research environmental impacts of plastic, analyze existing reusable bottles, and define what your new product needs to improve.

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2. Developing Ideas

In this phase, creativity and planning come together. You move from understanding the problem to brainstorming and planning possible solutions.

Objectives:

- **Develop design specifications.**
- **Present a range of feasible design ideas.**
- **Develop accurate, scaled drawings or digital prototypes.**
- **Present a detailed planning proposal.**

Key Activities:

- Sketch multiple designs and select the best one based on your research.
- List out criteria your design must meet (e.g., cost, materials, usability).
- Create diagrams or 3D models using tools like Tinkercad, Fusion 360, or hand drawings.
- Plan the steps and resources needed to build your chosen design.

Example:

For the water bottle project, you might present ideas with different shapes, materials, or features (e.g., built-in filter). Then, choose one idea based on feasibility and design goals.

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3. Creating the Solution

Now it's time to bring your ideas to life. This stage focuses on building the actual product, prototype, or system according to the plans developed in the previous stage.

Objectives:

- **Construct a logical plan to create the solution.**
- **Demonstrate technical skills when making the solution.**
- **Follow the plan to create a functional solution.**
- **Justify changes made to the original plan.**

Key Activities:

- Use tools, software, or materials to build your solution.
- Document your process with photos, videos, and notes.
- Problem-solve and adapt as unexpected issues arise.
- Test the functionality of your solution.

Example:

You might 3D print a prototype of your bottle, or create a digital model, and test its grip, durability, and functionality. You'd reflect on changes made along the way (e.g., switching to a different lid design for better usability).

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4. Evaluating

The final phase is about **reflection**—on the product, the process, and your personal growth as a designer. It's an essential step to identify what worked well and what could be improved.

Objectives:

- **Design and carry out tests to evaluate the product or solution.**

- **Evaluate the success of the solution based on design specifications.**
- **Explain how the solution could be improved.**
- **Reflect on your learning and the impact of the design cycle.**

Key Activities:

- Gather feedback from users and peers.
- Compare the final product to the original goals and specifications.
- Suggest realistic improvements.
- Reflect on your journey through the design cycle.

Example:

After testing your water bottle, you find the cap leaks slightly. You note this and propose a tighter seal in future designs. You also reflect on your improved skills in 3D modeling and research.

Why is the MYP Design Cycle Important?

The design cycle teaches more than just how to make things—it builds lifelong skills:

- **Critical thinking** and **problem-solving**
- **Research** and **analysis**
- **Time management**
- **Creativity** and **innovation**
- **Self-assessment** and **resilience**

It helps you think deeply about the impact of technology and design on society and the environment. Whether you go into engineering, fashion, business, or education, the mindset you develop here is widely transferable.

Summary

The MYP Design Cycle is the backbone of the design process in MYP Design. It involves four clear, reflective, and structured stages: **Inquiring and Analyzing**, **Developing Ideas**, **Creating the Solution**, and **Evaluating**. Each phase builds on the previous one and prepares students to be thoughtful, innovative, and responsible designers. As you progress

through each stage, you don't just build a product—you build the mindset of a creator, a thinker, and a problem-solver.

Understanding and applying the design cycle ensures that you don't just jump to solutions but instead learn to approach problems with care, creativity, and discipline.