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DURING THIS PROJECT I BECAME MORE AWARE OF THE VARIOUS APPROACHES TO DESIGN RESEARCH AND I RAN A RESEARCH PROJECT BY MYSELF.

Interest in the project

When Joep offered me the opportunity to continue on the 'Academy of Skills' project, for my research semester, I was very excited. The project comes close to my vision as it is about learning. On the other hand, it does not really focus on experiencing or playful ways of learning.

After last semester I took on a platform-thinking attitude, meaning that I would like my projects to support users with different needs and goals with the same means, making my designs more abstract than they had been before. Since the Academy of Skills is a platform and it concerns learning it was an opportunity to learn more about what users want out of education and online education. I experienced that users are designers their selves and that there are more affordances for your concept than you initially expected. It might even be that use cases that users come up with are different altogether from your initial intentions. Therefore I was curious to how the Academy of Skills would compare to regular classes and this became the subject of my research.

Project manager

As the project, for me, was a continuance on a project that someone else designed it was quite hard to find my role. I fell into the role of project manager without being the owner of the project, knowing everything about the project or being sure about what changes I could make. Mostly because I didn't know why certain design choices were made. Therefore I started with research into MOOCs, peer to peer feedback and similar courses / platforms to teach practical skills. This helped me define my own opinion about aspects of the platform and why I believe in it. It also helped me with finding the right schools of thought. Within research you should keep to the same school of thought to make a compelling argument.

Over the course of the project I kept having trouble with what decisions were up to me and which weren't. Eventually it helped me to meet up more often with Joep and discuss what I did, thought or planned on doing to the detail. This made me feel quite dependent but made me more confident in what I was doing. Next time, even when doing research, I would like to start in a project where still some design decisions need to be made so I feel like an insider and project owner. This can help me to work more confident and autonomously.

Doing research

During the research project I had quite a lot of time in the beginning as my research prototype was already existing and merely needed to be changed from demo version to working platform, which was something that not I, but 'Bureau Moeilijke Dingen' needed to do. My task was to find out what needed to be changed to make it a working platform. I did this by trying out the platform and making lists of adaptations that were needed. Due to time constraints these lists needed to be prioritized. Besides that, I prepared videos for the practical skills course that was going to be given via the Academy of Skills platform and I prepared my research strategy. To do this I had meetings with expert Migchiel van Diggelen about experiencing education and I read books concerning user research (interviewing and surveys). I learned to check for bias in my questions such as giving an example. This already pushes users towards a certain direction while you want to know what they think and experienced because they are the experts.

I liked that I could really focus on preparing my research and was quite surprised that even though I did not need to make the prototype a research project took as much time as a design project. This was especially the case in the end when all data was collected and needed to be analyzed. This is something I need to take into account planning research in the future.

Collecting and analyzing data

One of my goals for this semester was to understand quantitative data and use it in my project rather than to merely analyze and report it with a method followed from google. I was able to use some quantitative analyses strategies on the data about the quality of the models. And I truly understood them. But I learned that qualitative data suited my research better as I needed more depth and reasons (why?) in the answers to be able to understand my user. This was the first time I held interviews properly. Throughout the interviews I became better at realizing when I was being biased and this became less noticeable in how I asked my (follow-up) questions. To analyze the data I needed to learn about strategies concerning qualitative data analysis. I used coding which I reckon was very helpful and convenient as I asked participants about their experiences. I will definitely use qualitative research more often as I see now that projects at Industrial Design are often not yet in a stage where quantitative data says much about the design; there are too many small factors influencing this result. This is something I learned during the interviews when students explained why they picked a certain number on the Likert scale. Next time I would also definitely hire someone to do the transcribing of the interviews instead of doing it myself.

Track choice

As I doubted my track choice, my goal was to make a definitive track choice during this semester. During the project, with my role as project manager, I was in contact with different stakeholders or experts. This is something I really like in a design project and I liked here as well. However it was more focused on managing here while I like to have tinkering sessions and design together rather than merely communicate decisions. I switched from the CDR track to the RDD track. I liked doing the research and I liked the project but I missed the people and the designing with people.

Within research the prototype is made to fit the research purpose which is theoretically built, it is more research driven. Also the meetings about setting up research are largely theoretically driven. In design the design is made to fit a need for users which is found by trying, talking and theory rather than just theory. I missed this design driven approach and decided to switch tracks. Besides this switch I decided to do an internship to emerge myself into the context that I want my FMP to be in: the theater. I will be doing an internship as production assistant. This can help me understand the potential user's needs and help me define design opportunities (plus it makes me super excited as theater is one of my passions). This fits the RDD approach to design and my approach to design better. I still want to continue research and practically 'double track' as research is needed to evaluate designs and I like to look further into the future than is possible within companies. It is the approach to a design process of the RDD track (using stakeholders) that I believe fits me better.

Redo the research

If I could redo the research I would have this study split it up in two separate researches: one to evaluate the Academy of Skills platform and one to compare it to a regular class and flipped-classroom setting. This way I could have the Academy of Skills adjusted before the comparative studies. Now a few of the functions weren't working well enough to draw reliable conclusions, this is a pity. Also it would have been good if it were at least two lessons of cardboard modelling as the flipped-classroom setting students then would have had an opportunity to apply the feedback they got and the in class students would have felt like it was more of a process than just one class / workshop.

VISION

Current society asks us to constantly want something and be buried in work to achieve it. A question is simply answered with an 'I'm busy' and if you are not busy this is not necessarily socially accepted. When constantly working for something, we better love doing it.

What humans love doing is learning. Play is a way of learning that enables a user to step into a play zone that involves no real world 'hard' consequence and therefore is considered more fun. Fun can be scientifically explained and a big part relates back to learning and finding and recognizing patterns.

Since I was a little kid I have been interested in story worlds and learning. These worlds range from narratives that are embodied in theme parks, (musical) plays that can be experienced in the theatre and the countless scenarios our brain thinkers up trying to anticipate situations that never happen. These worlds broadened my imagination and inspired me but most of all they taught me.

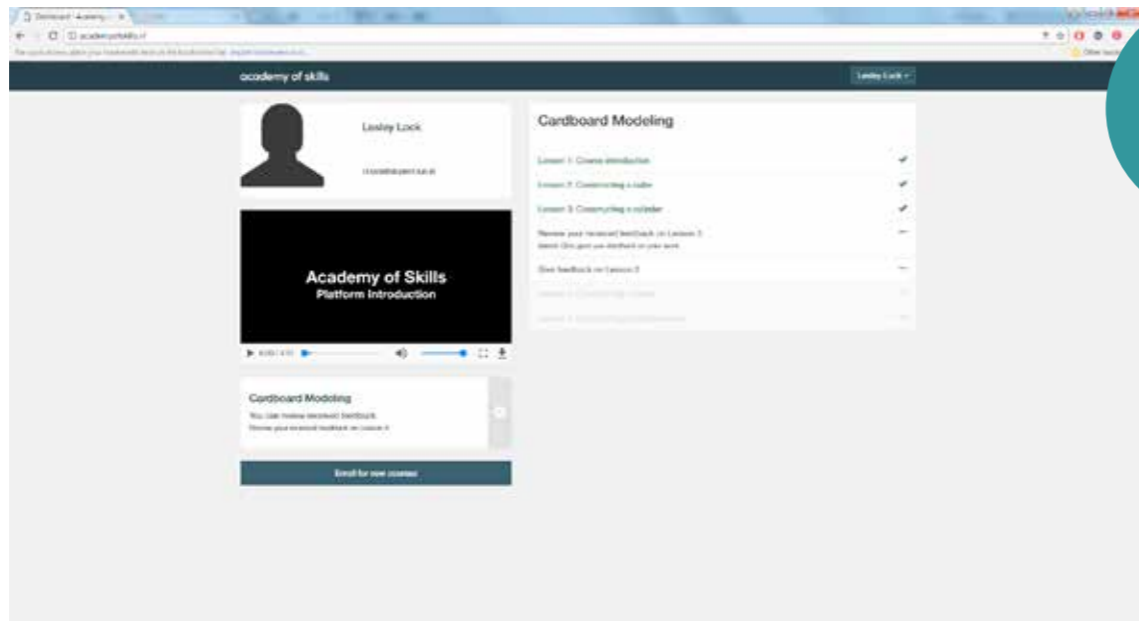
With my designs I aim for inspiration and learning. I incorporate fun through learning something in a non-threatening environment that is preferably loose from the 'real world' consequences. My designs enable experimenting which leads to new associations and ideas. I see myself designing for theatre, museum set ups, theme parks and schools.

THE ACADEMY OF SKILLS



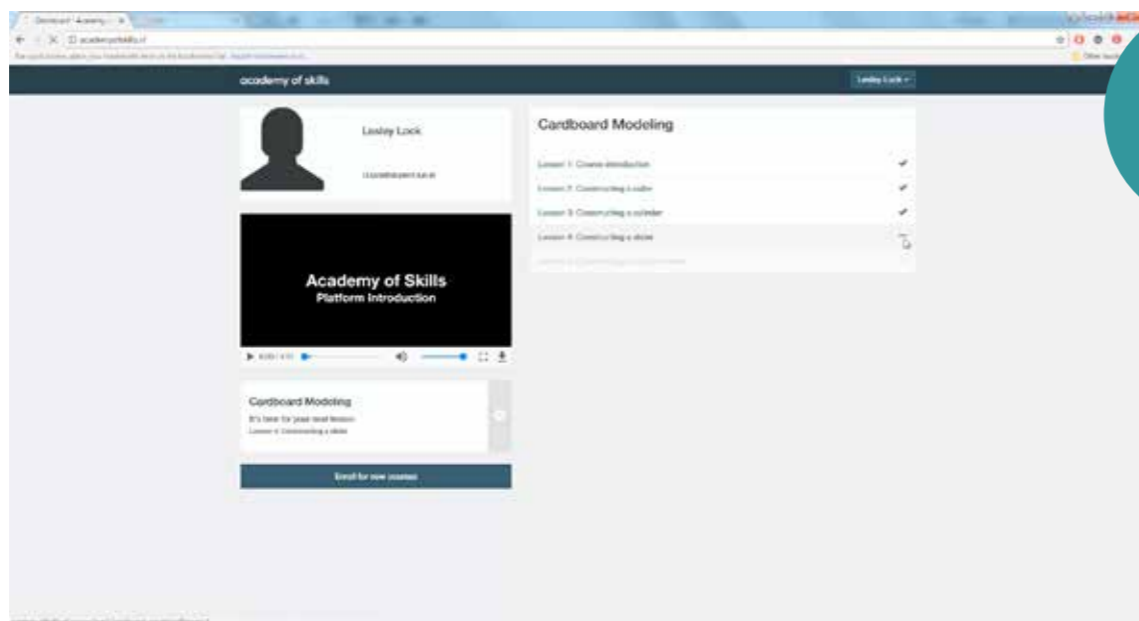
1

Log in or register and enrol for a course



2

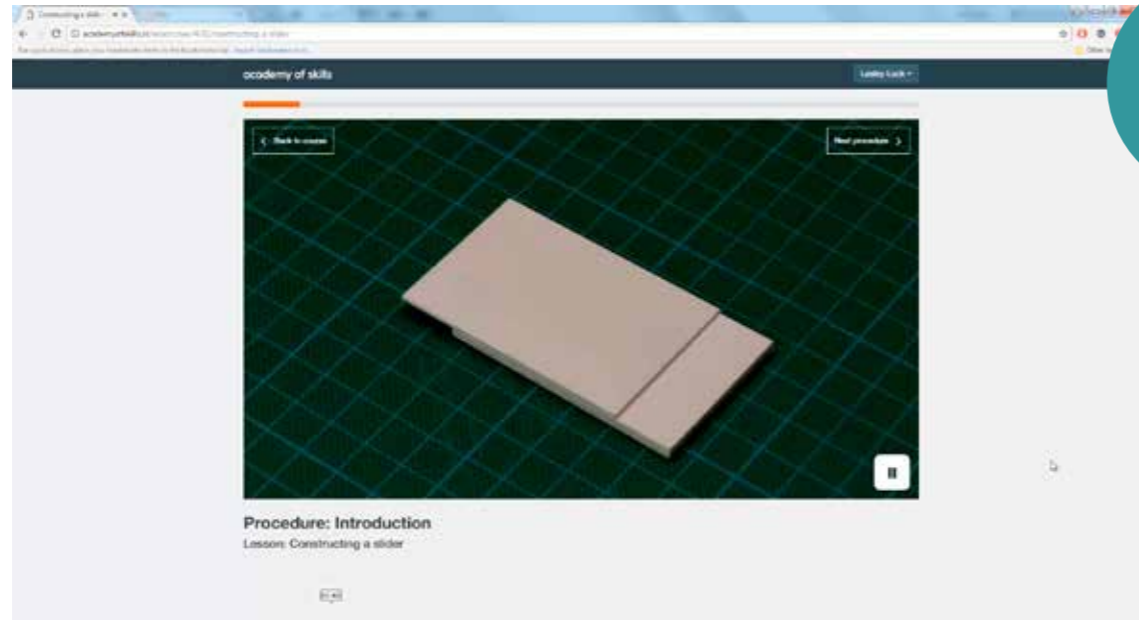
When you log-in you can see your progress throughout the course (since you are only enrolled in one course) and you can see if you received feedback. When you click 'watch the feedback' you can watch your received feedback. The platform will also assign you someone to asses* if someone is waiting for feedback. (* Now the person waiting longest for feedback) You have to complete these tasks: watching the received feedback and giving feedback before the next lesson frees up. For each feedback you get you have to give two to others.



3

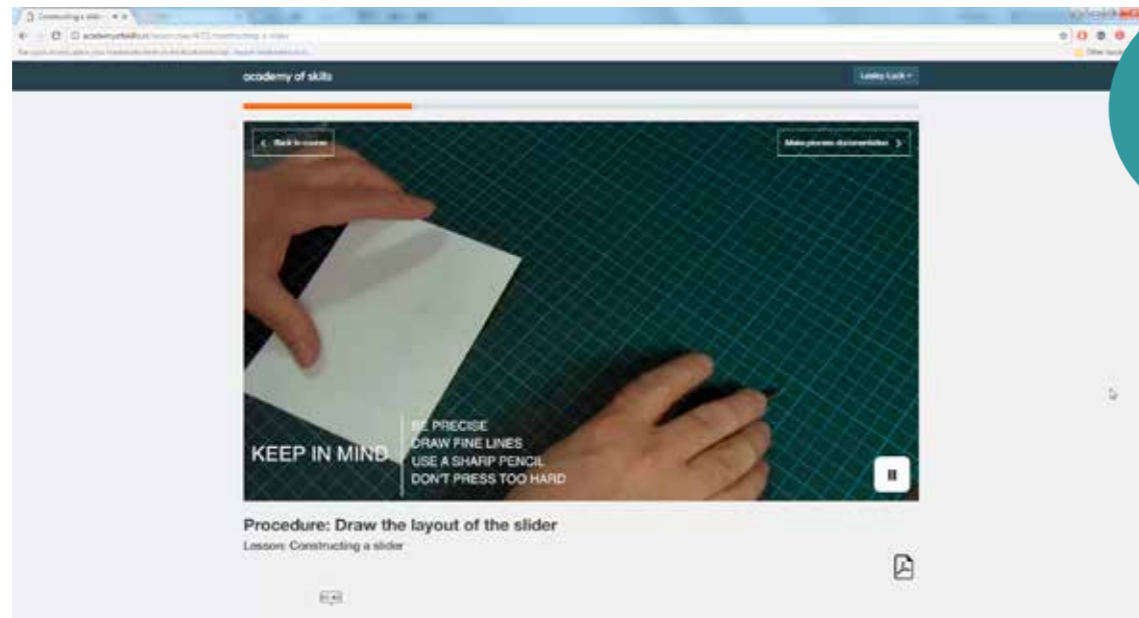
The next lesson is available and you can continue.

*This should become the person waiting longest for feedback in the highest possible lesson underneath you (otherwise nobody is allowed to give feedback to the higher level students since the student giving feedback should always be further ahead in the lessons).



4

Watch the introduction video explaining the full lesson / giving a demonstration



5

Watch the process video / marker video / step video to learn what needs to be recorded and be reminded on how to do that step. If necessary download the PDF handout (beneath the video).



6

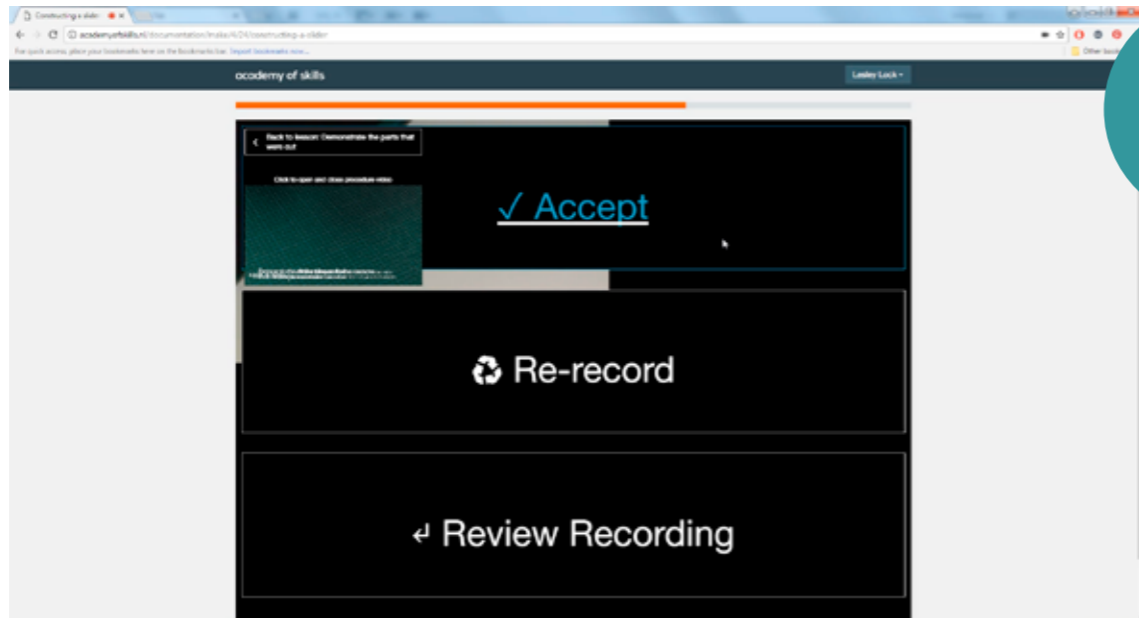
Record the process step.





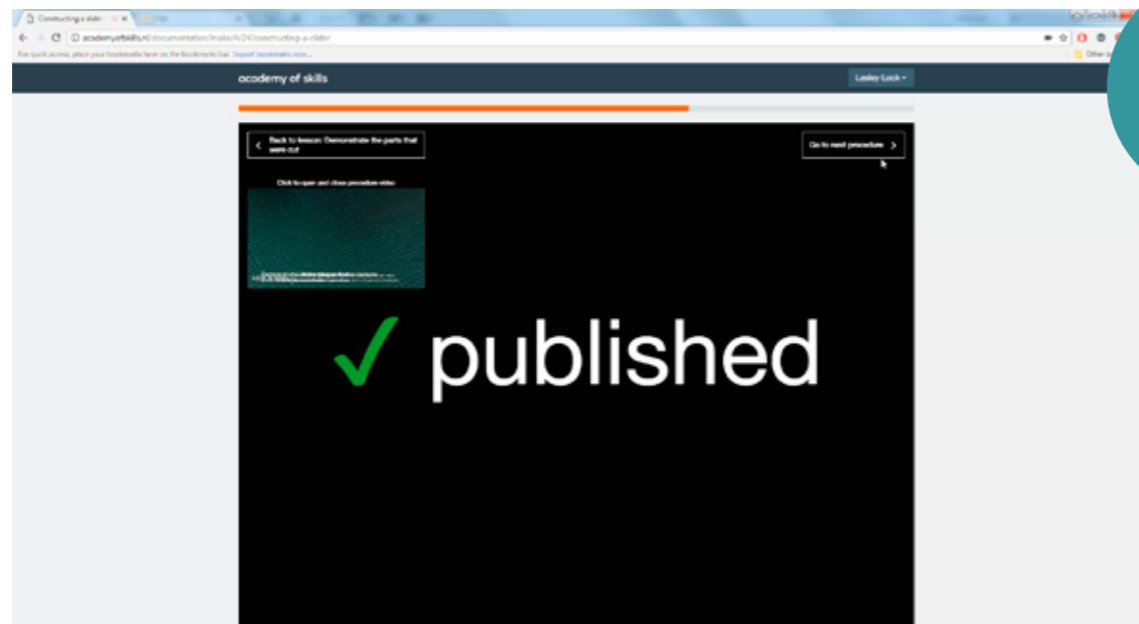
7

Use the pedal to mark the moment in the recording when you are demonstrating what you need to demonstrate. If you need to watch the step / marker/ process video again (with video controls such as fast forward) it can be watched during the recording. To do this, click on the image to the left of your recording screen. It opens up the video.



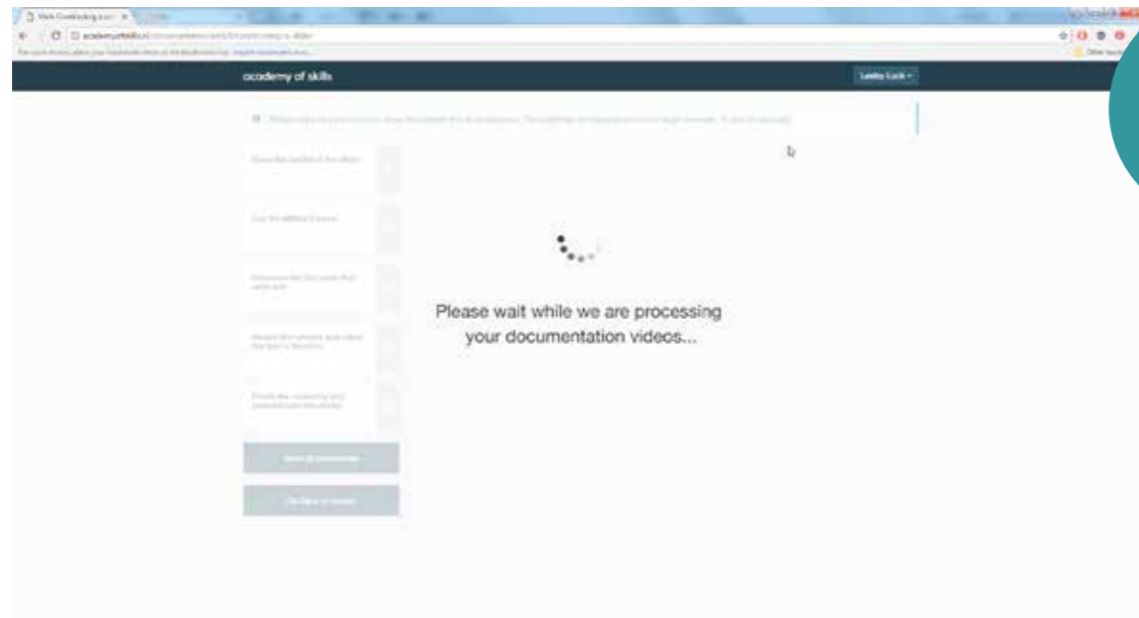
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Click on the video to stop recording. Accept the video to go on to the next process step.



