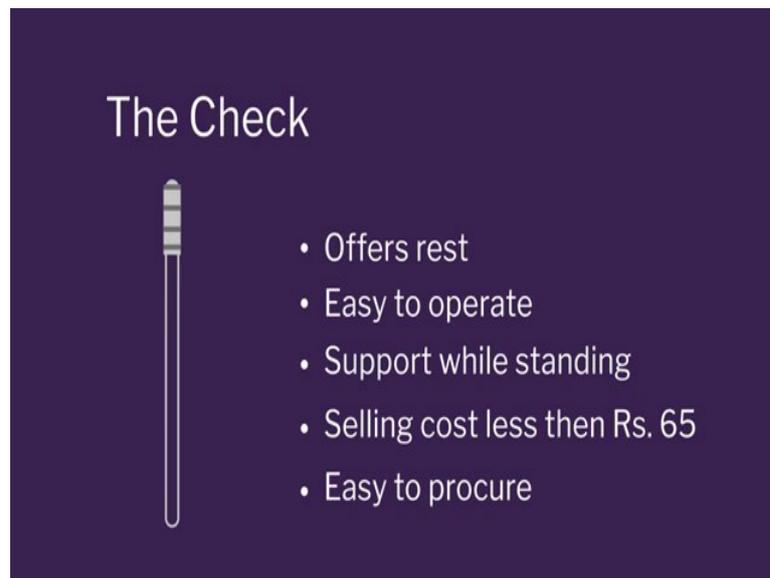


**Innovation by Design**  
**Dr. B. K. Chakravarthy**  
**Department of Engineering Design**  
**Indian Institute of Technology, Bombay**

**Module – 01**  
**Start of section 5**  
**Lecture – 05**  
**Arriving at Design Insights**

(Refer Slide Time: 00:10)

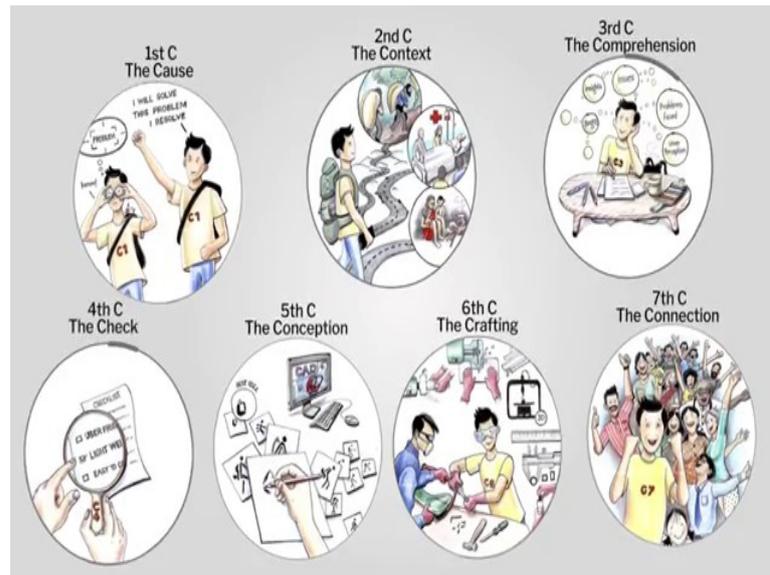


So, you now create a checklist in that what do I need to do over here? So, what would be the various checks which you will create and that checks is like a road map, the check is also like a product brief, the check is also like what exactly you are planning to do. Because I have noticed a number of times from my experience, that when you do not make a good check, you try to add in a lot of unnecessary features into your design, you will also you know start going haywire because you had a wonderful idea and it does not match the requirements in the field.

So, the check starts with you know the issues of offering rest, then we have you know easy to operate I told you became become more specific there, support while standing, selling costs less than 65 rupees and easy to procure. Easy to procure again is very misleading.

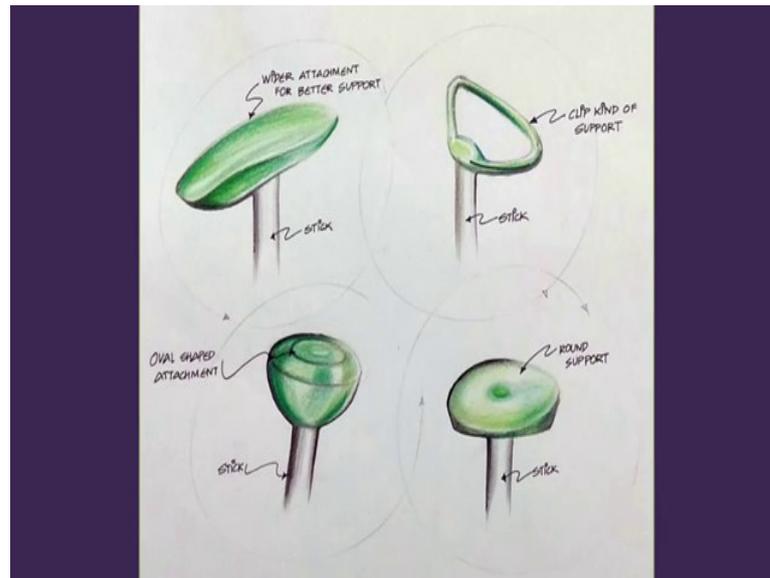
We need to be more specific there, but maybe if I meant designs to do anything I will also write what it is, what means to be easy to procure. Maybe I must you know use local manufacturing techniques, I must say that you should use local systems, you must have orders which are in large quantities so, that the cost is less. You see we already covered four and we not even started design or engineering or you know product design.

(Refer Slide Time: 01:09)



So, now we realize that within a product innovation drill more than half of it has gone into just checking out what to do are you noticing this? So, after the check you are going to look at the conception there comes the design thinking, the technology aspects, the you know issues of ideas, the issues of how will you develop concepts, you conceive a lot of ideas. You must realize that you would be extremely you know good at solution finding, if you are able to make a lot of ideas and do affinity mapping of these ideas.

(Refer Slide Time: 01:50)



So, within a week we came up with some sketches and then we talked to Sadananda Dathe (Refer Time: 01:55) and said we want to come and meet you. And then it dawned on me from my experience of a design that when you go to people who are in the field you cannot take sketches to them. They will not even appreciate it, if I show a sketch of you know seat prop to a policeman, he will not react much he says [FL].

So, then came up this very interesting you know creative aspects how can I make it quick prototype, and see quick prototype is very tough you know when I told you a prototype which mimics the existing product. At the same time you know I was into when I make it quick and dirty it is like a rig in this case you need to use the product. So, you cannot make it too much away from your real product.

So, then we were hunting and we knew what materials to use, we knew that we will use you know materials which are soft, then we saw this chair in the office and we said can I use this you know chair handle to design a quick prototype?

(Refer Slide Time: 02:47)



So, we broke this handle out, we chopped it into two parts on the ends, joined it together welded a small pipe to it and made a prop very quickly.

(Refer Slide Time: 03:00)



And I had a bicycle grip to this and we put it on top of the stick and we took this to the police headquarters. Then we went into the commissioners room and then he called his head constables and with they took this outside into their area and checked out you know how this works and to a surprise they came back very very happy they did give us a lot of suggestions and they said wow this is good.

Now, when will you give us 200 pieces, we were shocked I said my god we did not even have a project in hand, you know how does IIT professors work? We work with projects right we get a project we get some money and then we take the things forward.