



Design and Creativity

New Designs: Pushchair

Narrator

Sarah Liddell's idea came from spotting how existing designs didn't quite meet users' needs.

Sarah Liddell

I've always really liked the Dyson approach to the products design, identifying the needs and then re-innovating products to the, meet the needs of the existing consumers, rather than making the needs into new technology. So having had children myself and having used push-chairs I've always felt that push-chairs don't really meet the needs of their target audience. i.e. the children and their mother.

So for my major project I decided to redesign the push-chair. I bought a cheap buggy and me and the kids went up to town with a camcorder and decided to start our research there of recording what it's actually like to be a child in a push-chair. There's all the sort of bumps and wobbles and things like that. Obviously my kids are a little bit big for going in a buggy and they had to hold their feet up but, it was being bashed in the face, wobbling around on the trains, claustrophobic, it's not a pleasant experience and at least at this age you know these two are old enough to give proper feedback, which really helps my research. The boys are very understanding about college. I think they quite like the fact that I'm going to be a designer. I think they think I'm a bit of a mad inventor or something.

James Dyson

Design is about looking for problems and then finding solutions to them, and making it work better in the process. So it's understanding what's wrong with everything out there, and actually that's not all that hard, you just have to look and use things to find that out and then coming back and endlessly trying new technology and trying different ideas.

Sarah Liddell

When I first started designing the push-chair I had to start off with brainstorming and thinking of all the concepts, all the issues that I wanted to tackle and different ways of tackling them. I started building test rigs and prototypes from the ground up, so I first of all started testing different kinds of wheels, trying to almost re-invent the wheel. I looked at other load carrying devices like Janitors trolleys, bikes, scooters and obviously other push-chairs. And one of the problems with existing push-chairs is they usually have very small wheels, which exaggerate all the bumps.

My very first rig was testing wheel sizes and I had to find a way of quantifying that, so I made a hole, put of glass of water in the rig and bumped it up and down the stairs and that was a way of testing out the impact of stairs on wheels and obviously then on the child. I realised that no wheel is ideal for going upstairs because the stairs, the risers and treads are often different dimensions, so you couldn't make the perfect wheel for stairs. Eventually I came up with the idea that the back of the push-chair would have a curved arm on it which when you put it into the second position you could almost sledge the push-chair up and down the stairs.

Narrator

Sarah made more prototypes to test the frame, height, points of pivot and aesthetics before moving on to her final model.

Sarah Liddell

It's quite a nightmare making it because I'm having to, instead of actually making the components how they would be, I'm having to substitute other things for them, so it just visually looks right.

It's a steep learning curve. You have to find ways round doing things. Things don't always work how you imagine them to until you start putting them together.

Sarah Liddell

I really believe in this as a product. The aesthetic I'm trying to get across is like a precise piece of engineering, a tool that you can trust your child in. You know it gives an air of security.