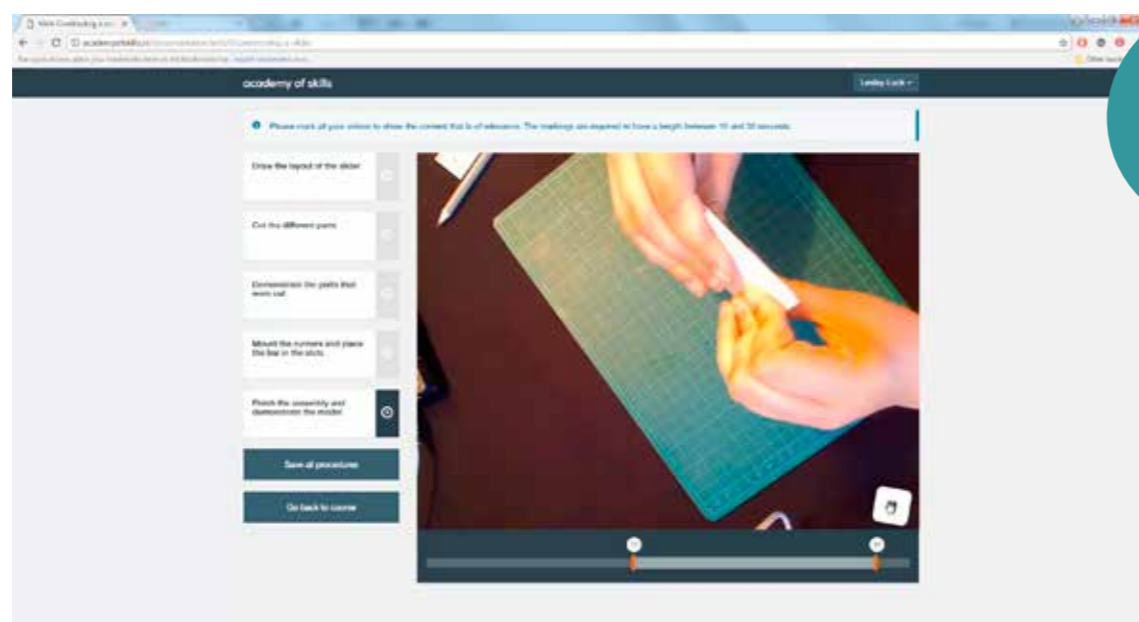
10

Wait for the video to be uploaded (published) and continue to the next step. Repeat.



11

When you are done with all the steps wait for the last video to be processed and start editing the process video. This is the video that will be send to peers, they will give feedback on the video / your making process.



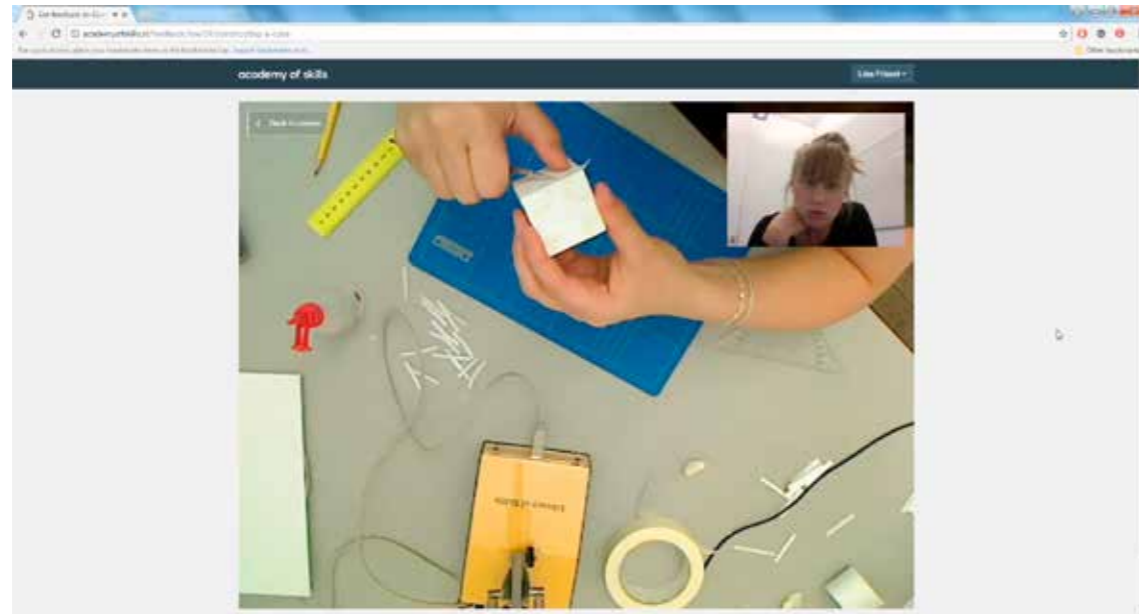
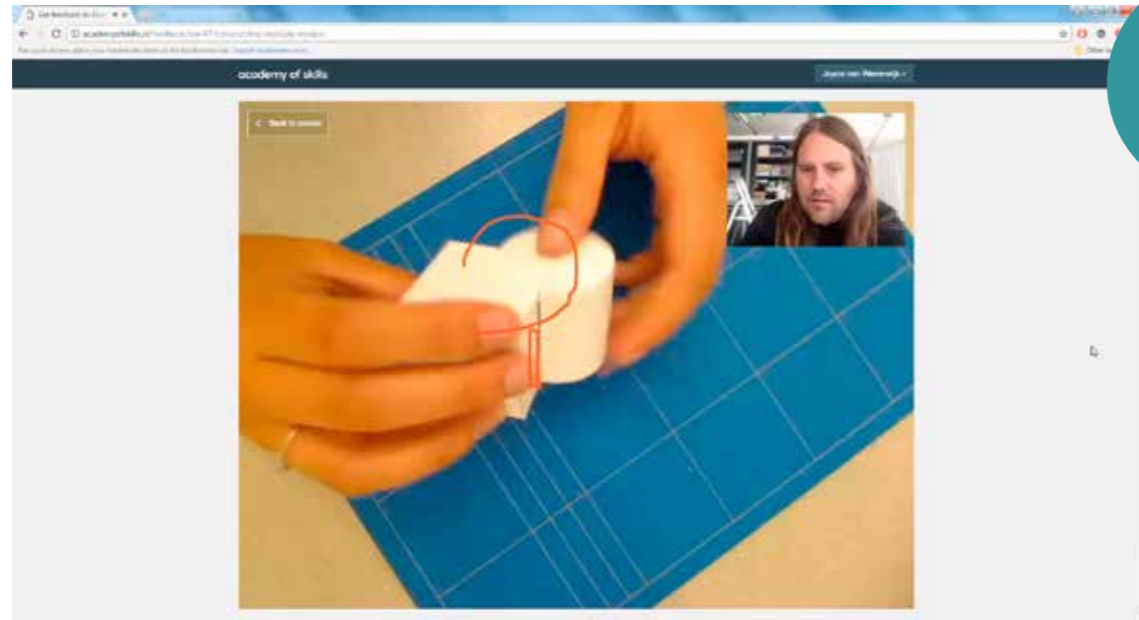
12

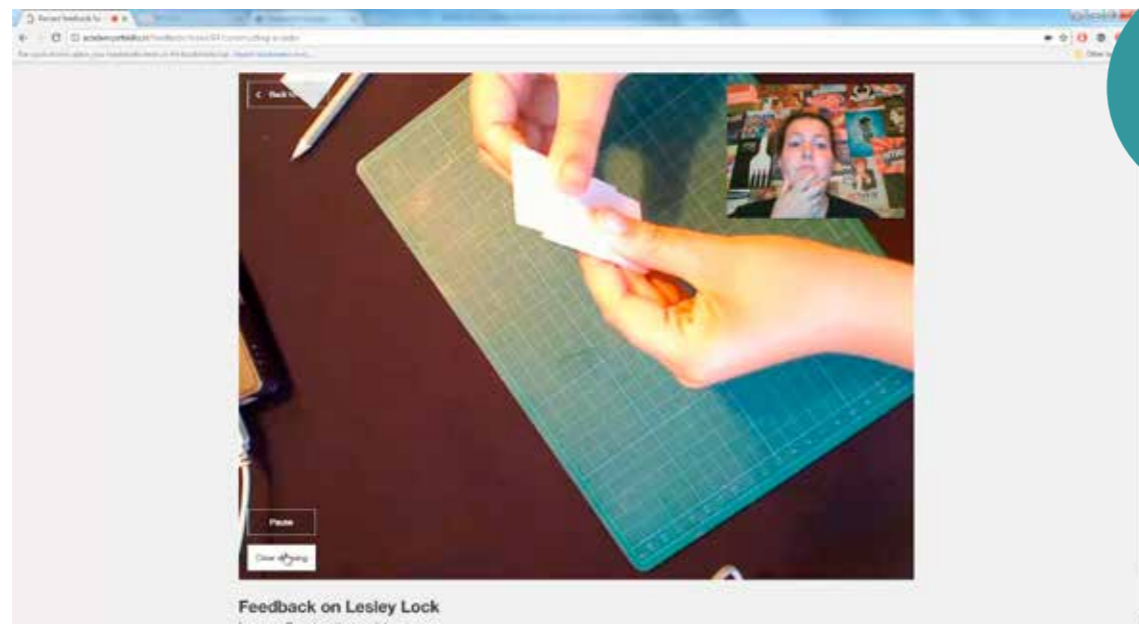
Edit the video selections. The selections are automatically placed around the marker that you placed with the pedal. The selection is maximally 30 seconds for actions and maximally 10 seconds for final demonstrations. Move the sliders around to make a selection within the step video, all selections combined become the process video.

13

Receive feedback. Note that the sound of the video you recorded will be set less loud than the sound of the person giving the feedback. The person giving the feedback can pause the video and draw on the screen to clear up what he says.

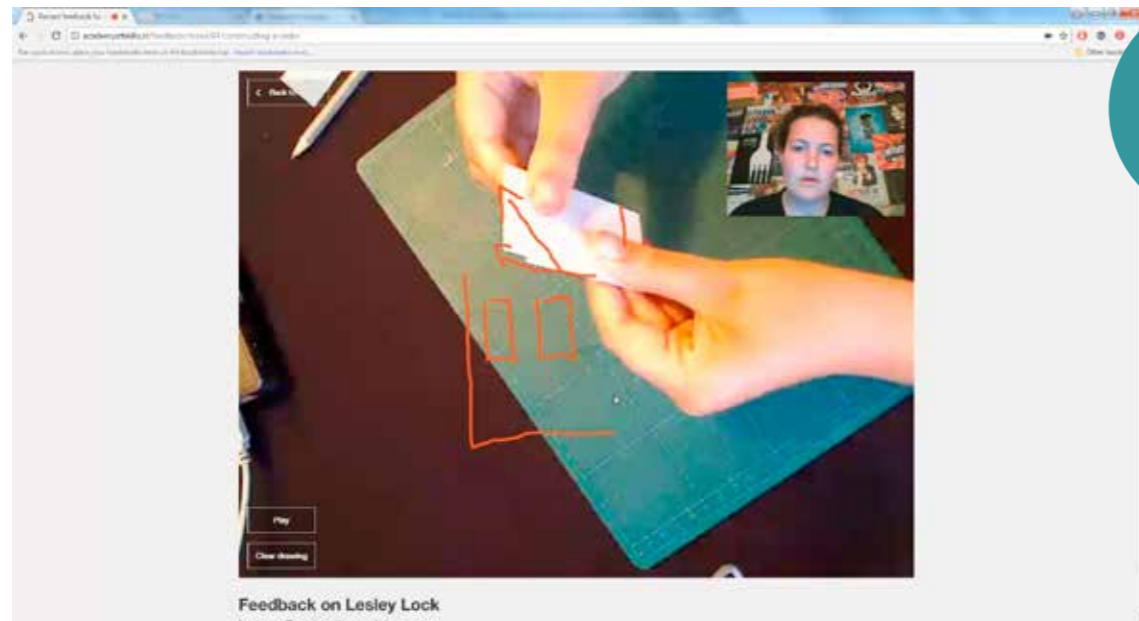
The drawing disappears when using the 'clear drawing' button or when the process video continues to the next fragment.





14

Give feedback to another student (options pause / clear drawing)



15

Pause the video to draw something on top of the image you see.

academy of skills

Micro-credential

← Back to overview

Exit this course

Cardboard Modeling

Teacher: Jane Price

Period: May 6, 2017 - May 25, 2017

Description: The Academy of Skills course area is teaching cardboard modeling skills for product design. Through a series of zoom-in lesson plans you are taught how to use 10 major principles of form and interaction. Cardboard modeling offers 3D prototyping without the need to have an extensive set of tools.

Lessons: 5

Required activities: 0

Lessons in this course

#	Action	Title	Prerequisites	Student progress
1	Yes	Course introduction	0	10 / 10
2	Yes	Communicating a idea	0	12 / 10
3	Yes	Communicating a hybrid	0	11 / 10
4	Yes	Communicating a sketch	0	11 / 10
5	Yes	Communicating multiple models	0	10 / 10

Enrolled students

Student	Professor	Completed lessons	Grade	Enrollment date
David Lattimore	Master Student Industrial Design	3 / 5	--	2017-05-08 22:13:12
Michelle van Lierhock	Master Student Industrial Design	3 / 5	--	2017-05-08 22:21:09
Lesley Lock		6 / 5	--	2017-05-08 20:25:59
Algor van Noordwijk		3 / 5	--	2017-05-08 18:00:00
Traak Droner		0 / 5	--	2017-05-11 11:52:07

16

If you are a teacher / administrator: keep up with the progress of your students (enrolment, lessons completed, full videos).

PILOT PEER-GRADING

To conduct the research to find out if peer-to-peer review could replace the review of one expert and what method of reviewing the pieces should be used to resemble the expert review best the following experiment setup was used.

Method

The participant was asked to look at an overview of how to draw a rightly proportioned face. They were able to look as long as they wanted to the instructions, when they thought they knew exactly how to draw a well proportioned face, they had to hand in the overview and in return they received a blank piece of paper and a black pen. They had learned how a face should be drawn with the right proportions, so with this material they were asked to draw a face. It wasn't about how beautiful and detailed the drawing became, but it was about putting your learning skills into practice. They could hand in the drawing when they thought they were finished.

After drawing the face they were asked to review other participants' drawings. This was done in 4 different ways.

1. Ranging the six different drawings from good to bad.
2. Observing two drawings at the same time and deciding if one drawing is better or if they are equal. Also stating which drawing is better, if one is better.
3. Observing all six drawings and divide 100 point over the different drawings.
4. Receiving one drawing each time and giving it a score between 0 and 10.

To exclude the possibility that the sequence of methods influences the results, when reviewing the drawings, the order of the methods were changed at random.. When every method sequence was performed once by four participants, the drawings were shuffled randomly to make new sets per method. Participants whose drawing will not be reviewed are still asked to make a drawing as they are led to believe their drawings will be reviewed to create the same circumstances (pressure of someone assessing your work) as when using the Academy of Skills platform or the other participants in the experiment.

Participants

In this study the participants ranged in age from 18 till 35 years. The major part of all participants were Industrial design students. In total there were 41 participants who have drawn a human's face and reviewed other participants' drawings. Of these drawings a set of 25 drawings (representative of the sample in quality and variance in quality) was used to be reviewed). Martijn van de Wiel, who is an expert in sketching and gives several sketching workshops, reviewed the total dataset of 25 drawings. This way the peer-to-peer reviews of the participants could be compared to the analysis of the expert.

Materials

To make it a realistic peer-to-peer review the participant had to learn something first. That is why there was an overview of the different steps one should take to draw a face with the right proportions. Figure 1 shows this overview which the participants had to study. Participants had to hand this overview back in when they were ready to make their deliverable so they could not blindly copy the example. To create the same circumstances for each participant they had to draw the face on a blank A4 paper with the same black pen.

Dataset

In order to start the peer-to-peer review there should be a dataset with 24 drawings which the participants could review. As within each method a set of 6 drawings should be reviewed. (We picked six as this fits within the size of items people can remember in their short-term memory [8]) o to start the research people were asked to only draw a face on the paper and write their name on the back. There was a need for 25 drawings because the peer-to-peer

review had to be done in four different ways with each 6 different drawings. Because the first group of people did only the drawing part and not the reviewing, there had to be one more drawing which could be switched, when someone who already drew but didn't review, was reviewing later and his/her drawing was in the dataset of 24 drawings. All drawings that were made can be found in appendix A. In appendix B you will find all drawings part of the dataset of 25 assessed by all participants and the expert, with comments and a grade.

Method clustering

The cluster analysis, which is an exploratory analysis, is meant for identifying structures within data. [9] In order to enable the clustering of the different peer review methods, patterns of the output data were made. The patterns enable relative comparison between methods, instead of using the absolute data output. This is needed, because the data of the four peer review methods and the expert data have varying scales.

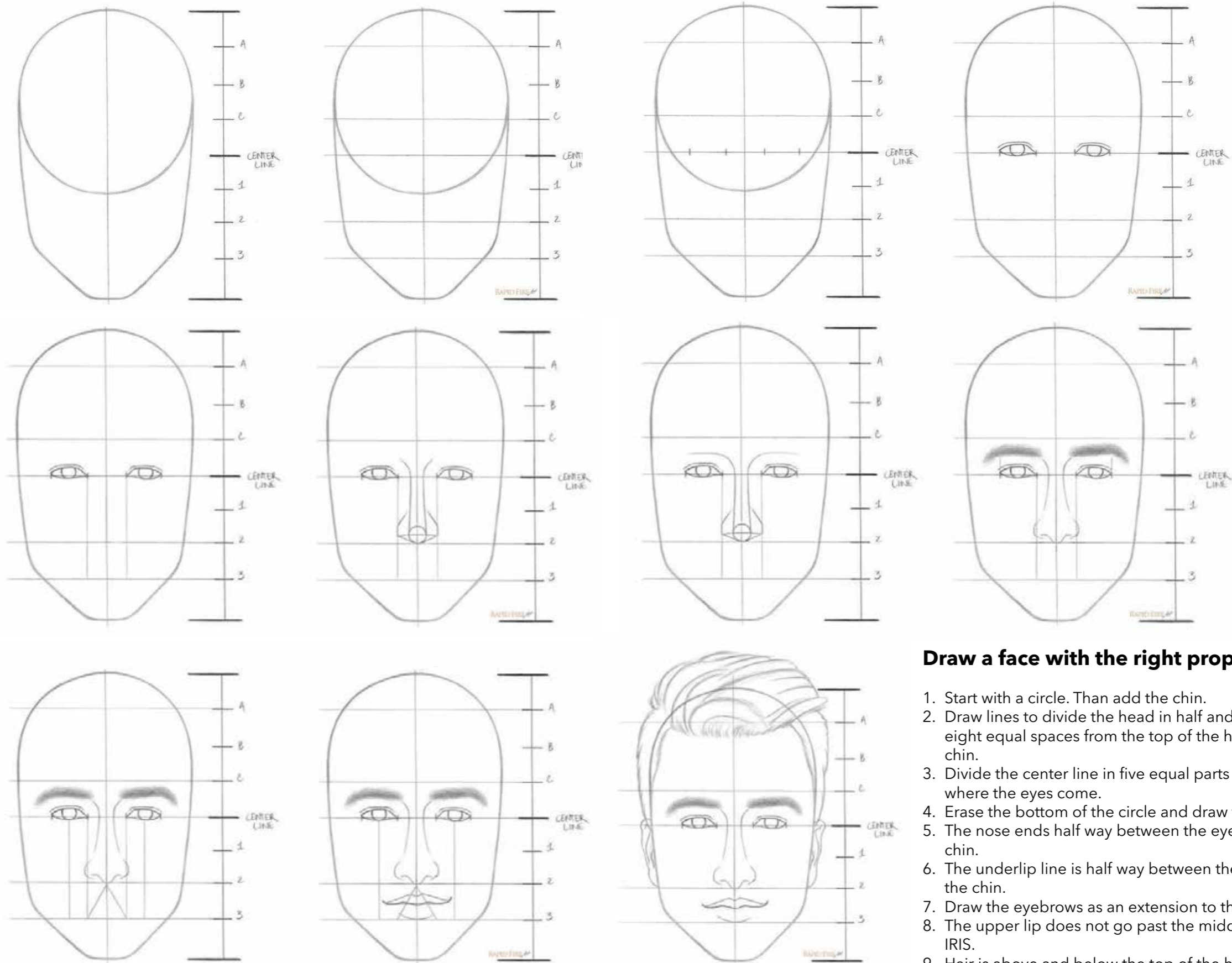
All four methods were compared to the expert data, which is the ideal data output, with use of the cluster analysis. It was found that the five data outputs are all part of the same cluster when using 2D patterns with an eigenvalue of 1,00, which can be seen in figure 2. Here it can be seen that method 1, 3 and 4 have resembling patterns, while method 2 and the expert data are slightly different in opposite directions.

The eigenvalue of figure 2 is 1,00 as this value is most common. However, when lowering the eigenvalue, multiple clusters will appear. The eigenvalue indicates to what extent the data may be transformed to fit the other data outputs.

