Introduction to Biomimicry Shiva Subramaniam, Chief Innovation Officer Gopalakrishnan-Deshpande Centre for Innovation and Entrepreneurship Indian Institute of Technology - Madras

Lecture – 25 Recap of Week 4

We are on week 5, unbelievable, right? We just started about 4 weeks ago. And when we started, I was not even sure whether any of us thought that we will come up to this stage. And I am saying this stage with a lot of anticipation because by now you should be in the 'evaluate' stage of your UN SDG and that is I think the magic of any program, where you progress from 0 to 7 or 8 we can call it now because we almost got we finished half our journey.

So, I do not know how many of you have said to yourself that you are going to be continuing this journey for a very long time. But from a purely recap point of view, you should now be in the 'evaluate' stage of the UN SDG. I am sure you are starting to already think about what you are going to do with the solution. That is an important thing. It is not just important to bring out a solution. It is also important to find out what is it that we are going to do with our solution.

Because of my constant encouraging people to be creative, be creative all the time, and my constant, what should I say, scolding of people who simply say that creativity is only about ideas, I have to now request you to say do not stop with the solution simply like that, you must be able to take your solution to the next level already, think about things where you are going to implement it, implementation is key.

Many of us think that implementation is just doing something. It is not. Even for implementation, you need creative thinking. I am thinking of talking more about creativity in the last week of this lecture, I will talk. I will come back to implementation and the challenges of implementation and all that. So, I guess you are in the 'evaluate' stage. You must have gone through the UN SDG, chosen the goal, chosen the define question and then go on to biologize and discover, abstract and evaluate and emulate and all that.

So, what we have learned is that it is possible for us, to go from no idea at all, no solution at all to a stage where all of us are now saying what do we do with our solution? And if you notice, all you may have spent is about 4 or 5 hours solving a world problem. And can you

imagine the power of collectively all of us using biomimicry to solve a world problem? More than anything else, every one of us who has attempted to solve that problem has gone to nature to teach us how to solve that problem.

Apart from nature telling us that she has got the strategies for almost every problem that we are looking at, there is one more very important thing, nature has also taught us how to do the design of the solutions. When I say how to do the design, I am talking about nature's design principles which she uses for designing anything that she makes.

And if we follow these design principles diligently, then we can be absolutely certain that whatever we make is not going to be harmful to the environment. So, the 'evaluate' stage is to evaluate your solutions against these nature's principles and that is what we are going to learn over the next two classes. There are 10 principles and we are going to be learning how to do evaluation against these 10 principles.

And these 10 principles are not only important for evaluate, but also as a general view of life to understand how design happens and to say that I am going to follow these 10 principles because I want to be responsible for the environment. Let us see what these 10 principles are and learn them with the same amount of commitment that we learn on how to go from problem to solution using the spider.