Design thinking in education
Episode 4

Daniek Bosch - Host

This episode, I talk with Annebeth Simonsz, an educational advisor at humanities. Previously, she was involved with the pre-university college, where high school students tackled a societal problem with design thinking. In this episode, we talk about the different styles of teaching in design thinking and how the scientific process and design thinking are quite similar.

Welcome Annebeth here in the studio at wijnhaven. Nice to have you live in front of me after all of these online meetings that we've had, maybe it's nice if you can share how we met, because it was on the theme of design thinking.

Annebeth Simonsz

Yes, we met at the schouwburgstraat in The Hague. And there I was doing a design thinking course with secondary school students. And at the same time, you were giving a workshop about design thinking to employees of the Dutch government.

Daniek Bosch - Host

So that was a nice coincident and afterwards we decided to connect on this topic and we've already shared some experiences and materials before. And now today we're going to talk about design thinking in the classroom and specifically how you used it in the pre-university college class, urban design lab. Before we do that, how did you come across design thinking?

Annebeth Simonsz

I came across desing thinking through an Erasmus Plus project developed by the Leidse aanpak. And they started to develop toolkits on design thinking that could be used in secondary classes for teachers. And the project was about pupils learning, doing research and to provoke a creative thinking among the students more.

Daniek Bosch - Host

And how did you then use it yourself? What did the program that you taught look like?

Annebeth Simonsz

I developed a pre-universal program in The Hague for secondary school students from the hague schools. I felt that one course should be about the challenges the city of The Hague faces.

And I thought that pupils living in The Hague and going to school in The Hague see these challenges every day around them.

I started to look for stakeholders also in the city and lecturers at Leiden University who do research and teach about these challenges like plastic pollution in city, segregation in education, or social connectedness in the Hague market.

Daniek Bosch - Host

I think the high school students can really relate to these challenges that they see around them.

Annebeth Simonsz

Yes, they face these challenges themselves. For example, in the first phase of design thinking empathize. They could talk with their fellow students in the high schools and with the teachers on the secondary schools to know what could be the real issue behind certain challenge.

Daniek Bosch - Host

And what were some some of the solutions that the students came up with?

Annebeth Simonsz

Well, there was one challenge about plastic pollution at secondary schools. There's too much plastic at the schools, too much waste. They thought it would be helpful to organize an three day event at the schools and to invite speakers and to have activities about plastic waste and also while removing that plastic pollution at the schools.

Daniek Bosch - Host

And have you heard if it worked, if there is now less plastic in the schools?

Annebeth Simonsz

At the end of the course, the pandemic started. So that's why we couldn't really organize the solutions.

Daniek Bosch - Host

That's a pity. Well, then I guess that also solve the problem because now there's no one in the schools. So no plastic either.

In this course, you worked with several teachers who all guided group of students. How did the teachers experience working with design thinking?

Annebeth Simonsz

Design thinking is really also about, it looks like doing research. So there are different phases in design thinking that are similar to doing research. Like the define phase where you define the problem. Here you have to define your research question.

They really like to, to do this because it's really about learning. The students had to find also scientific theories and papers on a certain solution. And also learning them to do the research process. Lecturers really had to get familiar with design thinking process. Because it's a group of students you have to supervise. That's asks different skills of the teachers.

Daniek Bosch - Host

Yeah, and I can also imagine that in the different phases of design thinking, a teacher needs to do different things. So sometimes you have to make the students more enthusiastic or really sort of push them to take a step. But other times you really have to sit on your hands and let the students take the wheel and maybe see that they're going to fail a little but that in the end creates a better solution. Did you also experienced that?

Annebeth Simonsz

Teachers really had difficulties with letting in certain phases, don't have control on the process.

So, that was the most difficult part. But we organize the training for the lecturers and together with the trainers, we created do's and don'ts for every phase. So as a lecturer, so what should you do? What is the aim of the phase and what to do supervise them in a good way.

Daniek Bosch - Host

And can you give an example of the teaching style for the different phases?

Annebeth Simonsz

For example, if you have the phase of prototyping, when you are supervising a prototype phase, it could be a reality check on the prototype, or make tools available for the students to build a prototype, if it's a very practical solution. A don't is to have expectations of the prototype so that you raise your expectations too high.

Daniek Bosch - Host

So that if the students are going to try to tackle this plastic problem, in the prototype phase that maybe you don't expect them to create a robot that will automatically take away all the plastic in the schools. But yet that it's more based on reality and yet feasible for the students to develop. Yeah, great. I think that's a good example of the different styles of teaching that come with design thinking compared to just giving a lecture. Because there as a teacher you have full control over what you want to say. And most of the students are happy to listen to you while you give your lecture. And in design thinking, it's really that different approach and the students have to be much more active than just listening to a lecture. In design thinking and working with design thinking. I've also noticed in myself, but also in the people that I give trainings to that it can give a lot of energy and there's always a lot of laughter and also silliness in the, in the design thinking trainings. Have you also experienced that? And do you have an idea of what makes that energy and fun emerge in this kind of courses.