In figure 2.3, the 2D clustering of the methods and the expert data is represented in a different way. This figure shows the similarities of method 1, 3, 4 and the expert data, while method 2 is pointing in another direction. This difference between method 2 and the other methods could be caused, because method 2 has few data points, limited referencing with other data and because many of the drawings have been compared only once or not at all. These characteristics of method 2 cause a high risk on outliers. These outliers probably are the reason why the arrow representing method 2 is pointing in another direction.

The length of the arrows shows how well the methods fit within the chosen 2D surface. When clustering with 2D patterns, it is easier to find relations between methods, because the fitting surface can be found in an nD space. 2D patterns are used, because this is an effective way to compare methods and represent relations between methods as 1D patterns cannot show the relations between methods.

As figure 2.3 shows, method 4 is most similar to the expert data. This could be explained, as mentioned before, by the use of the same type of grading. However, the figure also shows that the differences with method 1 and 3 are minimal.



Draw a face with the right proportions

1. Start with a circle. Then add the chin.
2. Draw lines to divide the head in half and draw eight equal spaces from the top of the head to the chin.
3. Divide the center line in five equal parts to mark where the eyes come.
4. Erase the bottom of the circle and draw the eyes.
5. The nose ends half way between the eyes and the chin.
6. The underlip line is half way between the nose and the chin.
7. Draw the eyebrows as an extension to the nose.
8. The upper lip does not go past the middle of the IRIS.
9. Hair is above and below the top of the head.

FIGURE 1

DISCUSSION

During this research we made use of four different methods to see if there is a difference in the results when using a different method for peer-to-peer review. For method one the participant had to rank the six different drawings from good to bad. After they did this the highest drawing got 60 points, the second drawing 50 and so on. The disadvantages of this is that when the best drawing is much better than the others it receives only 10 points extra. This makes it difficult to interpret how good or how bad a drawing really is in relative to other drawings. For example drawing 12, Figure 4 this drawing got the highest score from the expert, a 9. From the peer-to-peer review of method 1 the drawing got almost every time 60 points which means that this was the best drawing of the 6 they saw. So by following method 1 you know that this drawing is one of the best drawings but still you couldn't know it would be a 9 because you don't know the ratios between the drawings.

This also goes for method 2, here the participant saw two drawings each time and had to decide if one drawing is better, worse or equal. Although this method gives you very quick multiple data points it does not say anything about how good the drawing is compared to all the other drawings. The only thing, which is known after one participant reviewing the drawings is, that one drawing is better, worse or equal to the other. After reviewing while using method 1 and 3, you know the relationship between six drawings, for each drawing that is not at the end you know the relationship for both: the drawing that is better and the drawing that is worse. This part you miss for method 2: here the relationship between two drawings is known, and you only know which one is better. Therefore more combinations need to be made in method 2 which resulted in need for more participants when using method 2.

For method 4 you also know the relationship between all assessed drawings as participants relate back to the first drawing they graded and base the next grade which is x better or x worse on the first grade. The difference with method 1 is that you also know the x; you know how much better or worse a drawing is.

What we observed during the reviewing of method 3 is that participants found it difficult to divide 100 points over 6 drawings. We observed participants performing method 3 in two different ways, one is that they start looking at the best drawings and give them already higher scores and then they divide the remaining points over the worse drawings. This way of doing resulted often in more points for worse drawings because they had too many points left in the end. This also happened the other way around where the participant started to give points to the worst drawings and ended up with too many points for the best drawings. This way the difference in rating between the drawings became bigger than they intended to.

Method 4 was the same method as the expert used, with the exception that the expert did see all the drawings before he started grading and he could change his grades. In this method participants saw one drawing at the time and had to give a score rated from 0 till 10. Where participants with the other methods saw multiple drawings at once enabling comparison, here they were not able to make any comparison with drawings during the rating. This aspect could influence the participant when doing the peer-to-peer review because they have to review the drawing differently compared to the other methods. This might have more influence when participants have to deliver a challenge for review for which they have less reference that they can relate back too (you see faces everywhere and you know and have feel for what a head should look like)

During the experiment it was observed that some of the participants had difficulty remembering the theory, while they did remember parts of it. This made it difficult for

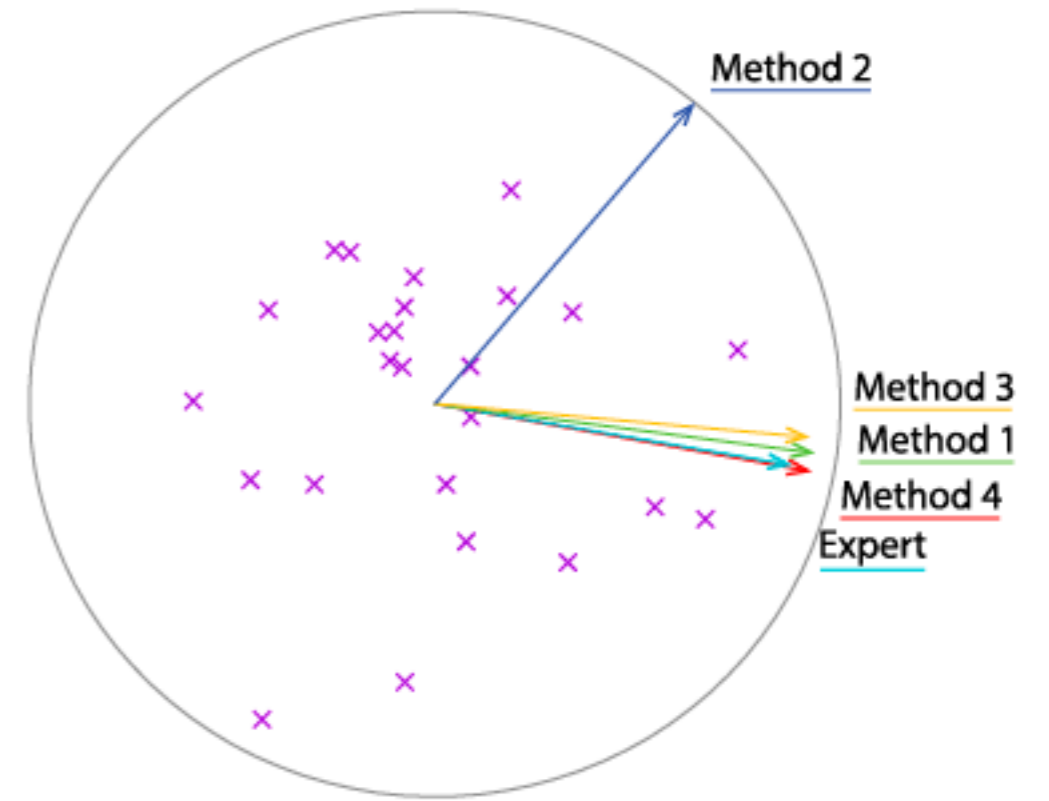


FIGURE 2

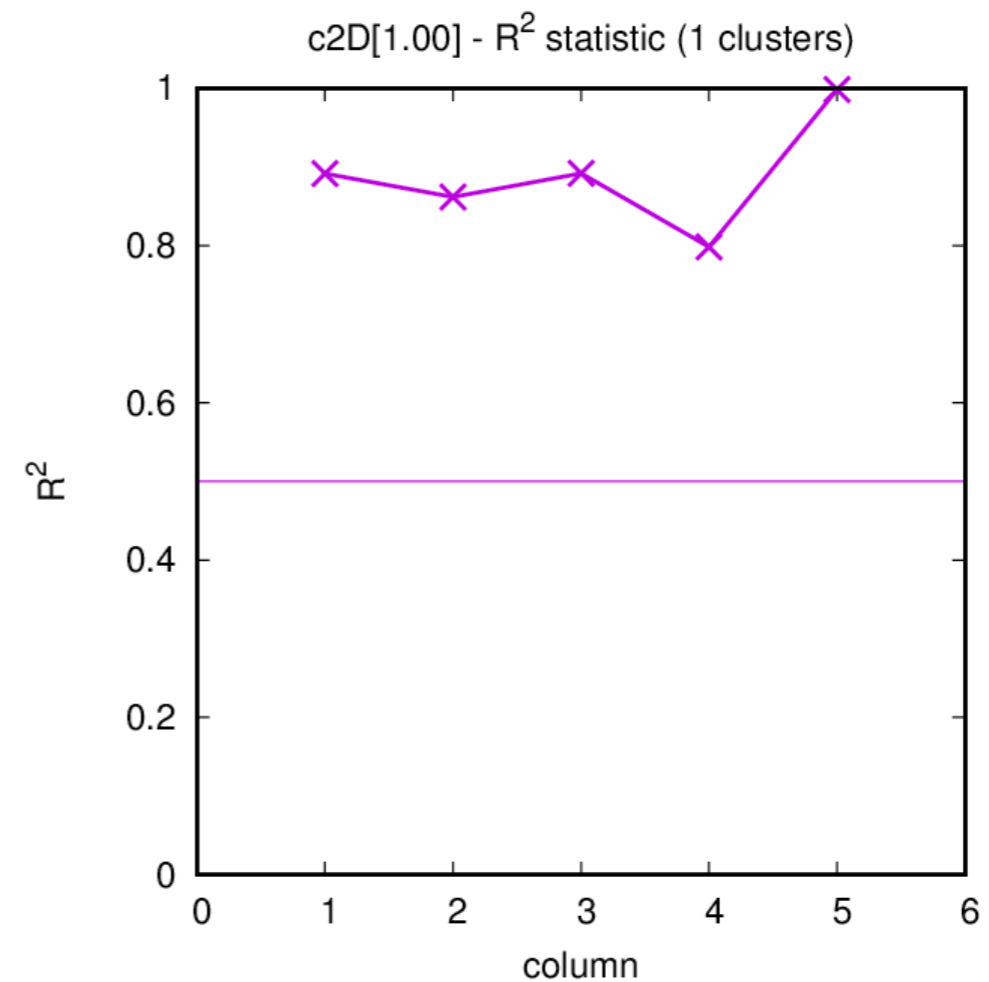


FIGURE 3

them to grade properly. For example the drawing, shown in Figure 5 was reviewed multiple times as very good (e.g. 50 points on a scale of 60 with method 1) and as very bad (e.g. 5 points with method 3, where 100 points were to be distributed). The expert graded the drawing as a 3 on a 1-10 scale, because its forehead is too small and there were no eyebrows drawn. The participants probably overlooked the fact that the head stopped halfway the sketched circle, while the theory shows that the head should stop on the circle. Participants saw the circle and remembered from theory that it should be there, but failed to remember what the circle was for. Some grading mistakes could probably have been prevented by giving the participants access to the theory in the grading process.



FIGURE 4

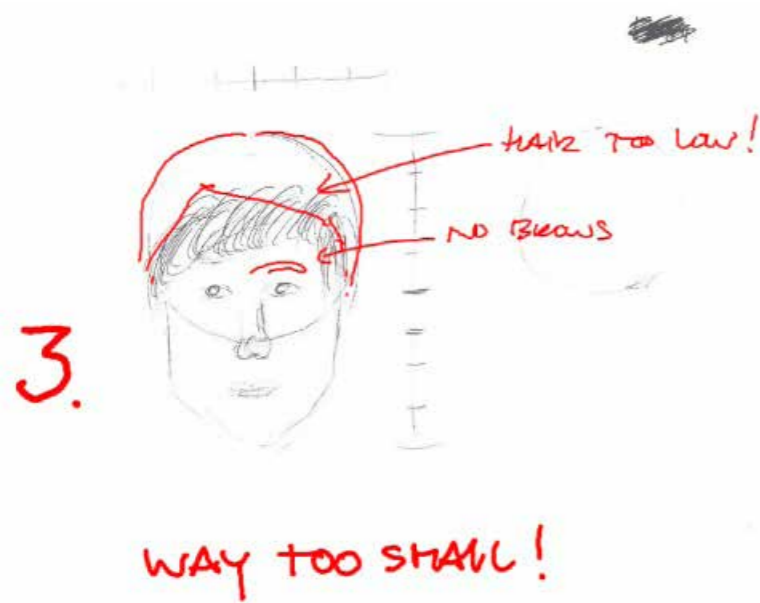


FIGURE 5

WEBSITE

The sections ‘previous experiences’, ‘questions about feedback’, ‘Questions about the course’ and ‘evaluation of the course platform’ are the same in each condition. Except for the statement ‘I would replace a regular course that I need to follow with the same course in the manner I followed this one in.’ which is not added to the ‘in class’ condition version of the questionnaire.

Other differences are: the word ‘website’ being replaced by ‘system’ in the ‘evaluation of cardboardmodeling.com referred to as the website’ section. The evaluation of the system / website not being added to the ‘in class’ condition questionnaire as the students in class did not use an online tool / online tool- physical tool combination to follow instructions.

LEARNING EXPERIENCE QUESTIONNAIRE

The purpose of this research project is to evaluate the online learning of a practical skill by evaluating various ways of being thought the practical skill of cardboard modeling. The research is being conducted by Michelle van Lieshout at Eindhoven University of Technology. You are invited to participate in this research project because you have followed your first lesson of cardboard modeling by means of “<http://cardboardmodeling.com/>”.

Your participation in this research study is voluntary. You may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. If you decide not to participate in this study or withdraw from participating at any time, you will not be penalized.

The procedure involves filling an online survey that will take approximately 25 minutes. This survey will be followed up by a short in-person interview during your cardboard modeling class taking approximately 15 minutes. Your responses will be confidential but your name will be collected to match the interview questions to the survey questions.

The results of the survey will be used for scholarly purposes and possible publication of a research paper regarding a design for the online learning of practical skills. To keep the data confidential, the data will not be linked to your name in the case the data will be published or analyzed.

Request for more information: You may ask more questions about the study at any time. Please contact Michelle van Lieshout at m.p.c.v.lieshout@student.tue.nl.

CONFORMATION PARTICIPATION

I understand that my participation is voluntary and I am free to withdraw at any time without giving any reason. I have read the information above and I agree to take part in the study described above allowing the student researcher to use the information provided by me for (possible) publication and scholarly purposes such as presentations.

- I agree to the terms explained above and will continue with the test accordingly.
- I don't agree and will not continue with the test.

Name

Age

Gender

- Male
- Female

What do you study now?

Are you a bachelor or a master student?

PREVIOUS EXPERIENCES

(Depending on answer to bachelor or master student the following question is asked or not asked)
What did you study before?

Did you have experience with cardboard modeling before the course?

If you answer with yes: please add what you use it for, when you use it and why you use it.

Did you have experience with model making before the course?

If you answer with yes, please add what you use it for, when you use it and why you use it.

Do you have experience with other expressive practical skills such as sketching/drawing/visual design etc.?

If you answer with yes: please add what you use if for, when you use it and why you use it.

Do you have experience with other expressive practical skills such as sketching/drawing/visual design etc.?

If you answer with yes: please add what you use if for, when you use it and why you use it.

Did you participate in a massive online open course before?

If you answer with yes: please add what massive online open course, which websites and how many courses.

Did you have experience with video tutorials before the course?

If you answer with yes: please add what kind of tutorials, which websites and how many tutorials.

Do you have experience with step by step tutorials?

If you answer with yes: please add what kind of tutorials, which websites and how many tutorials.

QUESTIONS ABOUT FEEDBACK

Please only take the first lesson into account plus the feedback session you had afterwards, where you received feedback on your first models from Joep (the cube, cylinder, slider mechanism, rotor mechanism, cube-cylinder combination and truncated cone).

I received feedback at the right moment/ moment I needed it.

If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	The timing of the feedback was perfect

The feedback I received was (directly) usable for me.

If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was very concrete.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I needed to wait for feedback
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very long

I needed to wait for feedback while I did not need it.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was very specific.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was very clear.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was given by someone with a high(er) expertise level.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I liked the way of receiving feedback.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

“I liked the way of receiving feedback.”
Please answer with what you liked and why you liked it. / what you did not like and why you did not like it.

I felt supported in my learning process.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

Room to add explanations for your answers
If you do not want to explain any of the above questions, please skip the question.

QUESTIONS ABOUT THE COURSE

Please only take the first lesson into account plus the feedback session you had afterwards, where you received feedback on your first models from Joep (the cube, cylinder, slider mechanism, rotator mechanism, cube-cylinder combination and truncated cone).

I liked the deviation of the process of making a model into smaller steps.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

If I had questions, my questions were answered during the course or feedback session.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I received help at the right moments.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I liked the working rhythm.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

The flexibility of the working rhythm of the course fits my needs.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I can now autonomously plan and build my own cardboard models.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all (I need help)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much (I can do it all by myself)

I learned from following this course.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

“I learned from following this course”
Please describe what you learned. If you do not know how to answer this question or answered the previous question with ‘not at all’, please skip the question.

I had fun making the models
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

I am motivated to continue cardboard modeling.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

“I am motivated to continue cardboard modeling.”
Please explain why you are motivated / not motivated.

Room to add explanations for your answers.
If you do not want to explain any of the above questions, please skip this question.

EVALUATION OF THE COURSE PLATFORM

Please only take the first lesson into account plus the feedback session you had afterwards, where you received feedback on your first models from Joep (the cube, cylinder, slider mechanism, rotator mechanism, cube-cylinder combination and truncated cone).

What was missing regarding the lesson on the website and the feedback session?
If you do not know, please skip the question.

What was unnecessary regarding the lesson on the website and the feedback session?
If you do not know, please skip the question.

What did you like best concerning the lesson on the website and the feedback session?
If you do not know, please skip the question.

What is your opinion about online education?
If you do not know, please skip the question.

What would you like to keep regarding the lesson on the website and the feedback session?
If you do not know, please skip the question.

What was it like to give feedback to other students?
If you do not know, please skip the question.

I would like to follow another course in practical skills in this manner.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

I would replace a regular course that I need to follow with the same course in the manner I followed this one in.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I enjoyed working with the cardboard modeling website and the feedback session.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

Room to add explanations for your answers.
If you do not want to explain any of the above questions please skip this question.

Time for the last section: a quick evaluation of the cardboard modeling website.

EVALUATION OF “CARDBOARDMODELING.COM” REFERRED TO AS ‘THE WEBSITE’.

Please only take the first lesson into account plus the feedback session you had afterwards, where you received feedback on your first models from Joep (the cube, cylinder, slider mechanism, rotator mechanism, cube-cylinder combination and truncated cone).

I think that I would like to use the website frequently (imagine that other practical skills videos are also on this website).

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I found the website unnecessarily complex.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I thought the website was easy to use.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I think I would need the support of a technical person to be able to use the website.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I found that the various functions on the website were well integrated.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I thought there was too much inconsistency in the website.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I would imagine that most people would learn to use the website very quickly.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I found the website very cumbersome to use.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I felt very confident using the website.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I needed to learn a lot of things before I could get going with the website

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

The interface of the website is pleasant.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I like using the interface of the website.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

It is easy to find the information I needed

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

The information provided for the website was easy to understand.

If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

The website has all the functions and capabilities I expect it to have.

If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I can effectively complete my work using this website.

If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Room to add explanations for your answers.

If you do not want to explain any of the above questions, please skip this question.

Thank you for participating!

ACADEMY OF SKILLS

The sections ‘previous experiences,’ ‘questions about feedback,’ ‘Questions about the course’ and ‘ evaluation of the course platform’ are the same in each condition. Except for the statement ‘ I would replace a regular course that I need to follow with the same course in the manner I followed this one in.’ which is not added to the ‘ in class’ condition version of the questionnaire.

Other differences are: the word ‘ website’ being replaced by ‘ system’ in the ‘evaluation of cardboardmodeling.com referred to as the website’ section. The evaluation of the system / website not being added to the ‘in class’ condition questionnaire as the students in class did not use an online tool / online tool- physical tool combination to follow instructions.

LEARNING EXPERIENCE QUESTIONNAIRE

The purpose of this research project is to evaluate the online learning of a practical skill by evaluating various ways of being thought the practical skill of cardboard modeling. The research is being conducted by Michelle van Lieshout at Eindhoven University of Technology. You are invited to participate in this research project because you have followed the cardboard modeling basics course via the Academy of Skills platform.

This is the second part of the research consisting of an online survey that will take approximately 25 minutes. This survey will be followed up by a short in-person interview taking approximately 15 - 30 minutes. Your responses will be confidential but your name will be collected to match the interview questions to the survey questions.

Name

Age

Gender

- Male
- Female

What do you study now?

Are you a bachelor or a master student?

PREVIOUS EXPERIENCES

(Depending on answer to bachelor or master student the following question is asked or not asked)

What did you study before?

Did you have experience with cardboard modeling before the course?

If you answer with yes: please add what you use it for, when you use it and why you use it.

Did you have experience with model making before the course?

If you answer with yes, please add what you use it for, when you use it and why you use it.

Do you have experience with other expressive practical skills such as sketching/drawing/visual design etc.?

If you answer with yes: please add what you use if for, when you use it and why you use it.

Do you have experience with other expressive practical skills such as sketching/drawing/visual design etc.?

If you answer with yes: please add what you use if for, when you use it and why you use it.

Did you participate in a massive online open course before?

If you answer with yes: please add what massive online open course, which websites and how many courses.

Did you have experience with video tutorials before the course?

If you answer with yes: please add what kind of tutorials, which websites and how many tutorials.

Do you have experience with step by step tutorials?

If you answer with yes: please add what kind of tutorials, which websites and how many tutorials.

QUESTIONS ABOUT FEEDBACK

I received feedback at the right moment/ moment I needed it.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	The timing of the feedback was perfect

The feedback I received was (directly) usable for me.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was very concrete.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I needed to wait for feedback

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very long

I needed to wait for feedback while I did not need it.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was very specific.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was very clear.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was given by someone with a high(er) expertise level.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I liked the way of receiving feedback.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

“I liked the way of receiving feedback.”
Please answer with what you liked and why you liked it. / what you did not like and why you did not like it.

I felt supported in my learning process.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

Room to add explanations for your answers
If you do not want to explain any of the above questions, please skip the question.

QUESTIONS ABOUT THE COURSE

I liked the deviation of the process of making a model into smaller steps.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

If I had questions, my questions were answered during the course or feedback session.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I received help at the right moments.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I liked the working rhythm.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

The flexibility of the working rhythm of the course fits my needs.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I can now autonomously plan and build my own cardboard models.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all (I need help)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much (I can do it all by myself)

I learned from following this course.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

“I learned from following this course”
Please describe what you learned. If you do not know how to answer this question or answered the previous question with ‘not at all’, please skip the question.

