SAFA Entrepreneurial Lesson

Rapid Prototyping

What is a Rapid Prototype?

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A rapid prototype comes after you finish your drawings to plan your innovation. This prototype is your first tangible model of your idea. A lot of times, this rapid prototype will be the finished product/service if the design is simpler.

A rapid prototype is the first attempt at a finished product or a service, based off of plans and drawings.

A rapid prototype is "rapid" because it is meant to be completed quickly in order to know what changes you need to make to the design of your innovation, which was not able to be considered during the planning phase.

Why is a Rapid Prototype important?

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Rapid Prototypes are important because...

1. They are the first model and tangible design of our innovation.
2. They give us a baseline to see how "good" the innovation is and what changes need to be made.
3. They help us discover issues which were unaccounted for in the planning phase. Oftentimes, issues will arise which will only be noticed after seeing your product in reality.
4. All innovations need to start somewhere, whether or not the first attempt is successful. Although planning is important, it is just as important to know when you need to move on and embrace failure should it occur.

Steps to Making A Rapid Prototype

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1. Consider and collect the materials and tools you would need to create your product.

2. Build a model of your idea before the prototype.

    a. A model is a physical copy of your product but it does not have any mechanisms. This simply is a non-functioning copy of your product, which helps us look at the appearance of it.
    b. Sometimes, a model will be the same as your rapid prototype.

3. Dive in! Start assembling your rapid prototype based on your plans and designs.

Activity Time!

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In your entrepreneur journal, write down the materials you would need to start building your product. For this lesson, we will skip building a model as they are not as useful for smaller projects.

What happens if the rapid prototype isn't successful?

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Oftentimes, you will find that your first prototype isn't complete yet to be manufactured. But not to worry, this is why it's called a "prototype".

If issues arise, and your prototype isn't what you wanted it to be or didn't work properly, then go back to the drawing board! Look at your designs and plans, and see what you should change in order to fix it. After you changed your designs, try again!

Engineering and Entrepreneurship is trial & error. The more you fail, the more you learn, and the better your innovation will be in the end!

Activity Time!

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In your entrepreneur journal, write down 2 possible problems that could arise with your rapid prototype. Then write down how you would change your designs to fix these two problems.

At home assignment

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While you are at home, start bringing the prototype to reality. You can do this in three ways.

1. If you have materials and supplies, build the actual product!
2. If you have a 3d design software, try creating your product using that.
3. If you do not have the materials or software, record a video of yourself explaining how you would assemble the product, and attach a drawing of the finished product.