Annebeth Simonsz

I think the teachers like to do it because they learn the students to dive deep into a problem while you work with post-its and colors and you have to find the child yourself again.

Sometimes I think that emerges the energy.

Children ask questions all the time when they are very young. And you have to find a childhood herself as teacher, but also as a student.

Daniek Bosch - Host

And I think it's also may be in the stereotypical view of a scientist. He's behind this desk or in the lab and just sitting and reading and writing a lot. But with design thinking, I have people walking around the room with the post-its and yeah, it's much, like I said before, are much more active approach to research and tackling a problem.

And how do you think that design thinking relates to the scientific education? You already mentioned that it's similar, but how do you see the, the similarities and differences?

Annebeth Simonsz

Well, one important similarity is creativity. Creativity is, is a very important aspect of doing research and science. You can't do research without creative thinking. You have to come up with new theories, new models, try new ways.

To build technical instruments for doing research or physics, or to come up with creative new formula in maths.

Daniek Bosch - Host

You have to use your creativity to look at a problem from different perspectives. And that's in science, but also in design thinking something that's really stimulate it.

Annebeth Simonsz

I can't really think of differences because also when you are in the in the phase of defining you often or for example, in the humanities, you really have to narrow down your research question to tangible research. Or if you need to set up on experience psychological experiments. For example experiments are set up in a way that other scientists can replicate in five or ten years later to see if you have the same results from the experiment. And then it has to be really clear. But then you really have to define the experiment. And what you want to know from the experiment.

Daniek Bosch - Host

In the define phase, you maybe start with a big problem in design thinking, but you always sort of feel it down to something that's really actionable and maybe doesn't tackle the whole bigger problem but zooms in on one of the sub-problems that you tried to solve. And this idea of being able to replicate the experiment that's also something that comes back in the prototype phase where maybe in design thinking it's a bit faster to test and iterate after you've tried something. And then in science you have the whole publication process. So maybe on all of the prototypes, you would write a scientific article. And in design thinking you maybe the practical setup is more important. So after each prototype you iterate and try to find an even better solution and update your initial idea. Maybe that's a difference. The speed.

Annebeth Simonsz

Definitely the speed is maybe different. But again, they're distributed similarity. Like you mentioned, the publication process. You have to submit your paper for journal. You'll get a review with feedback most of the time. And in the prototype phase is very important to give

feedback on each other's prototypes when you have more groups with more teachers at the same time.

Daniek Bosch - Host

It is also similar. Maybe the who you get feedback from is different, but you still get feedback. And also every scientific article ends with an next researchers should focus on this question or add to my research by diving into a different topic that relates.

Yes, So there are quite some similarities. And do you think there's pitfalls in using design thinking in education?

Annebeth Simonsz

I think there are pitfalls in using design thinking. You might have too high expectations of your students. And sometimes you need to accept that the prototype students come up with are not that fantastic.

So it's more important to focus on the process they went through during design thinking. So if it comes to grading your course or a part of the course, it's important to grade the process and not only the products.

Daniek Bosch - Host

To look at where the students were when they started and where they are at the end. And not necessarily of the quality of the work that they delivered in the end, but more to personal development that they will probably go through. Because design-thinking is set up in a way that you have to fail fast. And that's not something that we teach our students, often in different university classes.

And do you have an advice for teachers who want to starts with design thinking in their courses?

Annebeth Simonsz

Yes. Well, I think it's important to just start small also tried to implement small assignment with the design thinking when you want to start doing it. And it's also helpful to follow at least a short training to get familiar with design thinking.

And well, the last advice I would give is that you really have to learn to let go. So don't judge yourself and when you fail in that, at the first time, slowly you get more familiar and then you can really guide your students through the process of design thinking.

It is also important when you do the design thinking that if you do it too slow, then you get the feeling that, that, that you fail. So you really have to be eager on the speed in the process.

Daniek Bosch - Host

So you can do it in a whole course, but you could also do it in a tutorial, for example, so that you also give yourself the opportunity to go through the whole process once and then try again, maybe spread it out, find a little more depth in each of the phases. But start small in this, maybe will also do one hour sessions of design thinking just to give people a taste. And that's a good way to start as a teacher to get some experience. All right, I think that's rounds up our interview for today. Thank you for joining me here and for your insights on design thinking in the classroom.

In the fifth and final episode of this series, I will talk with students about their perspective on design thinking in the classroom.