I had fun making the models
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

I am motivated to continue cardboard modeling.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

“I am motivated to continue cardboard modeling.”
Please explain why you are motivated / not motivated.

Room to add explanations for your answers.
If you do not want to explain any of the above questions, please skip this question.

EVALUATION OF THE COURSE PLATFORM

What was missing regarding the Academy of Skills platform?
If you do not know, please skip the question.

What was unnecessary regarding the Academy of Skills platform?
If you do not know, please skip the question.

What did you like best concerning the Academy of Skills platform?
If you do not know, please skip the question.

What is your opinion about online education?
If you do not know, please skip the question.

What would you like to keep regarding the Academy of Skills platform?
If you do not know, please skip the question.

What was it like to give feedback to other students?
If you do not know, please skip the question.

I would like to follow another course in practical skills in this manner.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

I would replace a regular course that I need to follow with the same course in the manner I followed this one in.

If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I enjoyed working with the Academy of Skills platform.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

Room to add explanations for your answers.
If you do not want to explain any of the above questions please skip this question.

Time for the last section: a quick evaluation of the cardboard modeling website.

EVALUATION OF THE ACADEMY OF SKILLS PLATFORM REFERRED TO AS ‘THE SYSTEM’.

I think that I would like to use the system frequently (imagine that other practical skills videos are also on this website).

If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I found the system unnecessarily complex.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I thought the system was easy to use.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I think I would need the support of a technical person to be able to use the system.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I found that the various functions in the system were well integrated.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I thought there was too much inconsistency in the system.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I would imagine that most people would learn to use the system very quickly.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I found the system very cumbersome to use.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I felt very confident using the system.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I needed to learn a lot of things before I could get going with the system.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

The interface of the system is pleasant.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I like using the interface of the system.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

It is easy to find the information I needed.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

The information provided for the system was easy to understand.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

The system has all the functions and capabilities I expect it to have.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

I can effectively complete my work using this system.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

Room to add explanations for your answers.
If you do not want to explain any of the above questions, please skip this question.

Thank you for participating!

IN CLASS

The sections 'previous experiences', 'questions about feedback', 'Questions about the course' and 'evaluation of the course platform' are the same in each condition. Except for the statement 'I would replace a regular course that I need to follow with the same course in the manner I followed this one in.' which is not added to the 'in class' condition version of the questionnaire.

Other differences are: the word 'website' being replaced by 'system' in the 'evaluation of cardboardmodeling.com referred to as the website' section. The evaluation of the system / website not being added to the 'in class' condition questionnaire as the students in class did not use an online tool / online tool- physical tool combination to follow instructions.

LEARNING EXPERIENCE QUESTIONNAIRE

The purpose of this research project is to evaluate the online learning of a practical skill by evaluating various ways of being thought the practical skill of cardboard modeling. The research is being conducted by Michelle van Lieshout at Eindhoven University of Technology. You are invited to participate in this research project because you have followed a mini-course cardboard modeling.

Your participation in this research study is voluntary. You may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. If you decide not to participate in this study or withdraw from participating at any time, you will not be penalized.

The procedure involves filling an online survey that will take approximately 25 minutes. This survey will be followed up by a short in-person interview during your cardboard modeling class taking approximately 15 minutes. Your responses will be confidential but your name will be collected to match the interview questions to the survey questions.

The results of the survey will be used for scholarly purposes and possible publication of a research paper regarding a design for the online learning of practical skills. To keep the data confidential, the data will not be linked to your name in the case the data will be published or analysed.

Request for more information: You may ask more questions about the study at any time. Please contact Michelle van Lieshout at m.p.c.v.lieshout@student.tue.nl.

CONFORMATION PARTICIPATION

I understand that my participation is voluntary and I am free to withdraw at any time without giving any reason. I have read the information above and I agree to take part in the study described above allowing the student researcher to use the information provided by me for (possible) publication and scholarly purposes such as presentations.

- I agree to the terms explained above and will continue with the test accordingly.
- I don't agree and will not continue with the test.

Name

Age

Gender

- Male
- Female

What do you study now?

Are you a bachelor or a master student?

PREVIOUS EXPERIENCES

(Depending on answer to bachelor or master student the following question is asked or not asked)
What did you study before?

Did you have experience with cardboard modeling before the course?

If you answer with yes: please add what you use it for, when you use it and why you use it.

Did you have experience with model making before the course?

If you answer with yes, please add what you use it for, when you use it and why you use it.

Do you have experience with other expressive practical skills such as sketching/drawing/visual design etc.?

If you answer with yes: please add what you use if for, when you use it and why you use it.

Do you have experience with other expressive practical skills such as sketching/drawing/visual design etc.?

If you answer with yes: please add what you use if for, when you use it and why you use it.

Did you participate in a massive online open course before?

If you answer with yes: please add what massive online open course, which websites and how many courses.

Did you have experience with video tutorials before the course?

If you answer with yes: please add what kind of tutorials, which websites and how many tutorials.

Do you have experience with step by step tutorials?

If you answer with yes: please add what kind of tutorials, which websites and how many tutorials.

QUESTIONS ABOUT FEEDBACK

I received feedback at the right moment/ moment I needed it.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	The timing of the feedback was perfect

The feedback I received was (directly) usable for me.

I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was very concrete.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I needed to wait for feedback
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very long

I needed to wait for feedback while I did not need it.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was very specific.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was very clear.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

The feedback I received was given by someone with a high(er) expertise level.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I liked the way of receiving feedback.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

“I liked the way of receiving feedback.”
Please answer with what you liked and why you liked it. / what you did not like and why you did not like it.

I felt supported in my learning process.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

Room to add explanations for your answers
If you do not want to explain any of the above questions, please skip the question.

QUESTIONS ABOUT THE COURSE

I liked the deviation of the process of making a model into smaller steps.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

If I had questions, my questions were answered during the course or feedback session.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I received help at the right moments.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I liked the working rhythm.
I you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

The flexibility of the working rhythm of the course fits my needs.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

I can now autonomously plan and build my own cardboard models.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all (I need help)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much (I can do it all by myself)

I learned from following this course.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

“I learned from following this course”
Please describe what you learned. If you do not know how to answer this question or answered the previous question with ‘not at all’, please skip the question.

I had fun making the models
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

I am motivated to continue cardboard modeling.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

“I am motivated to continue cardboard modeling.”
Please explain why you are motivated / not motivated.

Room to add explanations for your answers.
If you do not want to explain any of the above questions, please skip this question.

EVALUATION OF THE COURSE PLATFORM

What was missing regarding the lesson?
If you do not know, please skip the question.

What was unnecessary regarding the lesson?
If you do not know, please skip the question.

What did you like best concerning the lesson?
If you do not know, please skip the question.

What is your opinion about online education?
If you do not know, please skip the question.

What would you like to keep regarding the lesson?
If you do not know, please skip the question.

What was it like to give feedback to other students?
If you do not know, please skip the question.

I would like to follow another course in practical skills in this manner.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

I enjoyed this manner of learning cardboard modeling.
If you do not know, please skip the question.

	1	2	3	4	5	6	7	
Not at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very much

Room to add explanations for your answers.
If you do not want to explain any of the above questions please skip this question.

Thank you for participating!

INTERVIEW QUESTIONS

INTRODUCTION

Hello (I am Michelle),

You participated in this research and filled in a questionnaire about your experience of learning cardboard modeling. I have read through your answers and would like ask some more questions about your experiences with learning through video and step by step tutorials. And also how these compare to your learning experience now. Furthermore I want to discuss why you might have answered in the way that you did for some of the questionnaire questions. So you can elaborate a bit more about your thoughts. And I can understand your answers better. Do you have any questions?

Is it OK, if I record this conversation for transcribing purposes?

ALL CONDITIONS

- Can you describe your experience with video tutorials? (positive/ negative)
- Can you describe your experience with step by step tutorials? (positive / negative)

If necessary ask questions to add depth or elaborate on

- What is your opinion about online education?
- What would you like to keep in the Academy of skills system?
- Following another course in practical skills via the platform.
- What was missing?

Discuss answers of some questions and why they were answered that way (especially if the answer is neutral)

Does a participant want to add something?

ACADEMY OF SKILLS CONDITION ONLY

- Can you compare this experience with the Academy of Skills to the experience of learning a practical skill in class?
- Can you compare this experience with the Academy of Skills to the experience of learning practical skills with help of tutorials? Or step by step tutorials?

IN CLASS CONDITION ONLY

- Can you compare this experience of learning a practical skill in class with learning from a tutorial video? Or step by step tutorial?

WEBSITE CONDITION ONLY

- Can you compare this experience of a website with video tutorials and a feedback session to the experience of learning a practical skill in class?

INFORMED CONSENT AND INFORMATION

Academy of Skills research into the development of practical skills

Participant information sheet and consent form

The purpose of this research project is to evaluate the online learning of a practical skill by evaluating various ways of being thought the practical skill of cardboard modeling. The research is being conducted by Michelle van Lieshout at Eindhoven University of Technology. You are invited to participate in this research project because you have indicated that you were interested in learning cardboard modeling basics.

Your participation in this research study is voluntary. You may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. If you decide not to participate in this study or withdraw from participating at any time, you will not be penalized.

The procedure consists of two parts. The first part involves following a mini-course in cardboard modeling (the basics) via the Academy of Skills platform. Depending on how long you take making the six models, you are required to make during this mini-course, the time you spend on this part of the research will vary between 7-10 hours. You can spread the hours you spend working on the course over 1-2 weeks.

This part of the research will benefit you as you will learn the basics of cardboard modeling and you will receive feedback on the models you made.

The second part of the research requires you to fill in an online survey that will take approximately 25 minutes. This survey will be followed up by a short in-person interview taking approximately 5-10 minutes. Your responses will be confidential but your name will be collected to match the interview questions to the survey questions.

The results of the survey will be used for scholarly purposes and possible publication of a research paper regarding a design for the online learning of practical skills. To keep the data confidential, the data will not be linked to your name in the case the data will be published or analyzed.

Request for more information: You may ask more questions about the study at any time. Please contact Michelle van Lieshout at m.p.c.v.lieshout@student.tue.nl or call me at +31627298173.

Before you start the course

I ask you to write down your opinion about online education and e-mail this to me at: m.p.c.v.lieshout@student.tue.nl.

The set-up of the academy of skills is meant to be used at a location that is desired by you. As there are more participants than set-ups available I reserved two rooms in the university where the set-ups are available. You will need to bring your own laptop to connect the set-up to. To be certain that one of the set-ups is available and not used by another participant please fill in this google doc's sheet stating when you 'reserve' the set-up. To make up for this inconvenience, limiting your freedom, I will provide the materials you will need to make the cardboard and foam core models.

You can reserve any time between 8:00 and 23:00 during the work week from Wednesday

10/05/2017 onward. Please do not spread the times that you work on the course over more than 2 weeks. Reserving can be done at: <https://goo.gl/Bjxh2V> You can make reservations as you go through the lessons: you do not need to reserve all your timeslots at once. On Tuesday 09/05/2017 you will be sent an email with your account data for the Academy of Skills platform: <http://academyofskills.nl/login>.

For the first lesson it is advisable to reserve no more than 1 hour. In this lesson you do not make a model yet. However, the lesson requires you to give a few demonstrations on which you will receive feedback. You cannot continue until you have received this feedback. The lesson will take around 30-40 minutes.

If you have any problems with the Academy of Skills platform (e.g. something is not working) or if you have a question about the platform or the research: Please call me (Michelle): 0627298173.

The academy of skills and cardboard modeling basics

The academy of skills is a platform to support the development of practical skills. The set-up consists of:

- a skill camera, used to record your process
- a laptop with the platform website
- a pedal, used to mark moments in your recordings

During this cardboard modeling basic course that you will follow on the academy of skills platform you will model a cube, cylinder, slider, rotator mechanism, truncated cone and a cube-cylinder combination. You will need to record:

- videos demonstrating parts of your model and your final model and
- videos of you performing actions such as cutting during the making process

In lesson five you only need to record videos demonstrating the final models you made.

You can stop or continue a lesson at any time; but it is recommended that you complete a lesson in one session. The videos that you already recorded are saved even if you do not finish a lesson at once. While it is possible to re-record a video, I ask you not to do so as it will slow you down quite a lot and might make the feedback you receive less valuable. Should you need to re-record please mention this in the video.

A lesson starts with an instruction video demonstrating how to make the whole model. After these videos you will find short videos for every step: showing you what you need to record. These videos also include some reminders of what is important during this step. It is important to watch the instruction video carefully as there is no video as elaborate in explaining everything you need to do and keep in mind.

The short explanation videos of a step can be watched back during the process of recording that step by clicking the small video to the left. The recording of the step will continue during this review moment. The video that you can watch back holds video controls so you can fast forward to the moment you wanted to see or you can pause the video.

For each process step you have to press record as soon as you are ready to start working on your model. You can later mark the actual demonstration or action by pressing the pedal that comes with the system. This will mark a moment in your recording around which 30 seconds are automatically selected to be part of a final video documenting your whole process. This is done for convenience purposes. At the end of the lesson you can edit these selections and create your final process video. This video will be sent to people that are further ahead in the course and they will give feedback on

your model and process.

After lesson 2 you will also start receiving a few videos to give feedback on. You need to complete giving this feedback before you can continue the course. You give feedback by means of recording a video while you watch the process video of the person you give feedback on. While you give feedback you can draw on the video you give feedback on to point out what you are talking about or to clarify what you are saying. This drawing will automatically disappear but you can also 'clear' the drawing yourself.

While recording the video in which you are giving feedback, you can pause the video you give feedback on. In this way you can draw on a 'still image' in the video you give feedback on, which helps clarify what you are talking about. Or you can continue talking about a subject longer than the video you give feedback on takes when demonstrating this subject. After you are done giving feedback you have to manually stop the recording of you giving the feedback.

The pedal that accompanies the Academy of Skills camera can be used to 'play' or 'pause' a video when going through the lesson introduction and procedure videos. When you are recording the pedal is used to mark a moment in the video around which ten or thirty seconds, depending on what needs to be demonstrated, are selected to be part of the final process video. You can edit this selection after you finish all procedures and with that, finish the model. When you have stopped your recording, by clicking the screen, the pedal can also be used to 'accept' the video you recorded (instead of choosing to 're-record' it).

Informed consent

I understand that my participation is voluntary and I am free to withdraw at any time without giving any reason. I have read the information above and I agree to take part in the study described above allowing the student researcher to use the information provided by me for (possible) publication and scholarly purposes such as presentations.

Data: _____

Name: _____

Signature: _____

PARTICIPANTS AND CONDITIONS

In class	Academy of Skills	Website
#1	#5	#15
#2	#6	#16
#3	#7	#17
#4	#8	#18
	#9	#19
	#10	#20
	#11	#21
	#12	
	#13	
	#14	

- 3. 25
- 4. 21
- 5. 23
- 6. 19
- 7. 21
- 8. 19
- 9. 24
- 10. 22
- 11. 22
- 12. 18
- 13. 21
- 14. 28
- 15. 19
- 16. 19
- 17. 18
- 18. 23
- 19. 20
- 20. 20
- 21. 19

QUESTIONNAIRE RESPONSES

OPEN QUESTIONS

Gender

- 1. F
- 2. M
- 3. M
- 4. M
- 5. F
- 6. F
- 7. F
- 8. F
- 9. F
- 10. F
- 11. F
- 12. F
- 13. M
- 14. M
- 15. M
- 16. M
- 17. M
- 18. M
- 19. M
- 20. F
- 21. M

Age

- 1. 21
- 2. 21

What do you study now?

- 1. Industrial design
- 2. Industrial design
- 3. Industrial design
- 4. Industrial design
- 5. Industrial design
- 6. Industrial design
- 7. nothing
- 8. Industrial design
- 9. Industrial design
- 10. Industrial design
- 11. Industrial design
- 12. Industrial design
- 13. Industrial design
- 14. PhD
- 15. ID
- 16. Industrial design
- 17. Industrial design
- 18. Industrial design
- 19. Industrial design
- 20. Industrial design
- 21. Industrial design

What did you study before?

- 1. Industrial design
- 2. -
- 3. Product Design
- 4. -
- 5. -

6. -
7. -
8. -
9. Interactive media technology
10. Industrial Design
11. -
12. -
13. -
14. -
15. -
16. -
17. -
18. -
19. -
20. -
21. -

Did you have experience with cardboard modeling before the course?

1. No
2. No
3. Yes, but just with normal cardboard (no foam board). Mainly I used it during my bachelor studies to create boxes and stands for prototypes.
4. No
5. No
6. No
7. yes, on larger scale with foam during my internship
8. No
9. No
10. No
11. nope
12. No
13. Yes, I made models for my internship about Rich Interaction. To show my ideas in a physical model
14. no
15. no
16. no
17. Yes, making fast prototypes
18. I have studied City and Region planning for 1 year. In the studio lectures we build the landscapes with a different kind of cardboard in a totally different content and with different technique. And the results were always static, not interactive.
19. No
20. No
21. No

Did you have experience with model making before the course?

1. Yes, for prototyping during design projects
2. Yes with wood for prototyping
3. Yes. During all my bachelor courses (3 years) I used to make mock ups of my projects in order to showcase them. Mainly I used polyurethane foam, wood, and expanded polystyrene as materials.
4. Yes, to express ideas. Making them tangible and experiential with real parameters.

5. Yes, mainly with paper/wood for prototyping purposes for ID projects. Exploring forms & communicating ideas.
6. Yes I made some models for fun and sometimes in artclass at high school, that was with ivory carton
7. Yes, again internship and also other projects
8. A little bit, in the context of making prototypes for projects. Those were usually from wood and foam but sometimes also from clay, paper or 3D printed.
9. No
10. Yes, but very limited. Primarily with wood.
11. yes, for making prototypes. Methods used 3d printing, lasercutting and sewing.
12. No
13. Yes, another course called Basic Formgiving Skills
14. no
15. yes, prototypes
16. no
17. No
18. In a professional manner, no. But when I study electrical engineering, I tended to use cardboard to make my prototypes. However it was not usual to use cardboard for that purpose, and the results were so amateur.
19. Yes, I have worked with 3D printing, lasercutting, and carpentry. I now mostly use
20. I learned something about making models in high school
21. Yes, I did a little bit of woodwork for prototypes.

Do you have experience with other expressive practical skills such as sketching/ drawing/ visual design etc.?

1. Yes, Sketching and graphic Design
2. Visual Design for poster and videos for the demo days
3. Yes. I did one course on hand technical drawing and sketching in my bachelor studies. I also did course on graphic design (illustrator, indesign and photoshop mainly). Sketching is always the starting point of my design. It is fast and enough flexible in the concept phase of my design project. Visual design techniques come to be useful both when showcasing my project or while designing HCI interfaces.
4. Yes. Same as modelmaking, though in 2d in an earlier stage of design process.
5. Yes, sketching, drawing, digital sketching, 3D modeling. Exploring forms & communicating ideas. For ID projects, work, graphic design, private occasions
6. Yes, I have sketched, drawn, painted and done 3d visual designs since I was a little child, and I am actually quite experienced in a lot of medias
7. Yes, exploratory sketching, internship and graphic design
8. No, I draw by myself sometimes, but no experience in a professional way
9. Not really
10. Yes, through the course exploratory sketching. Further I do a lot of graphical design through Adobe Illustrator and webdesign.
11. yes I did the course Exploratory Sketching and use sketches during a design process.
12. Yes, I use visual design for making posters, portfolio and reports.
13. Yes, I did the course Exploratory Sketching and during my internship I used these skills to explore and find new ideas
14. yes, to visualise my ideas and communicate these with others
15. yes, drawing, hobby/showing ideas
16. Not really, no
17. Yes, sketching woodwork using adobe
18. I am interested in charcoal sketching. I have some works including landscapes, portraits, cartoons etc. I have not got any education on that, but I am pretty good at it. I can say, I can draw

anything I see.

19. I followed an online sketching course, but haven't used sketching a whole lot
20. Yes, sketching and drawing in high school and visual design in my own time while practicing with adobe programs
21. Yes, sketching drawing, both digitally and traditional. To explore ideas and visualise them.

Did you participate in a massive online open course before?

1. Yes, in a free course about Artificial Intelligence from Colombia university (<https://courses.edx.org/courses/course-v1:ColumbiaX+CSMM.101x+1T2017/courseware/84352e81502f4a09b77a0c156ac2b8fa/b8423d030cf74effadd0cff9fb6e6be1/>) A paid course on 3D game design from udemy, did not finish this yet (<https://www.udemy.com/unitycourse/>)
2. Yes, EDX: pre-calculus
3. No
4. No
5. No
6. No
7. Yes, but without success
8. I signed up for an online drawing course, but I never started it because it turned out you had to make too many hours and I knew I couldn't do that. So no
9. No
10. Yes, I had a subscription to Lynda.com, in which I took a couple programming courses. Further I did a couple tutorials from Udemy on Unity.
11. Nope
12. Yes, Ethics, Technology & Engineering on Coursera, this is one course for the subject USE basic.
13. No
14. Yes: coursera Gamification course & Scott's Bass lessons, multiple courses
15. no
16. Although not completely open: Creative electronics and Modeling
17. No
18. No
19. Not in a massive one, see previous question
20. Yes, sketchdrive and easy-123.nl for indesign etc
21. No

Did you have experience with video tutorials before the course?

1. Yes, see links in previous question
2. Yes, calculus lectures EDX. I think 20 videos in total
3. Yes. Tutorial of graphic design, motion graphics and Arduino project. I found them on youtube. Is difficult to understand how many I watched. This Because I search them mainly when I have a problem with a software or when I don't know to do a specific thing. Therefore normally I just search a video that explain that specific functions/ problem solving that I need. Some times I even don't watch the whole video, but just the part that explain what i need. I never followed a series of tutorial on one single topic. ex this: <https://www.youtube.com/watch?v=qTli6F69zdY&list=PLYfCBK8IplO7YoUHtYKxavLHO-31C-Vky&index=2>
4. No
5. Yes, Youtube. Not frequently, on a occasional basis when I want to learn a new skill. For example; cooking tutorials, or how to work with certain Adobe programs.
6. yes, somekind, I sometimes watch youtube tutorials.
7. Yes

8. Yes, I saw a lot on YouTube, like Makeup, costumes, lighting, adobe program, hand lettering and other DIY stuff.
9. Yes, general youtube tutorials for photoshop, illustrator. Math-courses at khanacademy and javascript at codecademy <https://www.khanacademy.org/math/multivariable-calculus> <https://www.codecademy.com/>
10. Yes, as described in the last question, I took courses through Lynda and Udemy. Furthermore, I have learned most of my skills through youtube tutorials.
11. yes, tutorials about photoshop, indesign, illustrator all from Youtube I guess I have seen around 30 videos of these. Mostly only the introduction tutorial and further specific tutorials for a specific function.
12. Yes, in my youth I watched youtube tutorials for doing make-up and DIY's.
13. Yes, for certain basic courses I had to look at videos that explained the concepts of the courses
14. yes, all kinds of tutorials, from youtube to any other website
15. yes, drawing, software tutorials
16. Yes, more on theory (Modeling). But also practical: creative electronics, on making circuits and using certain tools.
17. Yes, modelling
18. As usual, electronic tutorials and adobe tutorials through YouTube channels of random individuals.
19. Yes, I watch tutorials on youtube
20. Yes, for modeling for example
21. Yes, photoshop, drawing, 3d-modeling. Youtube. Too many to count.

