

THE DESIGN PROCESS AND TEAMWORK

WHAT IS THE DESIGN PROCESS?

A plan of the sequence of activities for the construction of an object or a system

STEPS OF THE DESIGN PROCESS

Step 1:

**Identify the problem/product
innovation.**

- What are you being asked to do?
- What is an innovation?

STEPS OF THE DESIGN PROCESS

Step 2:

Define the working criteria/goals.

- What specific things are you required to do?
- What are any constraints for the product?

STEPS OF THE DESIGN PROCESS

Step 3:

Research and gather data.

- Stay focused on what you are to accomplish.
- Use resources such as the library, internet, newspapers, etc...to gather data.

STEPS OF THE DESIGN PROCESS

Step 4:

**Brainstorm and generate
creative ideas.**

- No idea is a bad idea. Write down all ideas.
- Combine ideas to create new ideas.
- Do not evaluate yet.

STEPS OF THE DESIGN PROCESS

Step 5:

Analyze potential solutions.

- Stay focused on what you want to accomplish.
- Use resources such as the library, internet, newspapers, etc...to gather data.

STEPS OF THE DESIGN PROCESS

Step 6:

Develop and test models.

- Make models for the solution.
- Test each model against the design criteria/goals.
- Test to see if it functions and its performance.

STEPS OF THE DESIGN PROCESS

Step 7:

Make the decision.

- Test and evaluate the results to decide which solution to use.
- If none of the solutions work, return to step 4 or 5 to come up with a new plan.

STEPS OF THE DESIGN PROCESS

Step 8:

Communicate and specify.

- Write down the design's specifications and measurements.
- Communication between group members is very important in this step.

STEPS OF THE DESIGN PROCESS

Step 9:

Implement and commercialize.

- Make final design revisions.
- All group members should agree on the design.
- Complete the final design.

STEPS OF THE DESIGN PROCESS

Step 10:

Post-implementation review and assessment.

- Review how well the product works.
- Assess the product's strengths and weaknesses.
- Make suggestions for improvements.

How does teamwork play a role in the design process?

- ▣ Teamwork and unselfishness are the key to a great team. It cannot be about “I” but must be about “we”.
- ▣ Whether in the workplace, on a sports team, or any other teamwork situation, the key to success is teamwork.



How does teamwork play a role in the design process?

- ▣ Having an effective leader is a very important component for good teamwork.
- ▣ The team leader must set the example and stimulate innovation to solve the design problem.
- ▣ Admiral Hyman G. Rickover, retiring after 64 years of navy service as a full admiral, was the leader in developing nuclear-powered ships.



Admiral Hyman G. Rickover

- He developed an outspoken interest in US educational standards.
- “Nurturing leadership in science and technology in young scholars is an essential investment in the US national and global future.”

How does teamwork play a role in the design process?

- ▣ Good communication is a vital factor of a good team.
- ▣ Team members must understand what their role and responsibilities are to the team.
- ▣ Conflicts will occur, so it is necessary to have good conflict resolution skills.