Do you have experience with step by step tutorials?

1. Yes, see links in previous questions
2. Yes. Youtube. Too many to count
3. I'm not sure of what it means. If they are tutorial where you have to skip manually between different steps, then the answer is no.
4. Yes Arduino tutorials
5. Yes, see above
6. yes, for instance making origami or drawing from a drawing book
7. Yes
8. All of the tutorials above are step-by-step tutorials, but they were all in the same video.
9. No
10. I wonder if you would list Lynda tutorials as step-by-step tutorials, they are grouped in separate lectures. However, they are more linear than the tutorials through AcademyofSkills. Most of the youtube tutorials I have seen on graphical design, could be classified as step-by-step tutorials though.
11. Yes, the same as mentioned above
12. Yes, the make-up and DIY tutorials were step by step.
13. Yes, codecademy and on youtube I followed around 50 tutorials
14. yes
15. yes, software
16. Yes, mostly on youtube for Photoshop, visual effects and other digital creations
17. Yes, from instructables, too much to count
18. No
19. Sort of I guess, if youtube counts
20. Yes, on youtube for example
21. Yes. Tutsplus or something like that? Photoshop/illustrator tutorials, many.

“I liked the way of receiving feedback.”

1. -
2. critical and straight to the point. also an eye for detail
3. It took me to plan a meeting just to receive a feedback. Is not bad, but imply a little loss of time.
4. In class I did, it is personal and at the moment you need it. The feedback afterwards was personal too from an expert which raised confidence.
5. I liked that the feedback was of a high level, professional, concrete and clear. However, I only received feedback by Joep? I didn't see any feedback from other students. Because I knew in advance I had to wait for feedback I planned my working days such that there was time to give me feedback. However, ideally I would have liked to get immediate feedback so that I could do multiple courses in 1 day - this is because of planning issues, now it was quite demanding.
6. I liked that the person giving feedback was actually talking to you. I did not like that I myself already thought of things to, that I learned during the making
7. it was through a video and often not clear for the feedback giver or for me what to give feedback on/what to receive feedback on. also I wouldve liked to highlight multiple parts of my video that i would associate as feedback worthy, but i was not able to select those
8. It was nice because you could watch your feedback whenever you wanted it, so whenever you had time for it. Downside was that the quality usually wasn't that high so sometimes it was difficult to hear what someone had said.
9. I liked the drawing tool when the teacher used it but the feedback sometime felt rushed
10. The video with the face of the person made it feel very uncanny to me. I had times that I stopped watching the feedback-video to mentally prepare myself. I remember a couple of times that I've gotten a certain 'anxiety'-feeling in my stomach when opening the feedback video. It was way too personal for my liking. Also, it felt like the voice-over and the process-video were not in sync, which made it hard to know on what the feedback was based from time to time. Furthermore, I am a person who likes to work intensively on one 'subject/skill' at the time. This is probably not the best way of learning, but I didn't like that I couldn't work after one 'lecture'. I would rather work out all the lectures in one sitting.
11. In the beginning it felt a bit awkward that somebody that you barely know gives you feedback. I do not really like that because in some way it does feel a little bit private developing a skill, especially in the beginning. It was nice that you could see the one who gives you feedback. But I would like to have a min bio next to the video.
12. I like the idea of this way of receiving feedback, but the quality was overall bad. Often I could not fully hear what the people were saying or the video's got stuck.
13. For example, when someone frowned I could exactly see because of what
14. The tips were often very helpful, unfortunately I did not have the opportunity to use the tips in future exercises (e.g. cutting out a circle). Sometimes I knew that I did it wrong and how to do it better, before getting the feedback. There was no way for me to communicate this.
15. too little time for all the in detail question
16. Personal, direct and friendly: super nice. Face to face with an "Expert" is a bit scary.
17. Yes very clear and from an expert point of view
18. I got a verbal feedback and it was clear.
19. -
20. it was clear
21. I liked that Joep took an individual, personal look at my work, asked me questions about it, and he had very on point critique.

Room to add explanations for your answers (Questions about feedback)

1. -
2. -
3. -

4. Fast workshops are a good way to find out if something suits you. A follow up course should be given too.
5. -
6. -
7. I did not feel the motivation to finish the course, next to the fact that I was helping a friend out. Furthermore, i did not feel any support because there was no comparison material, and the feedback was not there at that moment, only after I did it. I wouldve liked real time feedback.
8. -
9. If I had a problem mid build and the video couldn't help me I felt a little lost
10. It is hard to answer these question to be honest. I have gotten feedback from Joep himself on two occasions, and feedback from others on the other 3 occasions. Not that I mind, but there was discrepancy in the quality of feedback of the two 'parties'. This makes it hard to give an 'average' number to the feedback.
11. The feedback I received was very clear. Feedback was someyimes very hard to hear because the one that gave feedback had a bad microphone. Also drawing where sometimes hard to understand.
12. -
13. -
14. -
15. -
16. -
17. -
18. If I get 5 feedback, 3 of them I already noticed but have not had time to fix. And when you get multiple feedback, it can be good to know the importance of each. So you know what to focus more.
19. I fell behind with the first week, and there for hevent recieved feedback yet
20. -
21. -

“I learned from following this course.”

1. How to make mechanisms with cardboard
2. how to make detailed and good looking models and also be critical
3. How to cut and glue foam board in order to make cylindrical or squared models.
4. It requires time and effort to make neat mockups
5. I learned various techniques on how to handle my material and some tricks and insight in how I can construct my models
6. I am more experience and capable with handling the scapel. I have also learned some new methots to neatly construct models
7. I learned how to make a cone and nice looking models of foam, and how to make corners (by cutting pieces of and how to flick off those pieces) and also how to mount them. also how to cut.
8. I now know simple ways to make a model, for me this is very useful in order to make small prototypes. and. However, I know there is so much more to learn and I know how good and valuable that knowledge is, so I might still follow the whole course.
9. I learned new methods for modeling and got some useful tips on technique.
10. I had no previous experience with cardboard modeling, so I learned techniques on how to work with carboard. How to create a rounded object, by removing the core of the foamboard. How to cut the foamboard. Basically all the basics.
11. The basics of cardboardmodelling, yet I still need to improve some of mine cutting technique.
12. I learned the basics of cardboard modeling, how to cut and draw precisely.
13. How to model with care
14. I learned some basic skills in cardboard modelling (how to cut, how to glue, how to draw layouts)
15. techniques, available combinations

16. A lot of skills for modeling, eye for precision and increased special awareness.
17. To make nice looking edges and mechanisms
18. It will be very specific but; I learned that I need to make my lines little bit lighter, need to clean the foam on intersection points very good to have perfectly closed shapes, need to use metal ruler while cutting, need to be careful with glue to keep the prototype clean, need to use glue not much, need to tape the inside of the semi cone and the cylinder for better result (that was something missing in the video tutorial).
19. I didn't have any previews experience with cardboard modeling, and now I feel like I can already make something. I learned the basic techniques
20. -
21. I learned nice techniques to help make functional and beautiful cardboard models.

“I am motivated to continue cardboard modeling.”

1. -
2. is new skill set to use for prototyping
3. It is fast to do. I think it can be a physical support to the ideation phase in the concept phase of my design
4. Takes a lot of time and precision. Maybe some day, when I want to learn more.
5. I liked and enjoyed it, but as an explorative tool it takes up quite some time. And as a final prototype I doubt if I would use this material.
6. I liked doing it, and feel like I could become more experience
7. I would not know why I would make cardboard models now i finished my studies. also i think it takes a lot of time for a process that you can screw up or which can go wrong very quickly
8. I want to be able to make more complex models and be able to design my own models.
9. I had fun learning about it and I see it as a valuable skill to have into the future so I want to continue learning this more.
10. I am not sure, to be quite honest. I would not practice this on my own, because it does not fit my style of working. With this I mean I am someone who works more digitally than physically. But I see the added value of cardboard modelling when you need a quick model. I am now confident to experiment with this in other projects, when the opportunity presents itself to use cardboard models. I probably will practice then, when it is needed.
11. I want to use the different models and mechanism in a prototype
12. I am not motivated because I found it mainly frustrating. And I do not think I will have to use it in the future.
13. Helpful tool to explore aesthetic interaction
14. It takes a lot of effort to make it look nice and I need to know exactly what I want to make on beforehand.
15. I am motivated because i want to get this over with
16. I learn valuable skills for making prototypes and expressing creative ideas for products.
17. To connect technology with the models
18. It is going good. I am learning. That was what I wanted. I can say it is the course that I am enjoying the most so far.
19. I think cardboard modeling is a very powerfull tool
20. -
21. Mostly motivated, but I realised it took a lot of time and I don't have it so it's hard to do it with full attention and dedication.

Room to add explanations for your answers (Questions about the course)

1. -
2. -
3. -

4. -
5. As for the working rhythm; I was very rushed by the camera recording time of 5mins. Most of the time I needed just a little bit more
6. -
7. -
8. -
9. Cardboard modeling is also useful since I can do it at home at quite a cheap price as an alternativ to laser cutting
10. As stated before, I like working in spurts, not in prolonged periods. But the steps through the lectures itself, helped to make it more understandable. (Although, it seemed that I was not able to go back in the video, which was really annoying to me). The help will always come too late in this format, because it always comes after you have been struggling with the model already. Furthermore, I am not sure if I am able to create fully fletched cardboard models now. But I think I will able to create something new with cardboard through trial and error. Sadly, cardboard isn't as forgiving as digital programs.
11. -
12. -
13. -
14. -
15. -
16. -
17. -
18. -
19. -
20. -
21. -

What was missing regarding the lesson? / What was missing regarding the lesson on the website and the feedback session? / What was missing regarding the Academy of Skills platform?

1. -
2. -
3. -
4. Follow-up lessons. Maybe some form of lecture to look at when you are stuck remembering what steps to take and how to make parts.
5. The button for PDF - thanks you added it later. An option to add some coments to my own video (for my feedback giver) before uploading it.
6. You could only show 30 seconds parts, Sometimes you needed to show quite a lot, and then it would have been nice if you could've used different little parts adding up to 30 sec
7. being able to select multiple video parts from one video or to fast forward them. being able to skip through the video. being able to make the model while it was explained (regarding filming possibilities) -> this made the process longer. being able to indicate begin and end selection of video
8. Maybe being able to send a reminder to the one who had to give you feedback?
9. Commenting space together with the videos. sometimes you want to say a general comment and you don't know how to incorporate that into the 30sec video. Being able to jump forward and backwards in the videos.
10. Being able to go back in video's, my attentionspan is not half an hour long. Writing down written questions you want feedback on.
11. text during the feedback session, also maybe a space to ask specific feedback questions, a tips and tricks page
12. Some kind of help forum and an clear overview of what to do for a model in written text.

13. -
14. A way to communicate to the person giving feedback to me
15. -
16. Maybe a quick step by step image to quickly see what you have to do, adding to the more detailed videos.
17. -
18. -
19. High pace, everything goes rather slowly
20. Some explaining of the technique of drawing circles for example
21. I missed information on the material (why use this, what is it, what can it do and cannot do, why use 3 mm, when use cardboard and when foamcore.) and some basics on making straight cuts and how to hold the knife optimally.

What was unnecessary regarding the lesson? / What was unnecessary regarding the lesson on the website and the feedback session? / What was unnecessary regarding the Academy of Skills platform?

1. -
2. -
3. -
4. -
5. The pedal. Within a 5 min movie it is easy to search for the right moment yourself.
6. -
7. -
8. -
9. -
10. The webcam video in the feedback was weird to me. I also didn't like the footpaddle thing, if this is seen as 'platform' as well. I forgot about it most of the time and did the marking myself. It would be useful to end the recording, as this was kinda annoying (doing it by hand while holding a model in the other hand).
11. -
12. -
13. -
14. pressing the footpedal was unnecessary sometimes
15. maybe too much info, I dont want information when I dont need it. So it would be perfect if information would be given at the exact moment when we need it, instead of trying to fit in a bunch of info at once and then using it throughout the lessons, when some of it is forgotten
16. -
17. -
18. -
19. -
20. -
21. Nothing

What did you like best concerning the lesson? / What did you like best concerning the lesson on the website and the feedback session? / What did you like best concerning the Academy of Skills platform?

1. -
2. The teacher showing how the models are made the first time
3. That the instructions were given by steps. After one model was explained there was time to concentrate on that

4. Feedback from expert in private session
5. The step by step video feedback
6. that you could rewatch the videos, and how the explanations were filmed
7. the easy interface of the website.
8. It was simple and clear en not to detailed.
9. -
10. I liked the steps itself. It really took you by the hand. Also the pdf's were a nice addition, to be able to look back when you were stuck. Although the second pdf (in the last lecture) was a bit minimal.
11. The option to look at the explanatory video while filming an action yourself
12. The video's were explained very clear.
13. The split up videos than can be watched when recording
14. that I could draw on the screen for feedback
15. easy to use
16. Clarity
17. To work on the next homework
18. It was very clear and straightforward
19. clear explanation
20. It was clear and good to follow
21. The completeness of the tutorials, and the level of depth

What is your opinion about online education?

1. IT is nice when you want to learn something concrete. This because online learning makes it possible to work on it whenever you want and to watch it again. Though for me this is only helpfull when learning a specific skill, such as a programming language, because when it is something more vague I prefer the possibility to dicuss the topic and ask questions which in online courses is more difficult.
2. Flexibility
3. It is flexible in the way in which is overtime accessible by users, so it adapts easily to user needs.
4. Could be of use though there should remain human layer
5. I think there is great potential in online education. Teaching skills like these but also way more theoretical information can be taught at home, so that you can use your face-to-face time for in depth conversations or feedback.
6. I think in this matter it is quite usefull. I liked the freedom in planning and learning phase
7. I like the possibility for online education, however if it costs money you never know the value you get for it (therefore buying a certificate or paying after some trial lessons is very valuable). Next to this, motivation is often low to continue with online education (no fixed timeslots that you do it + forgetting to do it)
8. It's really mixed, I think it depends on what kind of subject it is and the way it is given. Quality in education is really important for me, and I think that you can express this better in face to face courses. If I had a question for example, I couldn't really ask anyone. On the other hand, I like the flexibility of it.
9. I'm positive to it. I like it as an alternative to class and lectures.
10. I do appreciate it, certainly to get started with a certian topic. Seeing someone else do it, teaches you certain skills as well.
11. Very positive! I like the accessibility and the flexibility
12. I like it because you can plan it for yourself. But for me the feedback felt less 'real' than if you would get it in person.
13. Very valuable in a 24/7 online society
14. It works very well, but receiving feedback isn't always easy
15. very accesible
16. Sometimes useful (especially for this course), but mostly overused.

17. Fast and effective and you can plan it yourself
18. I think it is better than classic education. At least for me it works, maybe because I am a bit introvert. I have hard time focusing on in public. But I afraid that all the education system becoming online, people no longer socialize at schools.
19. I think it's very powerful, and gives you the option to learn from experts even far away
20. It can be good if you also have moments for feedback
21. It's one of the best ways to learn things, as you can do it on your own tempo and learn what you like. However, practical things like cardboard modeling also have a lot more value when some things can be seen in real life.

What would you like to keep regarding the lesson? / What would you like to keep regarding the lesson on the website and the feedback session? / What would you like to keep regarding the Academy of Skills platform?

1. -
2. -
3. The step to step method for sure.
4. Expert feedback personally
5. Step by step video recording, receiving feedback from the teacher
6. the step by step building
7. being able
8. -
9. I like the step by step parts
10. Well, the steps as mentioned before. The interface is so-so.
11. -
12. -
13. Spoken feedback and feedback drawings
14. the writing on the screen
15. everything
16. Structure, clarity and personal feedback
17. -
18. -
19. -
20. The clarity
21. -

What was it like to give feedback to other students?

1. -
2. -
3. -
4. -
5. A bit uncomfortable. I had the feeling I could only give feedback on the things I received feedback on myself, so I didn't see my added value on top of Joep
6. it was hard, but I also learned from it (considering cardboard modeling)
7. awkward
8. Difficult because the quality of the camera wasn't really good so you couldn't see any details. Otherwise I think it is good because you learn from it yourself as well.
9. I didn't feel comfortable doing it because I didn't feel like I knew enough about the subject to correct others.
10. Weird, because I didn't have the knowledge to give feedback on this subject. I just repeated some feedback I got from Joep or other students.
11. did not give feedback

12. I found it hard because I do not feel an expert. And it was sometimes difficult to see how well someone did it because of quality.
13. -
14. It was a bit awkward in the beginning, but I liked it
15. Did not happen
16. -
17. -
18. I hesitate that in general. Especially if it is about art. Because it is abstract. However if I see a clear mistake, I would like to say that in a kind way.
19. haven't done that yet
20. -
21. I did not give feedback

Room to add explanations for your answers (evaluation of the course set-up / platform)

1. -
2. -
3. -
4. -
5. -
6. The camera was not always that focussed, which made it hard to see details on videos
7. -
8. I had to grade the feedback of others. I never saw my feedback graded, is that just for the course or did I just have to look better?
9. I had quite a lot of technical problems with the camera and the webpage which lowers my overall experience
10. Hmm, I think it would be nicer to follow a regular course with direct feedback. Certainly in the beginning of learning a skill. I only use youtube to learn skills because there are no courses on certain things in this education. I would rather do a workshop, in which I can ask questions directly. This way I am also able to work in 'spurts', as I mentioned before. But, hey, I would probably not have taken the course cardboard modelling or did this without this research. In that way, for practical things, it is nice.
11. -
12. -
13. -
14. -
15. -
16. -
17. -
18. -
19. -
20. -
21. "I would replace a regular course that I need to follow with the same course in the manner I followed this one in.", no the feedback part is essential to get better.

Room to add explanations for your answers (evaluation platform usability)

1. Not applicable
2. Not applicable
3. Not applicable
4. Not applicable
5. -

6. -
7. “The system has all the functions and capabilities I expect it to have.” I wouldve liked fast forwarding, and selecting multiple parts of the video. and selecting a begin and an end for the video selection
8. -
9. I had technical problems with the camera, most likely because of an old computer. but a tips and trix list for why something is not working would be nice.
10. I am doing this from memory, so maybe I am remembering this differently, but: Well, although most of the things were clear, the interface is not yet perfect. I didn’t know where to give feedback, the list that pops up when you received feedback was unnecessairly long. The color orange was used as action color, but it kinda looses it purpose when 3 buttons are orange at the same time. It is kinda hard to imagine how the site would look like when there are multiple courses. I understand there is a sidebar to be able to select your course, but because it is so cramped upon the rest of the site or because it is not distinct in color, it seems to loose it function (I would look for this at “material design”). Sometimes it felt weird to have to load a new page just to click on a list item, maybe it would be nicer to have it spring out the button. Technicalities, technicalities, basically.
11. -
12. -
13. -
14. -
15. -
16. It would be a lot better if the videos would support full screen mode, this way you can follow the process in greater detail.
17. -
18. -
19. I feel the website is not really designed as an online learning platform
20. -
21. -

LIKERT SCALE QUESTIONS

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	#21
Feedback at the right moment		7	5	5	4	6	3	5		2	3	3	6	2	5	7	7	3	4	5	6
Feedback directly usable	6	7	5	6	6	5	5	6	6	5	3	3	7	6	7	7	6	6		6	5
Feedback concrete	5	7	7	6	6	6	2	5	6	4	5	3	7	6	6	5	7	7		6	4
Wait for feedback		1	5	3	3	3	4	2	3	5	5	4	1	6	6	5	5	3		4	5
Wait for feedback while not needed		1	1	3	2	4		2		3	1	5	4	4	6	1	1			2	3
Feedback specific	5	5	7	5	6	5	2	4	6	3	3	5	5	6	6	5	6	7		6	3
Feedback clear		7	7	5	6	6	4	4	6	5	3	3	6	6	6	5	6	7		6	5
Feedback expertise	6	7	7	7	7	7	7	6	6	6	5	2	6	7	6	7	7	7		7	7
Liked the way of receiving feedback	4	6	5	5	7	6	2	4	5	1	4	3	6	7	7	6	7	6		5	5
Felt supported in learning process	4	7	6	5	6	5	3	4	5	3	7	3	6	5	6	6		5		5	6
Liked deviation in smaller steps	4	7		5	7	6	6	7	6	6	5	6	6	4	6	7	7	7	5	6	6
Questions were answered		6		5	3	4	5	4	7	4	2	5	3	2	6	7	7	7	5	6	7
Received help at the right moments	3	6	6	3	4	4	5	4	4	2	3	3	6	3	5	5	7	7	5	4	6
Liked the working rhythm		7		6	1	6	2	5	5	1	7	5	4	3	6	6	7	6	5	5	2
Flexibility of working rhythm fits needs	2	6		5	3	6	1	6	5	1	7	5	7	4	6	6	7	7	6	5	4
Can autonomously cardboard model	4	5	5	3	5	6	5	3	3	4	5	2	6	6	7	5	5	4	6	5	3
Learned from following the course	4	7	5	5	6	6	5	5	7	6	6	5	6	6	6	7	7	5	6	5	6
Had fun making the models	3	7	5	5	6	6	3	5	6	6	6	3	5	6	6	5	7	7	5	5	6
I am motivated to continue cardboard modeling	3	7	5	4	4	6	1	6	7	4	7	2	6	3	6	7	7	7	6	5	5
Like to follow another course in this manner	3	6	6	5	7	6	6	6	5	5	6	5	6	4	2	6	7	7	6	5	5
Replace a regular course with a course in this manner					5	5		4	6	2	6	3	6	5	2	6	7	7	6	4	2
Enjoyed the manner the course was given in	4	7	6	5	6	6	6	6	4	4	6	4	6	5	4	6	6	7	5	5	5
Would like to use the system frequently					6	6	5	5	5	5	6	5	5	4	2	7	5	7	3	6	6
Found the system unnecessarily complex					3	3	1	2	4	3	3	2	1	3	1	2	1	1	3	2	2
Thought the system was easy to use					6	6	7	6	4	5	6	5	6	6	7	5	7	7	5	6	6
Need support of a technical person to use					3	4	1	3	4	1	3	1	2	3	1	1	1		1	1	1
Found the functions well intergrated					3	6	5	4	5	5	6	5	6	5	7	5	5	6	3	4	5
Thought there was too much inconsistency					4	3	3	3	2	3	2	1	1	3	1	1	4	1	4	2	3
Learn the system very quickly					6	6	6	5	5	5	6	6	7	5	7	7	7	7	5	6	7
Found the system cumbersome to use					2	2	2	4		3	3	3	2	3	1	2		1	3	4	
Felt very confident using the system					5	6	5	5	4	5	6	3	6	5	7	6	6	7	4	5	6
Needed a lot of things to get started					3	1	2	3	3	2	4	2	1	5	1	2	2	1	2	2	1
Interface is pleasant					6	6	6	4	5	4	6	6	6	6	5	6	6	4	2	5	3
Like using the interface					7	6	6	4	4	4	6	5	6	6	4	4	7	5	2	5	
Easy to find information that I need					4	5	4	5	3	5	5	7	6	6	3	5	7	7	3	5	4
Information is easy to understand					5	5	6	5	4	5	6	5	6	6	7	6	7	7	4	5	6
Has all expected functions and capabilities					5	4	2	4	2	6	6	6	6	5	5	5	6	6	2	5	5
Can effectively complete work using this system					7	6	6	5	4	6	6	4	7	5	5	4	5	7	4	5	5

INTERVIEWS

Hello (I am Michelle),

You participated in this research and filled in a questionnaire about your experience of learning cardboard modeling. I have read through your answers and would like ask some more questions about your experiences with learning through video and step by step tutorials. And also how these compare to your learning experience now. Furthermore I want to discuss why you might have answered in the way that you did for some of the questionnaire questions. So you can elaborate a bit more about your thoughts. And I can understand your answers better. Do you have any questions?

Is it OK, if I record this conversation for transcribing purposes?

#1

[I] So you mentioned such an experience with video tutorials can you describe this experience?

[P] Yes I followed a course about artificial intelligence from Columbia University and there they had like video lectures about all the parts of it. But mainly about programming, so they explained the theory behind the kind of algorithms and stuff that they used and then you had to do exercises and they explained how to do that.

[I] And is this experience positive or negative?

[P] Positive.

[I] Why?

[P] Well because you could uhm pause it. And sometimes it was quite difficult when they explained the algorithms, well uhm about all the structures and stuff. So you saw the structure and then she said something about it and then there was all the code beneath it. And then you could look back at it. So that was quite nice. Uhm because well, At a normal lecture the lecturer just keeps talking and talking and once you kind of didn't follow it you just skip the rest because...

[I] Because what?

[P] Oh because you won't follow it anyway.

[I] And then you also have experience with step by step tutorials, can you describe this?

[P] I saw that as that you just good to do the first part and when you finished you can do the next part.

[I] That is indeed step by step. Is that positive or negative?

[P] Well that's positive. because I think I am not really patient most of the time, so when I think I get something I go to the next thing and to the next thing. Then sometimes after a while you realise that you didn't really get it.. and with a step to step it's just that you need to understand the first step before you go to the next one.

[I] Oke. Then you followed a cardboard modeling class in class can you compare the experience of learning this practical skill of cardboard modelling in class with learning a practical skill with a video tutorial?

[P] I'm not sure if with the video tutorials I learned practical skills. It's more theory and programming um.. Though what I found difficult in class during the cardboard modelling practical course is that he explained some things and there was some things that I didn't really get and some things that I found very easy and um it just became boring when he was

explaining something that I understood already and when it was difficult um I couldn't say like repeat and see it again. Well I guess that's the difference.

[I] Hmm

[I] Did you ever learn practical skills via YouTube or Instructables or one of your courses at the platforms you named before?

[P] *long silence* uhm, well I did something with electronics. I looked it up. Oh and I looked up a lot of videos about SPSS it's a program for statistics, a statistical analysis program. I don't know if it's practical. I didn't get the program at all and I couldn't find anything hmm so I did a lot of Youtube tutorials and just followed what they did it still didn't work though but yeah haha.

[I] Oké, so if you compare learning a practical skill with help of those tutorials to learning a practical skill in class? Can you compare those?

[P] The nice thing about classes is that if you didn't get something or if you want to know something else then you can just ask so there's a lot more interaction and freedom. Well there's a lot more freedom in interaction with the lecturer and um that's really nice when it's about it's about a subject that you're interested in or a subject that you find very difficult. Though when it's just about something that you can only do one way, so for example it could be cardboard modelling, then it's just: you do this. You just have to learn the steps. And then I find it easier to do it over video lectures because if you don't get stuff you can just look back. And the chances of having any questions or anything that you need interaction for are very small. But for example with the SPSS thing

[I] hmm

[P] I would have liked to get it taught in class because I didn't really know what it was and I wanted to know more about it and I didn't know how it works. And there are a lot of different ways to do it, so I think that's the difference. Well, it depends on the topic.

[I] Then I have some more questions about what you filled in, in the questionnaire. So we can go over it together is that ok with you?

[P] Oke.

[I] You skipped the statement: "I received feedback at right moment or moment I needed it" can you explain why?

[P] Well I didn't really. And you said if you don't know, please skip the question. hmm I didn't really know I once got feedback during class though didn't really feel like I need it, I guess..

[I] Hmm.

[P] And I got feedback um a few days ago. But I have no idea if it was at the right moment or whether I needed it.

[I] Did you feel like you need it at the moment you received it, or didn't you feel like you needed it at that moment?

[P] I didn't really feel like.

[I] Oke so what would be a better moment to receive feedback?

[P] I think it's like um after you already did everything and then you receive feedback while you're already done. So when it's something you are really interested in you're probably going to do it again and use the feedback but when it's something that you do not really know when you will use it again.. well, it's less meaningful. Though, if you have to do like 6 objects, um, you have to cardboard model, then I think the right moment to give feedback is: after every model. Because then you can use the feedback in the next model. I think so.

[I] You skipped the statement: “I needed to wait for feedback” can you explain why?

[P] Yes because I also yeah I didn't really felt like I need feedback because I just had to do the steps and I did it. Though I understand that having feedback on your model would have probably improved the next models but I didn't feel like I needed it to make the models.

[I] Oke

[I] Uhm. Does this answer also hold up for the next statement? “I needed to wait for feedback while I did not need it.” Or..

[P] Yes!

[I] Oke, than “The feedback I received was very specific.” Can you explain why you did not answer that question?

[P] I have no knowledge about the content of cardboard modeling. So I have no idea whether it was specific or not.

[I] Oke.

[P] So it was very specific in the sense that it was personal on what I made. Though..

[I] Did it also point out specific things in your models that you could improve?

[P] Yes it did! Though I do not know enough. It was specific on the model. But for example cardboard modeling is very very detailed and I do not know if it was specific in the context of cardboard modeling.

[I] hmmhmm. Did you experience it as specific at the moment that you received it?

[P] Um yes.

[I] Can you grade it?

[P] Um I think it is a 5. Thank you.

[I] Then “The feedback I received was very clear”.

[P] Yeah, it's the same as the previous question. But then it would be a 5 I guess.

[I] Oke. “I liked the way of receiving feedback” You did not answer this question. Can you..

[P] Yeah I'm very neutral about that, so.. Yeah.

[I] So why are you neutral about this?

[P] I'm not really interested in cardboard modeling. It was fine. I got feedback. And it was specific feedback and it was helpful but I do not have any intentions to work further on cardboard modeling right now so. So for me it is combined. When I am really interested in something and I receive feedback it feels like I like it more hmm because I am interested in the topic. If I'm not really and I get feedback then I'm like: yeah, it's fine. So I would give it a 4 I guess.

[I] So if this was not about cardboard modeling but another practical skill that you wanted to learn and you would have received feedback in the same manner that you received feedback in now, what would then your answer be?

[P] Yeah it was nice that um, it was very personal.

[I] Oké. And the medium of giving feedback? Verbal or oral feedback, written feedback, video feedback, drawn...

[P] I did research on this. And it doesn't depend on whether you get written feedback or what you get feedback from, a computer or a human being, so.. Theoretically it would not matter. Though I think it is nice to just get oral feedback. Just someone telling you whether you did it right or not. And then you can also see the person's expression. So you know whether he or she means it or not, I like that best.

[I] Allright. Then um, “I felt supported in my learning process.” Can you explain why you didn't answer this question?

[P] Yeah um, I um, well I think the learning process was really short. It was a really short period of time in which I had to do it. And I was in a hassle, I did not hassle the work but like I was

busy with other things as well. So not one moment I was thinking about whether I was supported or not. I could fill it in like looking back afterwards. Hmm. But I did not think about it at all, so.

[I] That is oke, you can fill it in afterwards.

[P] Oke, um, well I guess during the class it was nice though afterwards it was like ‘yeah, just finish it’. Which wasn't really nice because the papers we got to design it, weren't very clear. So um,.. Oh and there might have been a possibility to ask questions via mail. But I did not know whether it was fine or not, so um yea it's a combination between yes and no.

[I] Oké, If you would have to give it..

[P] A 4.

[I] Thank you. Then “I like the deviation of the process of the model into smaller steps.” Can you explain why you gave this a 4?

[P] Yeah, because as I said it is sometimes nice do it step by step. Though not everything was very difficult. So for example making the boxes

[I] hmmhmm

[P] I did not feel like that was really needed, so...

[I] What was not really-?

[P] Well with for example the boxes first you had to make those and then you had to make the other one and the other one. And sometimes it felt that you had to do a step first so that you practiced, or gained a certain skill. But I did not feel, always feel, like I needed to um, learn that skill. So you had to do all these small steps but I would like in some cases just to ‘GO!’.

[I] Figure it out yourself?

[P] Yes! Though for the more difficult models it was nice hat it was in smaller steps.

[I] What models did you find more difficult?

[P] Well, the first time that you make the mechanism model.

[I] Hmmhmm

[P] so the sliding mechanism. Then now, you quite have to think about all the steps and how it is build up. Though if you make the other mechanism model you already know how the mechanism works so then the small steps can be less small.

[I] And for the cube? That was the first time that you made a cardboard model. Did you feel like you needed the steps?

[P] No, because you just had to make a cube. And yes it is the first time that I made a cube with cardboard modeling but it's not the first time I made a cube so..

[I] Oke, “If I had questions my questions were answered during the course or feedback session.” Can you explain why you did not answer this question?

[P] Because I did not ask any questions.

[I] Oke, did you have questions?

[P] Hmm, I did not know how to make one of the models. I forgot. So I could have questioned that but this wasn't during the course but with the homework. But I could have questioned that during the feedback session. I totally forgot.

[I] “I received help at the right moments.”

[P] Yeah I did. So I didn't ask questions, or ask for help. Though I think it is a 3 hypothetically. Because during the homework I needed some help but I did not get it. But then again I did not ask for it.

[I] So “I like the working rhythm.”

[P] No, no. I thought the session in class was really long.

[I] Hmmhmm

[P] um, but yeah. It wasn't really a rhythm, it was just a session. It's really hard. Because a lot of these questions are really focused on a process, so if you are doing something for a longer period of time. And this just felt like I, like kind of a workshop. An afternoon, and then I did something myself. And it didn't really feel like a process. So if I needed to say something about the rhythm I could just say something about the working rhythm in class?

[I] Yes, and the feedback session you had afterward.

[P] Um, um. Yeah it was a bit too long for me.

[I] Can you explain why?

[P] Yeah, because um. He explained some models very long. The first things we had to make. I did not really find that interesting but he explained for a very long time and then we had to make it and I was kind of bored. Cause we had to make it and I didn't really like it. And when he explained the more difficult parts I was already distracted.

[I] Oke. And "The flexibility in the working rhythm of the course fits my needs." So you had set times that you had to follow the course and the feedback session.

[P] I did not have set times.

[I] Well, that is true. You didn't have a set time for the feedback session because you could not attend the actual feedback session due to other priorities.

[P] That is correct. Um, well then it is probably a low one like a 2 or something. Because otherwise if it would fit to my needs, I would have been able to come to the feedback session.

[I] Hmmhmm.

[P] So the flexibility in the working rhythm of the course fits my needs? No not really.

[I] Oke, um. And if you see the working rhythm as the set-up of the course. So the class plus another class where you get feedback, receive feedback. And then would continue with class, class where you receive feedback, class, class where you receive feedback? Would you then like the working rhythm?

[P] Yeah, it is kind of like a lot of assignments at industrial design. Well, when we started (2013). I would like it a lot. Though what I um like more is that you um. You have a course and then you have to make homework and then you have a feedback session though directly after the feedback session you have instructions on kind of the new thing, or the course.

[I] Hmmhmm.

[P] As well. Because most of the time after a feedback session I feel very enthusiastic to improve. So it is nice to be able to do that afterwards. To get new input to work with.

[I] So you would like a working session after a feedback session, before you continue with the new information, am I correct?

[P] Yes, or you continue with the new information immediately after the feedback session. Um so that you are enthusiastic to use this feedback in making the poster or doing the presentation or yeah. Though at least the opportunity to get or input or work on it.

[I] And um, you answered neutral to "I can now autonomously plan and build my own cardboard models". Can you explain why?

[P] I do not have enough knowledge on this to like really make it on my own. Though it depends on the difficulty of the cardboard model. Because I would not be able to make a camera out of cardboard models but I would be able to make a cube. IT's a very broad context and that's why I thought neutral. Because it really depends on the model.

[I] Hmmhmm. And then "I learned from following this course" you also answered neutral.

[P] Yeah um. Well, I learned how to make a mechanism with cardboard. So that's cool. But it is not like I am overwhelmed with all the knowledge I gained.

[I] Oke, then "I had fun making the models." You answered with a 3. Can you explain why?

[P] Yeah, well, um. I did like the result of the sliding, of the mechanism models. Though I found

it really difficult to motivate myself for the cube and the cylinder and stuff. And also. This was also because I am extremely busy. And then if you are busy. And then you have to work on something, that you think well it can be quite nice though I also want to lay in my bed and just watch Netflix. Then it's just less fun. I think that is with everything. If you are very busy and do something that you really like, you still think OH god, I want to go to bed, Or something like that. So it's not really objective, this question, for me.

[I] Oke. And "I am motivated to continue cardboard modeling."

[P] Yeah it relates to "I had fun making the models".

[I] A few more. "What was missing regarding the lesson?" and then was there anything missing regarding the lesson? And what was it?

[P] *long silence*I don't know. I think it was fine.

[I] Why was it fine?

[P] Because he explained everything that we needed to do.

[I] Oke. And what was unnecessary in the lesson?

[P] Um well sometimes he explained some models and he made the whole model himself.

[I] Hmmhmm.

[P] And it took 20 minutes for example. Though I told after 2 minutes it would have been fine.

So it is really nice to have the difficult things explained though if you also get the easier things explained... But this also relates to my um characteristic of being a bit impatient.

Oke. And did you feel like you needed the demonstrations? Or did you feel-

Not always. I felt I needed them sometimes.

[I] Can you give an example of when you needed them?

[P] Um, yeah. For the mechanism. And for the cone. Though I didn't get a demonstration for the cone. But it would have been nice.

[I] Oke. So what did you like best in the lesson? Or concerning the lesson?

[P] I really liked that um the lecturer was really enthusiastic and passionate about the thing and also very knowledgeable. So I really felt like I was lectured by an expert. That is really nice because then you take it way more seriously. So that is nice.

[I] Oke. Then, if we would change everything in the lesson. What would you like to keep regarding the lesson?

[P] Um, the practical thing of actually making it after the explanation.

[I] So that you could do that in class, or-

[P] Yes.

[I] Then, what was it like to give feedback to other students?

[P] I did not give feedback to other students.

[I] Oke.

And "I would like to follow another course on practical skills in this manner." You did not answer this question. Can you explain why?

[P] Um yes. Because first of all it depends on the course. Um yeah I would um um.. I don't think so because if I would follow another course in practical skills then I would have liked to make for example 2 models then get feedback on it. Make 2 models again and get feedback on it. And um, within a longer period of time, so. At this moment we started with the basics but then the more difficult things we had to make ourselves and then after we made them we got feedback on them and it was done. So I would have done it differently, I guess.

[I] And “I enjoyed this manner of learning cardboard modeling” So, you learned it in class while receiving feedback on your models while you were working on them and you received feedback after class. You also got demonstrations and explanations.

[P] Yeah. Well, um. It was fine. I think just a 4.

[I] Oh. Can you also grade this one *points to: “I would like to follow another course on practical skills in this manner.”

[P] Oh, um. A 3.

[I] Oke. Would you like to add something about the class you had? Or anything you experienced?

[P] Well, I think I explained a lot during the other questions.

[I] Oke. Thank you very much for participating!

#2

[I] So um. Well I can see that you answered that you have experience with video tutorials before? Can you describe this experience?

[P] If you have some um problems and you want to solve it. YouTube is your best friend. So I have a lot of experience with the YouTube tutorial videos.

[I] And is this experience positive or negative?

[P] Positive. Because a lot of content is high quality. Because people compete with each other. But sometimes with like um electronics it's a little bit lower quality so. Than those tutorials are more frustrating.

[I] Oke um. Can you rephrase why it's sometimes positive? For the quality of the videos or-

[P] Yeah yeah, everything together. The quality. How it is explained and it has to be short because you want to solve a problem as soon as possible. So the frustrating part is when you get a video from like um 20 minutes. And you just want to see like 2 minutes of it.. And people just like um the microphone quality, camera quality. How they explain it. Sometimes not even in English language so it is like um very frustrating.

[I] And this experience is also, um. How do you know where to look and what to find?

[P] Um where to look. Um. I just type in the thing I want to yeah look up for. Just the searching words.

Hmmhmm.

[I] And then you find what you need?

[P] Sometimes I do. Depends on what you type in.

[I] Um. And you also had experience with step by step tutorials, before?

[P] Yes

[I] Can you describe this experience?

[P] Step by step tutorials. Yeah most of them. Yeah not all of them are step by step. But they are like more, how do you de-, structured. So it is easy to follow and you can like pause every step. And then do it. And it is like, really structured.

[I] And that is like, positive or negative?

[P] Um yeah really positive.

[I] Oke. Why is it positive?

[P] Because it is like. Yeah you can pause every step and. It is like they are explaining um. Um. every step very thorough. So..

[I] You also said that you had experience with massive online open courses.

[P] Yes, I do.

[I] Can you tell a bit more about that?

[P] Yes, so I followed the course EDX. Because I wanted to go to TU Delft and study there. Mechanical engineering. And before you start a course they want you to refresh your calculus. So um. There is like a pre-calculus internet course and those videos, they are like quite awkward. Seeing the teacher like, how do you say that. Not presenting but making a video for the first time. But it is also really helpful because they split every subject in different parts. You have like a small part about that subject and then you make an assignment and that goes on and on. And it is flexible so, that is what I like about the course.

[I] Oke. And how did they grade the assignments?

[P] I didn't finish it. Haha. But it was also already. Um, how do you say that. The course was closed already, so. But they don't really. They grade you only on the um offline subjects so they don't really um. Well those multiple choice things. Where you don't get feedback, well not that fast, if you have a question and you put it in the discussion forum. But so um I think they will still reply in um like weeks.

[I] And it was a positive or negative experience?

[P] It can be positive because without the discussion forum. It is still like, how do you say that, quite easy to follow. Yes. If you make the course really easy to follow you don't need to rely on the yeah discussion.

[I] Oke. So can you compare the experience of learning a practical skill in class to learning a practical skill in class by means of a video or step by step tutorial?

[P] Yea, yea, yea. There is one thing. Because I have been doing the questionnaire and in the last part I was really confusing. I didn't follow the online course but I did the workshop. Hmmhmm. But I think the practical part. That you don't get instant feedback. What you do get from the lectures. Like um yea. But. with an online course you can skip, go ahead. Just um, fast forward to a part you want to see. And in class you can just um, ask for instant feedback. But you have to wait sometimes.

[I] Yes. and you mentioned during the feedback session that you did watch one of the videos that you found yourself.

[P] Well I did follow, because it is really nice to look back and if you forgot something. That is the advantage of um. Courses. Online courses.

[I] So um. If you compare watching a video to um watching the explanations in class.

[P] Yes.

[I] Can you try to explain your experience with both?

[P] Especially this class?

[I] Yes.

[P] Um. the experience. I just watched one video so. But based on that, I don't know. I also liked the lecture. I really liked the lecture because he explained everything in a calm but really thorough way so you know every single detail. But he does that the same with the, with the online video so. But you do get feedback from the like. From the workshop. So that is better. Well. I don't know, I like both. But it's like one advantage is feedback and one advantage of the videos are that you can look back.

[I] Oke. Than I had some more questions. If you could add some depth to the things you answered. Let's go through it again.

[I] So um. I am going to go to the first question that you left open. “The feedback I received was given by someone with a higher expertise level.” You did not answer this question. Can you explain why?

[P] What was the question again?

[I] “The feedback I received was given by someone with a higher expertise level.”

[P] Oh yeah. I was like confused at that question. But yeah. I think I did. Because it is like from the teacher so it is like expertise like cardboard modeling. Yeah definitely.

[I] Oke. How would you rate it?

7. I was confused because he is the teacher. And I was like maybe I didn't see something. Or missed something.

[I] Haha. No. It's fine. No problem you still answered the question now.

[I] Oke. So there is this statement "I like the way of receiving feedback." and then you can explain why you liked it. And your answer says. Critical and straight to the point. Also an eye for detail. And this is mostly about the feedback. So what the feedback was. I guess?

[P] Oh yeah, hmm yeah. Also from the feedback. Also the explaining, actually the whole process.

[I] Oke, Can you comment on the way of giving feedback. So for instance. He says it to you, he does not write it down, or video tapes it or draws it or something like that.

[P] I am OK with it actually. There is nothing I would change. It's like um. It's more informal but um I still like it because it is just straight to the point. Not too much work beside that. Sometimes you want some documentation. But I don't think I need it. Yeah. yeah.

[I] Um. Did you understand all the feedback?

[P] Yes I actually understood all the feedback. And he was trying to not to be how do you say that, not too critical. Like too much to the detail. But he still explained that if you want to look even more into the detail. He said still um what he thought and that was pretty nice.

[I] Oke. So you responded that you are motivated to continue cardboard modeling. Because it is a new skillset you can use for prototyping. And why do you think this is useful for prototyping?

[P] Um like. Um getting a new skillset. I think um yes. When you expand um your um skillset and what you can do. You can rely on different skillsets for different models you like um, want to make. Because not everything is fit for certain models. It's like. This is really different than um using wood or 3D printing.

[I] And where would you use this for?

[P] Um. I saw someone else for the first time making a prototype with um cardboard. Krishna. And yeah. I don't know. I think something that is like. I don't really know yet. But after seeing all those models Joep made I think I can make like, detailed work. That you cannot make with wood. But not being too lazy to just 3D print it. Yup. But not too detailed like that you have to cut every mm for the, yeah.

[I] And then there were some questions about the lesson. So what was missing regarding the lesson. You left this open. Can you explain why?

[P] Yeah I couldn't find something that was missing. Yeah I don't know. I thought maybe just a break. But you could just go outside and take a break yourself. So I think everything was OK.

[I] Oke. and what was unnecessary regarding the lesson?

[P] Unnecessary?

[I] Yes.

[P] Well not that I know. Because like, when I entered the room and he started the workshop everything goes like yeah goes really well. Until even the end. Because you cannot finish the model. We don't have the time for that. And it's taking too long. But everything was OK.

Oke. Can you explain why nothing then was unnecessary?

Yeah because it was like um. Well he will explain some basics. He did. And he has also shown how it's made. And during showing it he explains every single detail you have to look after. So that is already good and um. You can take a break whenever you want. And you have the time to just um you have the time to make it yourself. But it doesn't mean you have to finish it because

for someone it doesn't take too long and for someone it does. And you also get feedback. So I don't think it was missing something.

[I] Oke. So what did you like best concerning the lesson?

Your answer was: the teacher showing how the models are made the first time.

[P] Jup. Like in showing the basics. Just doing it in front of you. That's like I think that is the most important thing.

[I] Can you explain why this is the thing that you like best?

[P] I like this the best because he will show you. Like um yeah like just help you taking the first step already.

[I] Oke. Then there is the question "What is your opinion about online education?" and you responded with flexibility. Can you elaborate on that?

[P] Flexibility, but it does make you lazy. I think. And you will lose the intimacy with other people. But I think um when you don't make everything online. That it is Oke. And I think with this. Like practical courses if you combine like online lecture with um like um feedback lectures. It will be better because you don't lose that connection with the teacher and after the feedback sessions you can still look up for the video if you don't remember. Well, I think it is best.

[I] Thank you for elaborating.

[P] Yeah no problem. I think it's like. If you made a cube. And take a picture of it and ask 'what is wrong with this?' it is really hard for the teacher to tell what is wrong.

[I] Um. Then I have two more questions. So the next question that you did not answer is "What would you like to keep regarding the lesson?"

[P] Um, regarding the workshop?

[I] Yes.

[P] Oh yeah that was um. Everything. I am really positive about this already. I don't think I would change anything. Is it only about the workshop?

[I] Yes, the workshop and feedback session together. So the lesson.

[P] Yes I would just keep it like this. You have enough time in between to finish your models. And the feedback session is not too long. So it is OK.

[I] Lastly. What was it like to give feedback to other students? Why did you leave this question open?

[P] I didn't actually give feedback to other students.

[I] Oke. I think we are done. Thank you for your time and effort.

#3

[I] You mention that you had experience with video tutorials. Can you describe this experience?

[P] Yeah I used a lot of software for different purpose during my. During doing projects. From like um doing posters or graphical software such as InDesign or Illustrator. To 3D modeling where I had to do like prototyping and 3D printing for example. So normally when I encounter a problem. I don't know. I can't like um really solve it. Or if there is a feature of the program that is working not exactly as um expected. Normally I would search just the feature or like on YouTube unless I type the feature that I am uncertain with than I type the name of the program and how to use this feature. And I try to find like a solution to my problem. Um. Though that is mainly how I use tutorials. On internet. So through YouTube and then just say one shot. So um I just search the problem I am encountering and I just solve it.

[I] And for electronics for instance?

[P] Oh yeah. Sorry. For Arduino. I lately. Because I just started to use Arduino so it's just kind of new to me and um. Yea and just sometimes I just search like for example when I don't know how to use a component. It's better. So my first approach is to s- find a video for me. Because I can see the connection on my- I also can see how it behaves after like modeled circuits or whatever is connected. And then if it's that what I am searching for I just read those scripts normally also added in the description. Like a link to another page um with a text explaining how to do it. Yeah that's normally how I use it.

[I] And is that a positive or a negative experience?

[P] Mhhh It's main- mostly positive. Sometimes I can't find really what I am searching for. And especially with the graphical software. With Arduino more less you can find everything. But yea sometimes you don't find exactly what you need. So it's kind of like maybe I have to see 3 / 4 or 5 videos before finding the right one. But in the end normally I find the solution to um my problem and what I was searching for.

[I] And then the step by step tutorials. You mention that you were not sure what I meant. 'If you mean tutorials where I have to skip manually between steps then the answer is no.' Also for Instructables? Or something with Arduino?

[P] Um I. Um. Never used Instructables. I mean I just look twice or.. And Arduino. Nah I mean what do you mean with step by step? It's just divided in step by step? Like a webpage where you have this explanation and it is like um. First step um for example Cut the um for example side of the cube and then explain like that?

[I] Yep.

[P] Mmmh ya of course. Then Yes. Mainly by text based. Because this kind of tutorial that I follow like uhm for the InDesign or um other software. They're normally like. They don't have this step division because they are really like minutes or less. Short. Mmmmh. So yes. And I have to explain my experience and if it's a positive or negative. Of course it's a long um um um tutorial. It's easier to have them like divided. I mean like. And also to understand like what do you have to do and maybe before starting to know what you need. And how much time it will take for you to do.

[I] Can you compare the experience of learning a practical skill in class like you did. With learning a practical skill from the video tutorials?

[P] Yes. I mean I can explain the pro and cons for me.

[I] Yeah.

[P] And um. In class. First in class. Um Class takes more time in like moving to the class and like staying there and wh- you also. It happens. And it happened to me like in the past. I mean like some, some topics they are explaining in class. In lectures. You already know them. So if I would like follow it the same lesson like in a website. Then I probably would skip that part and go to another one so I will save some times. And an other stuff that I also like think. Is that um. I also think I wrote it in the questionnaire. But like online courses or online education is every time over. Every time accessible. So this means that um if um. I have a different schedule I mean if I don't have time today to follow a lecture for example I can do it in the afternoon. Or in the evening or when it best fits for me. But also it can be replayed. That's not something that you can do with the lecture. If I have a problem with like with a prototype. With one of the um the models that you um gave me to do. One of the assignments. And normally I don't take too much notes in lessons. In lectures. So I didn't do. I didn't take any. Any notes in that um um lecture. And I completely forgot how to do a model. So I tried to get it from the, from the um explanation. But there was not enough clear to me. So at the end I finished not doing it. But I can imagine that I could have like something. Some like. Some tutorial. Where they explain me how to do it. And I would probably have the possibility to go back and to check how to do it. And do it. Like I would have been like it's a bit of a shame that you forget it and because at the end yeah you should take some notes. But normally if I take notes in lectures. I also yeah I don't

like to take notes at lectures. Because normally I divide my attention between taking good notes and the lesson itself. And having um of course I mean like sort of um recap or like a totally complete course assistant online. I could also do that. So I don't need to take notes because if I forgot I can rewatch the video or whatever.

[I] HmmHm.

[P] Yeah.

I think that's like pros and cons explained

[I] Um oke. And the um, cons for the video lectures?

[P] Ah. Ya you. It's more like a thing of um. Philosophical cons. You kind of leave these like the human and attachment interaction. Maybe not for cardboard modeling. Where it's like really practical. But for. I can imagine for other types of course when um. Maybe about ethics of design or whatever.

[I] HmmHm.

[P] Um.. You could um. Kind of left behind this human touch of like professors and experts explaining you a topic. And also like in the past some lecture about design could really get me inspired. Not all about the topics but also how the person itself was explaining it to me. So you kind of. I know I really have to explain. But you lose this added value that has like a um pff um. That has a like a normal lecture. And for example. I will not like um I will not like to only to go to online courses. That's who I. Um I mean. I still like. Feel that I need to go to university and talk with people of the field. And um letting them explain me how to do. And also. I mean there is also the possibility to ask real time feedback. That's kind of like difficult for online courses. And also maybe um. Short feedback or just having a talk about like the topic. But not really of the project. Is like, being like immersed in like a educational like um environment. That maybe only online course couldn't do. But for this kind of course. Like modeling or say like um. I don't know if here in eindhoven you do something like um. If the university gives something like um software. Um graphical software or um. Ya. I mean um. For that kind of practical like um. I will like to have it in um through online courses.

[I] So for practical courses and computer practical courses?

[P] Yeah. So um. Modelling and um. Yea. As I also like. Like basic lecture. Or basic course on how to use a software for example like graphical software or a 3D modeling software or. Also because in this um program. Um. You have um. You can't really, like. Look at what they explain you and do it real time. And that happens to me in the past. To have like this 3D modelling course in my bachelor. Where my professor was like explaining all the models first. And then let you doing it. But as in not taking notes. And I sometimes just forget stuff. Forgot stuff, sorry. And mmmhh So yeah. Kind of forgot the question now. But.

[I] You were telling about the models that you were making and that you couldn't do it in real time.

[P] Yeah. Of course. So it can help you. You can stop a video. You can't stop a lesson. That's the point. So what I do when I am doing a video. What I normally also do um also do a bit longer video just. Maybe I watch it like really really fast the first time and then I can still like play it- stop it. And do what I do. And I also can go back. Or whatever. So this is really helpful with this kind of like practical or like software. Also liking in um. Um modelling. Um cardboard modelling. Cause yeah. You can go back and forth and yeah. You go through different steps. I mean you can't really do that in a lesson without bothering your professor and yeah like.

[I] And for the feedback then? What- How do you get that when you do the online course. Normally?

[P] Hmmm no I mean I never receive feedback. On an online course. Because normally I follow tutorials. And um. For what concerning the feedback that I received from this course. It was oke. But um ya. There was no problem while receiving feedback. Um I didn't need any feedback while doing my um. Models. Like before the day, the date that was fixed. I think because these models were like kind of easy. So I did not need feedback but I need an explanation haha. For sure. But overall the feedbacks were really precise. From the professor. And I kind of understood of what was wrong. It was oke.

[I] So the rest of the questions is just about your answers and going through them and maybe add some more explanation. Mostly when they are neutral or left open.

[I] Um. Ya. Oke. So, "I like the way of receiving feedback." You answered with: It took me to plan a meeting just to receive feedback. It's not bad but imply a little loss of time.

[P] Um, should I explain it?

[I] Yes, please.

[P] Um it means that, um. If it's really practical feedback so um, what I received for example is like Oke: the edges are not really, the edges of your prototype are not really matching, this is due to that.

[I] Hmmhmm.

[P] And this is really a practical like feedback. So, you have. You are doing this wrongly because you did this and um you should have um done that. So um. These kind of feedbacks can be send by an email or by writing or just by um whatever it is audio, video. And I mean, I could like. I could like receive like the same feedback in another way so um like what I said. And just receive it like in half an hour. Without like leaving my place. And without like fitting this like, 30 / 40 minutes like feedback session. That is taking um in some way like more than 30 minutes because I have to move to the place. I maybe have like 15 minutes before? And then you have to stop what you are doing before. And then when it's finished you have to restart. So it takes time. And I, I, kind of felt like it was not needed to lose that time. For, not because it was not important feedback but just for the kind of feedback that in the end I received.

[I] And the feedback within the class? So when you were model making.

[P] Um. Yea it was Ok. I mean I didn't need that much feedback the first lesson because it was just. I mean, I was just. Doing it for the first time. But ya, at some point the professor just comes. Passing by every student. And just um, helping. Looking at what I was doing and how I was doing and just give some hints. That was helpful. At least because I broke two hahahah. Two knives. I needed some feedback, for that was. For that it was helpful. And um. I can imagine that with a bigger classroom. It is not possible in the way we did. I mean, we were like 7. So it's kind of like a really small classroom. I was like. Um when I was, um when I was doing my bachelor we were like 50 or 60 in a class and we were like doing these drawing course. For example. Yea the professor was passing by. But as it was impossible for him to follow like um all the um people through all every 50 going about the project.

[I] Um then. Let's see. You left open "I liked the deviation of the process of making the model in smaller steps" you left this open, can you explain why?

[P] I didn't know if it was like a refer to um. I mean I didn't really understand if it was referred to the fact that um. The explanation was divided in different models or um the explanation of a single model was divided into different steps.

[I] A single model.

[P] Um, yea of course. The steps that were divided were not named. But it was clear that there were different steps. For example for the cube. Divided in like first creating the first like sides. And um, remove the foam at some sides and then glue them. That's mainly the 3 steps. Right, I think yeah. And yeah. Of course it's easier to.. Um I mean you.. Um I mean I like in some way you can have a scheme of how to do it. Also you can do it in the future.

[I] And. "If I had questions, my questions were answered during the course of during the feedback session."

[P] I didn't have any. Haha. Yea um. Sorry. I didn't have any answer during the course. During the workshop course. But then I did have one answer. Sorry. One question. During the feedback session. And I received an answer. So. If I could re -redo it I would put a sss-- seven because the professor explained me how to do the..

[I] I will put it in later.

[P] Oke, cool. Yeah I was like um.

[I] Haha no problem. If you didn't answer a question I will just ask you why.

[P] Cool.

[I] So for the same reason. "I like the working rhythm." You did not answer this question. Can you explain why?

[P] Um. I thought it was more for like. Rhythm, I mean for like the rhythm of the class right. Um I was not sure if I was like. If I was supposed to respond to that because it was. I think it was a question more related to a long period. But if we consider just the lesson..

[I] Yes the going through the lesson and doing the homework and the feedback session, so all of this included.

[P] Yea. So I will think 5. Because as I said before you have to I wouldn't have done everything in one day. Maybe spending 6 hours instead of spending like 3 hours. Because at the end it's you spend somewhat I don't know. I don't know how much the course last. 3 hours more/less. And then I spend another 3 hours at home. And then I spend another hour moreless to go and receive feedback. At the end it's like 7 hours divided by different days. Plus loss of time. Shifting different, um different stuff that I have to do. Different like I, So. I would prefer to do it everything in a row. And what concerned the whole process for the course. The lesson itself, everything was good. It was not too fast and neither too slow. It was perfect.

[I] Well um. "The flexibility of the working rhythm of the course fits my needs."

[P] I don't know what you mean by flexibility of the course. If you can explain that.

[I] Well, the flexibility is that you can plan things or that you have to be there at certain times. So it can also be the non-flexibility that fits your needs.

[P] Um. It really depends on how much stuff I have to do. During that week. Um. During the weeks, I mean, normally I have. Attending to a class every week is never a problem because you know it's there. So. The thing with the flexibility is that um it's moreless ok. And of course. If I had an online course I could do it more flexible. Mmmmh. And it could help me to fit the um. To do the lesson maybe during the weekend. Um. I will say like. 5 or 6. 5. Yeah. I mean it can be improved but I can live with it. I mean. I can attend one lesson like every um every week.

[I] Oke. Yes. Let's see. Oke. So what was missing regarding the lesson? You left this question open. Can you explain why?

[P] Um. I didn't know what was really missing. Um. I mean the lesson itself was complete. Everything was explained. Maybe just one stuff. The material provided.

[I] HmmHmm.

[P] Was not that clear to me. For example the. The model I didn't make at the end. I didn't make it was like the slider. And it was not explained how to. The different layers should be glued. So that was the only stuff that was, not really missing but, yeah. But overall it was OK.

[I] Um. What was unnecessary regarding the lesson?

[P] Nothing. I think they gave. It was um. It was the strictly necessary was given. So. Yeah. I mean, I was not bored during the lesson. So there was nothing like aahg pff have to listen to that now. It was nothing like that. So. It's oke.

[I] Oke. What did you like best concerning the lesson..um *mumble*

[P] Yeah that is a different way. But um like steps. That um, that um. I mean like different models divided so actually. So first model, and then I can try the first model. And then the professor explained the second model and I have time to do the second model before he explains the next model. And that I like it. Because for some I. My old professor was explaining. Were explaining everything in the first like two hours of the lesson. So you arrive at the end the first like part and you are totally tired. Mentally tired. And you have to do all this stuff. Yeah. And it's boring. It's stressing. Yeah. So I liked it this way.

[I] Then oke. Well your opinion about online education we already talked about. Hmm. So you left open “What was it like to give feedback to other students?”

[P] I didn't leave any feedback to others. So.

[I] That is fine. That explains why you left this open. And then you basically answered everything. Do you want to add something about the experience of going to class? And learning cardboard modelling?

[P] I will use it in the future. I think. I will try to use it. Um and uh. Yeah. I know I used it like for a box. So it was actually useful haha. I didn't expect it that much. But yeah. Overall it was usefull. I liked how it can be used for um. Creating rigid and um really um persistent um I wanted to say like stiff, consistent prototyping. Like fast in a really short amount of time. Um I will probably try to use it. Yeah. Mostly in the concept phase. I think I wrote this somewhere.

[I] Oke. Cool.

Thank you for your time and effort!

#4

[I] You answered that you had experience with video tutorials. Is this experience positive or negative? Can you describe a bit about it?

[P] Um. It's a nice way to look back at information I guess. Um. You can pause it whenever you want and then go back to where ever you don't understand what is done. Um. So for that cause it could be a good one. Um. Also for instance. Video lectures. You can pause them or fast forward them if you want to. Um. So that is a good point about it. I guess.

[I] And what do you not like about it?

[P] Um well it's not so much a um personal feeling. Um. Missing a human layer or something. Um and um. You don't have the chance to ask for feedback or. Um. Ask questions if you don't understand it.

[I] Oke. And in your personal experience. Is that positive or negative?

[P] Um. For the online tutorials that I did were mainly um digital things for Arduino. Which I am not so good at so um a little bit. I don't know if that messes with my experience. Um yeah kind of. I wish I was better at learning from computer experience. So more, I think it's a good way to learn though for me it's in um uh what I used it for not such a good um.

[I] Can you explain that?

[P] Um. If you do not fully understand what they are doing then you have to go back all the time. Which is also good. It has it's down and up sides.

[I] So you also mentioned that you had step by step tutorials experience. Is that positive, negative? Can you explain a bit more about it? What is this experience that you had.

[P] Hmm. With um sketching you have um. Like it's not just drawing. Just sketching different phases of drawing and sketching. And that is nice that you can go through multiple phases I guess. If you separate it in parts it will be better I guess.

[I] Can you describe your experience?

[P] Hmm.

[I] When did you follow a step by step tutorial?

[P] Well, with sketching. You could say it's step by step because it's parts and..

[I] How did you experience this?

[P] Well it's good if they are all steps that you know. And then if something goes wrong you can take one step back. It makes your mind structured in what to do next.

[I] Did you like that structure?

[P] Hmm. Yes I do. It's rather practical. Doing multiple steps. For me. Also I had a minor in Delft where they really do steps all the time. Like they have to design. The Delft design guide.

And that's maybe a little too much. You have to have some of kind of freedom.

[I] Can you explain why?

[P] Because I think you might be learning more then. I mean it's like. If you have to find out how you come to um. If your whole design process is step by step. I guess you end up with the same result as everyone else. If you have a little bit of room. Space for your own development. It's better.

[I] Oke. So can you compare the experience of learning a practical skill or this practical skill in class with learning from a video tutorial or step by step tutorial?

[P] Um. This was really intensive. And it was really step after step after step. Which is also nice because you have a lot of information in a short period. Though I might was missing that I could look back at how steps had been done. Especially with the cone thing. I was getting a little tired when it was in class. So. If I could have looked back then it would be of help.

[I] So if you had to choose between learning a practical skill in class or from a tutorial. What would you choose? And why?

[P] If I had to choose? Or if it was a combination?

[I] Yes well first explain which one you would choose if you had to choose and then maybe explain why the combination.

[P] I think um. The practical one over a tutorial. Hmm.

[I] Why?

[P] Because what I said earlier. If you have questions you can ask them in between. But if the video lecture is really structured and contains all the information. Then yeah. Then why not have the benefits of looking back to how the things should have been.

Oke. And why would you think a combination of the two would work best?

Um it gives the real motivation of being in practice with and expert. Rather than something behind a screen. The screen as backup is always a um. Good thing.

[I] As backup.

[P] Yeah, as backup.

[I] Why as a backup?

[P] Because I think the the the. The tutorial online won't have the quality of the real in person session.

[I] Oke. Why doesn't have this the same quality of a real in person session?

[P] Um. Due to feedback I guess. The feedback moment. And it gives more motivation, I guess.

[I] *Looking at the questionnaire answers together* So you answered in this range here about needing to wait for feedback. Can you explain why?

[P] Yeah. During the in class session you have nice feedback. At the moment. But if you are at home then you don't get feedback. So yeah then you have to. Then you have to. Yeah the feedback is slightly yeah off. But in class you get feedback at the same moment.

[I] So when would you like to receive feedback?

[P] Um when doing. Um while doing the tasks of the practical skill. While practice.

[I] Oke and why while you are doing it and not after?

[P] Yeah I guess well afterwards is really for yourself. Feedback afterwards is also good. But I think you have more benefit of during.

[I] Why?

[P] Because I guess it's more specific. On what you are doing. So if I was cutting in a different way um. Someone would see it and give me a comment.

[I] Oke. So the question about did you like the way of receiving feedback. Then you answer with in class I did. It is personal and at the moment you need it. And the feedback after was personal too and from an expert which raised confidence. Can you explain a little bit more?

[P] Yeah because we had such a small class it really gives the feeling that. It's really for you personally. So not for the bunch of a lot of people. So it's really. You can really do something [P] with your feedback. And afterwards it's nice to hear from someone who is. Someone that can be seen as an expert. So it gives the feeling of. That you. That it's feedback you really can work with. Valuable feedback.

[I] Oke. So if you think of the way of receiving feedback as in getting your feedback verbally.

Can you then also comment on if you liked it and why?

[P] It was verbally but also gestures and demonstrations.

[I] Did you like that or do you see another way that it could be better?

[P] Yes I liked this way. Better would be during practice at home. Um then you would need to take pictures and there would be feedback during. But I liked the way of demonstrations and um feedback afterwards. I have kind of the feeling that what you saw you can do it yourself.

[I] Oke can you explain a little bit more about your answers here? So "I liked the deviation of the process of making the model into smaller steps." Like why did you cross this 5?

[P] Hmm. It might have been number 6 or a 7. Though some of the tasks were not given in steps such as the slider. Um. Though they were oke with me. The overview of what they should look like with the slider you could see it in 3D and the rotation slider cardboard thingie. Though not all the steps were given was nice to figure out yourself.

[I] Did you feel like you had to figure out things yourself then?

[P] Yes.

[I] So there is also a statement "I received help at the right moment." And you answered leaning towards not. Can you explain why?

[P] Yeah uhm during the task at home it wasn't at the right moment but during the class it was. So um it depends.

[I] So you wanted to mark that it was not neutral but it was also not the same for both?

[P] Yes. But maybe it is just 'zeiken' (whining) haha.

[I] Oke. "I can now autonomously plan and build my own cardboard models."

[P] Um not at the moment. No. I had only little practice. Only one week of in between is not enough.

[I] So you need more practice?

[P] Yes.

[I] So you are neutral about continuing to learn cardboard modeling. Can you explain why?

[P] Um I think it needs a lot of practice to really have it as a prac- yeah that you can make stuff really with it. Maybe there is other ways. And I think that now as a bachelor I am just exploring what there is to use. And maybe later. Um maybe in another sta- maybe later in my life I would use it. But I didn't have the time to take it into practice.

[I] Where would you use it for if you would use it right now?

[P] Yeah right now I would. Small scale models? Like um. Something that you can really place somewhere and then it's tangible. Something that you really need to experience how it feels. Only not double curved sorts of things. I guess a foam mock up would be not so. Well the dimensions you could make them easily. Um so parameters, dimensions. To see if they are right.

[I] Oke. And what was missing regarding the lesson? You answered with follow up lessons. How would you see that.

[P] So um. Probably in the course. Something like that. Seeing what you can do with it eventually. It was nice that Joep brought all the. All his cameras and his mock-ups. To see what you can do with it eventually. With a small workshop you might um experience what you can do with it a little. But not really. And know if it suits you.

[I] Here you say. Maybe some form of lecture to look at when you are stuck. Remembering what steps to take and how to make parts. So how would you see this in practice?

[P] Um. I guess this was a workshop of the beginning of the practical skills. And a follow up would be maybe more difficult steps or looking back at the steps we went through.

[I] Then there was a question "What was unnecessary regarding the lesson?" and you left this open. Can you explain why?

[P] Hmm. I don't think there were any unnecessary parts. I think everything made sense. Ya.

[I] Oke. So then there is the question about "What is your opinion about online education" and you answered with: Could be of use though should remain a human layer. Can you explain why and how there should be a human layer remaining and how it could be of use?

[P] Um I think I won't be too motivated. Or. yeah It could be a motivational thing. But most of it I think because of the moment that you could ask questions. I think you can find it on forums online or so. But it's not really on the moment itself and questions might not be um. Um. answered. In a valuable way.

[I] And how could it be of use? How would you see the positive side?

[P] Yeah it can. Um. As I said. You could go backs steps or um. Pause or find more specific answers to certain problems. And you can look at it whenever you want. So.

[I] Oke then there is this question that you left open. "What was it like to give feedback to other students?" Can you explain why you left it open?

[P] We didn't have to give any feedback.

[I] Oke thank you.

Yes maybe you can explain why you enjoyed this manner of learning cardboard modeling a bit more.

[P] Yes I like the way that it's. You get a lot of information in a short amount of time. Workload is something that I prefer in learning.

[I] A high workload?

[P] Yeah a high workload. If something is like, you can plan it yourself. It maybe not so motivating. It um is too relaxed.

[I] Oke. Then "I would like to follow another course in practical skills this manner". You answered with a 5. Can you explain why?

[P] Um. In this manner yeah. It might be too short. It is not on the way it was given. Um. Though it on the time period. I would want a follow up. It is maybe to short to feel like you are capable of using the way of prototyping.

[I] Oke. Thank you. Do you want to add something?

[P] Hmm no.

[I] Thank you for your time!

#5

[I] So you describe that you have experience with video tutorials.

[P] HmmHmm.

[I] How would you describe this experience? Like positive or negative?

[P] Positive.

[I] Why?

[P] I could exactly what I was looking for. If I was looking for something I could just type in and I would exactly find that tutorial. And that was nice because then within a few minutes I knew what I was looking for. Oke. And I am quite visually 'ingesteld'. Hoe zeg je dat?

[I] Focused?

[P] Quite visually focused. So when I see it, it is easier for me to do then when I read it.

[I] Would you say that you need to know what you are looking for, before you can find the right tutorial?

[P] I would say I need to know what I am looking for before I look up a tutorial anyway. I am not someone that looks up tutorials just for fun.

[I] And you said, well the same with step by step tutorials. Um. Are all the video tutorials you watched step by step tutorials or-

[P] All.

[I] Then I wanted to ask. Can you compare the experience of learning a practical skill with the Academy of Skills to learning a practical skill in class?

[P] I have honestly never. Oh I did sketching btw. Um I think this was um. Well the difference with the sketching class was that there was one teacher and there was one teacher and we had to all stand around him and it was quite hard to get a good spot to really see it. And it is just one time. He is very experienced so he can give feedback while you are doing it. So that is nice. But what I like now is that I had like my private teaching session. So I could really see what he was doing and how he did it. And if I didn't understand than I just rewatch. And because the video was so clear and precise I didn't have the feeling that while he was doing it I would have wanted the possibility to ask him something. Cause there was no need for it.

[I] Oke. Can you also compare the experience of learning a practical skill with the Academy of Skills to learning a practical skill with the help of a tutorial?

[P] Hmm. The main difference is. I think that this was. That you get feedback. Haha. Furthermore it is quite similar, right.

[I] Um the steps and that you could not go back and forth through videos here.

[P] Yes. I sometimes missed that feature. Yeah because then there was a video and there was like um. It was one of the last videos and it had 4/5/6 minutes explanation in one time. And then I could not find the dimensions of the pdf. Because I could not find the pdf. But I just wanted to go back to that very small piece that he said the dimensions. And then I had to rewatch the whole 4 and a half minutes before it came to that part and that was really a waste of time. So that was a feature I was like ARGH. And there were moments that he was. Especially moments that there wasn't happening that much or that he was practising the skills that we had already been taught. So he was drawing out with the ruler and then cutting it.

And then it was in every model and sometimes it was just. It was quite long. And I was like OK I know this part. Now I want to skip it. But that was actually the only thing. Furthermore, because it was, it was mainly new skills. I didn't have the feeling at all. The need to skip forward.

[I] And if you compare it to learning with a video tutorial what would you say that differs as well. Except for the platform of course.

[P] Hmm. I think now you are really forced to do it step by step. And if you see another tutorial you just see it step by step and you watch all the steps and then do it. And then fail. And then watch again. And maybe then pause. But now you were really forced to. Really go step by step. And I think that makes your model, in the end, better. And the process in general.

[I] So you were neutral about receiving feedback at the right moment or time you need it. Can you explain why?

[P] Because I sometimes had questions during my work. For example when I spoke to you. I don't know when I cut through the material. That was really something that I would have wanted to ask when there was really someone around. And not wait for it until someone gets feedback. Especially because when I was working I was focused. I am not talking while working. I just don't do that. So in the end I was like, oh I would have wanted to ask that. But there was

no possibility for me to do that. So that was something for me like.. Yeah. I did like the feedback but there were some point that I would have wanted feedback on or where I questions on had. But they couldn't get answered because of the platform.

[I] So you would want an option to ask questions to go with the video you send in for feedback?

[P] Yes. But not only to ask questions. Because with the last one there went something wrong with the video and I wanted to put there like 'sorry, this went wrong' in the end my model was broken. So, just so you know. It did not work anyway. So not only questions but also comments.

[I] Just to be sure. "If you had questions your questions were answered during the course or feedback session". You are leaning towards 'not always' can you explain why?

[P] Yes that is what I just explained.

[I] Oke. Then you say that you did not like the working rhythm at all. Can you explain?

[P] Um yeah. Maybe because I am doing my final bachelors. Um so it was quite a demanding task so sometimes I just I would have wished to just have one day. Just full of cardboard modeling. That would be really nice. But because I had to wait. And plan all these sessions in between. Because I had to wait for feedback and give feedback. It was, it made me. Maybe for two weeks I had to do something. So therefore it was way more demanding than I perhaps would have wished for. Yeah. But that is mainly because I am doing my final bachelors.

[I] Oke. And the flexibility of the working rhythm in the course fits your needs. Well um. You lean towards not at all. And that is because-

[P] The same. So I do like the flexibility. And that I can plan my own like 'you have to do it from eleven to twelve or something'. That is something that I really like and I can adjust it to my own schedule. But because there was some restrictions within the planning it was just very demanding.

[I] You are neutral about continuing cardboard modeling. Can you explain why?

[P] Because I like the technique. But it takes quite some time to do it well. So if I need to make a quick prototype than I think I'd rather use other techniques that make me able to communicate my thoughts quicker than cardboard.

[I] What kind of techniques?

[P] Just normal carton. Just paper or 3D modeling or sketching. Just sketching. So those are ways for me to quickly communicate. And I think if I want to make it like a real pretty prototype then most of the time is will be wood or plastic or something. And to me. Because I am not that much into product designing, there is not that many steps in between. Imagine if I would be a product designer and it would really be about form giving than cardboard would be a suitable way for me to be an in between step a sketch and like a wooden model. But because I am not really into that. And probably will not really focus on that. I think I rather skip that part. Unless I really focus on that than I would use it. So that is why it's neutral.

[I] Oke. You mention that you think it is unnecessary to have the pedal. Because it is easy to find the right moment in a 5 minute video. Can you explain why the pedal does not make it more convenient, because it already selects the moment for you?

[P] Because I was focussed on my hands. Not on my feet. And I really had to consciously.. I was distracted by 'oh shit, I have to use the pedal' and then I was like 'oh find it with my feet' because I was not standing above it with my feet all the time. So I had to look for it and then step on it and then continue. But I like way more to stay in the focus and just like get my model ready. And then afterwards it was not hard to find the right moment. Most of it. Especially because um. Most of the times they asked to show the final thing so that is the end of the video. So, yeah.

[I] Oke.

[P] I must admit that I think. I used the pedal only um. 30% of the time.

[I] There were drawings in your feedback sessions. Can you give your opinion about that?

[P] The drawings that I received?

[I] Yes

[P] Um. Um. Half of the time they were really helping. Or focussing on what he was telling about. And especially one time. He made a drawing for me about what it should have been like; the circular thing in the cylinder-cube um. So that was really, really helpful. Um but I think half the time he was just too late with pausing the video. So that his drawings were not perfectly aligned. So he said in this part of the model but my model was then hahah just a centimeter to the left or to the right so..It was like nice that you drew something but I now still don't really know what you are pointing towards. So sometimes it was not really very precise.

[I] Oke.

Um.

[P] But I think that also has to do with. When you are giving feedback you are not able to um. Um. rewind the video. I had the same when I was OH and pausing and then the moment was already gone and I saw that Joep had the same when he was giving feedback and it was like oh. Oke, well, what you just saw here. So that is an um, um. For the drawing a little disruption.

[I] Um oke. And when you were giving, oh um. What was it like giving feedback to other students? In the questionnaire you say you felt like you could only give feedback on the things you received feedback on yourself. Do you think your feedback helped other students?

[P] I hope so. But I didn't get any feedback on my feedback. So I really have no idea if they got anything about it. But I felt like an alternation of Joep. 'Een verlengstuk' (extension of Joep). You were haha.

[I] Then I had one more question somewhere. Um "The various functions of the system were well integrated." you lean towards disagreeing. Can you explain why?

[P] Did I say anything about it?

[I] No, you did not.

[P] Um, I think that was mainly because of the pdf thing. And for me the function with the pedal. Those were the things I was like mwaa. Or the playing. The play forward and backward. That is just mainly functions that I think need to be looked at.

[I] Oke and you are neutral about the inconsistency in the system. Can you explain why?

[P] Hmm yes. That is the same. That has to do with the functionality.

[I] Oke. Those were my questions. Do you want to add something. Or do you have feedback / tips that you want to share?

[P] Yes. I really didn't know why I was giving feedback to other students. Because I didn't receive any. So I was wondering where the feedback was going. Or if they received my feedback at all. Because I wasn't. So that was really confusing to me.

[I] Um. You were one of the first to finish every lesson so you received feedback from Joep.

[P] Oh. So the others didn't get feedback from Joep.

[I] Yes.

[P] Ahhh so I am lucky. Oh and this way Joep didn't have to give feedback to everybody. So it really takes less time for him because I am his.. Ah.

[I] You are his extension.

[P] Yes, yes. Oh nice. I did not know that because I just didn't know that. That is why I was like confused. Like if others get feedback of Joep as well, why would they need my feedback. So I think maybe. If I would have known that Joep was not giving them feedback. But I was the only one giving them feedback. I would have been even more alert because then I would have felt more responsibility towards them. I really tried my best right now. But maybe then if I knew they didn't even get Joeps' then..I would have even even harder um did my even more best.

[I] Haha. Any other comments?

[P] Um let me think. I think I covered most of it. Um. No I think this is it.

[I] Thank you for your participation!

#6

[I] So you mention that you had experience with video tutorials. Can you describe that experience?

[P] Yeah like with. When I do something for my own. Something just for fun. I would do some YouTube tutorials. So that is like really basic kind of tutorials but that show you exactly what to do. So.

[I] And was that a positive or a negative experience?

[P] Mmm. Both because they are mostly going really slow. But because it is a video you can skip it and that gives also kind of freedom. And that made it kind of nice but mostly it was just nice because you saw something. Um someone doing something that you wanted to make. So you had some idea if you would be able to do it.

[I] Oke. Can you also describe your experience with step by step tutorials?

[P] Um yeah. Also some YouTube videos are step by step. And I did like um.. In primary school or so we had this drawing book and we had like step by step um. How you should draw something. And I really hated that. Cause I would draw it always differently. But I did learn from that that it's kind of good to see how things are broken down and I kind of kept looking at things when I don't really understand things I kept step by step tutorials and then for arts and also for school things like um like if you have a problem. Like you need to solve a problem, really like mathematics or something. And that is really easy if you have a step by step how do you solve this kind of problem. And I kind of kept looking at these things because I noticed that if you break it down it's really simple to understand.

[I] Oke, so that experience you would say is: positive or negative?

[P] Positive.

[I] Oke so you learned cardboard modeling with the Academy of Skills. So can you compare the experience of learning a practical skill via the Academy of Skills with learning a practical skill in class?

[P] Um. Yeah I liked that you were working by yourself. Cause I didn't feel like someone was constantly looking over my shoulder. But on the other hand. When you have like an immediate question, you can't really ask it. And I liked that you had the videos to explain and not someone in front of a class like showing you. Because that would be really vague. And now you have this view right on top of the model that he was making and then it's really easy to understand. And because you were alone. And what I just said, no one is just looking over your shoulder all the time. But also when something goes wrong. You just do it again and it didn't feel like OMG this is terrible, this is just.. Because when you are in a class it kind of feels like everybody can see.

[I] Hmmm Hmmm.

[P] So that of course, everybody is learning, but.. Yeah I don't know. It felt more confident trying things out.

[I] Oke. And um. If you compare learning with the Academy of Skills to watching video tutorials and learning a practical skill from that?

[P] Like the videos?

[I] Yes well, like. Either using this platform or using video tutorials or step by step tutorials.

[P] I don't know. Hmm the same. Different would be that you got feedback. Basically. And that you have a strict order of lessons. Yaa I think it is nice to have feedback. And also that you have to wait for the feedback. It makes it a little bit more serious. And maybe it also makes that you also kind of keep to the structure of the lessons and makes the learning process better while when you are freely on youtube just seeking. You will probably just skip some parts because you are not interested in them. And you might need to learn those parts too.

[I] Oke. So let's see. To the statement "I needed to wait for feedback while I did not need it." you answered neutral. Can you explain why?

[P] The feedback that I got was good. But I had often that for instance that I made something and I knew that something was wrong with it. And that it was not looking like it should have. And then of course the person giving feedback will also see that. And will also say that. So it was like. Yeah ok, I know. And there was um the waiting for feedback was most time only a little long but there was only one time that I didn't got feedback. So it wasn't really necessary to continue at that time but then also I needed to wait.

[I] Oke. Can you explain a bit more about why you liked the way of receiving feedback?

[P] Yeah. I like that you see the person talking. So it's not a written feedback and you can really see his face. I also like that he can point out things on the screen. Because it makes it a lot more clearer. And I actually liked the overall feedback really well. Apart from the, I also mentioned that later, that the videos that you could hand in were sometimes a little bit inconvenient with cutting them to size. But the videos that you delivered the feedback on was really clear and the reason I didn't give it a 7 is because sometimes for some reason the drawing or the talking did not line up with the image and then the feedback got kind of confusing. And you would be struggling with what is he pointing at. So, that was just. That's probably an error more in the program than in the way of giving feedback. Because the way of giving feedback I really liked.

[I] Oke. Um than "If I had questions my questions were answered during the course or feedback session." You answered neutral to this. Can you explain why?

[P] Uhm Yeah. So sometimes you had questions while making and then you figured them out for yourself while making a bit further in the process. And sometimes I had questions like I will just see if he comments anything on this and then most of the time he did but also sometimes he did not. But most of the questions I had was just somethings I figured out while making other things. Like Oh this is the way you should do it. Yeah so sometimes there were questions answered and sometimes they were not. So.

[I] Oke. So does the same go for receiving help-

[P] Yes. That was exactly the same.

[I] Um yes. So what was unnecessary regarding the Academy of Skills platform? You left this question open. Can you explain why you left it open?

[P] I couldn't really think of something that was really unnecessary.

Oke so how did you for instance experience the pedal interaction? Did you use it a lot?

Yes I used it. Oke. Actually I did not really see it back in the editing. So sometimes the editing was not in the middle but most of the times it was actually already at the start. Maybe the pedal did not add...But maybe it was just a nice adding but it didn't work as it should have. I do not know.

[I] Oke so um, how about the different steps it was divided in? And Um. you had to fully watch the first video.

[P] Yes one time that was really long. That first video. But on the other hand if you don't watch it. I mean you do need to watch the whole thing so.

[I] Oke so I am trying to name everything to see if you missed something or thought it was not needed. So um the feedback, the drawings? We talked about this already.

[P] Yeah it was all quite nice actually. Um. Maybe when you had to like load stuff or it had to dry for 20 minutes and then you had to take the things off and then you should have made the video of the things taken off like after those 20 minutes. But I am not going to wait here for 20 minutes so I mostly took them off earlier. Or I kind of did something else in between. But maybe if there was an option that you could also film it at home. I tried. You can do it with that camera but then you are in there yourself. You know. But maybe that makes it easier. Because then you could like finish it at home or the glue things at least. Because you could get them off and show the thing itself.

[I] Oke. And what did you like best concerning the Academy of Skills. You answered with um. That you could rewatch the videos and how the explanations were filmed. What do you mean by this?

[P] That you did not see his front while doing it but um only his hands. Cause it made it really clear what he was doing. And the. What did I say, rewatch the videos? I just really like it that when someone is in the classroom and he explained something. And you want it re-explained. You have to ask for it. And you could just now watch it back.

[I] Oke. So you already send me your opinion about online education before. Did it change during the course?

[P] Um. A little. Because the online education that I did. They often. They tried to gamify it. Like make a game out of it. Which I really hate most of the times, because it is really obvious. And they just add extra steps to your learning process. And I like this way a lot. So this way of online education I am way more positive about.

[I] Oke. So why do you like this more?

[P] Yeah. Because the way of feedback and the way the freedom you have and that you didn't need to do unnecessary steps. And that it was not tried to make fun. Not like "Hai this was.."(funny voice). Just like serious and to the point. And this is what you have to do. Take your time and show me when you are done.

[I] Yeah oke. Um about giving feedback. Can you explain a little bit more about your experience? While giving feedback?

[P] The first time was really weird because you have to talk to your own image a bit. Also. And I think, or at least I had this the first time. But after that I didn't have problems with it. That you cannot rewind the movie, that you are watching, to give feedback on. So you have to give feedback mainly or press pause and then tell them what you still saw. But I only had trouble with this the first time. The other times I could just immediately comment. But I think the first time that was because I was a little bit shy while I am talking. That I kind of was like wait, oh oh wait you just did this thing and I forgot to comment cause yeah oke. But yeah. And I wasn't sure if I was like able to give like, good feedback. I used the feedback that I got and the experience that I had to um like give feedback. But I am not sure if things were like.. I think I also said sometimes 'I think it is better when you do this.' 'but this might also be fine, but I don't know". So I don't know how skillful I was to give feedback.

[I] Oke haha. Um. "I think I would need the support of a technical person to be able to use the system." You also answered neutral about that. Can you explain why?

[P] I don't know. I actually think I won't need someone. Or maybe um. You remember the first time that you put some things off? I think that I would have thought of it myself. But it would have taken some time and you just knew how to do it. So that is why I answered the 4. But apart from that it was really easy to use so I would not need a technical person.

[I] Oke. Do you want to add something else to your answers? Or tell something about what you experienced?

[P] Hmm. No. I think I said everything.

[I] Oke. Well thank you so much for your time and efforts!

#7

[I] Can you describe your experience with video tutorials?

[P] There is this website called EdX. Where you can follow multiple courses. Like yeah, weblectures. On the internet. Oh and also like um different tutorials on YouTube.

[I] HmmmmHmm. And is this a positive or a negative experience?

[P] Um. Um. The tutorials on it's own are fine. When I want to look for something, how to do something and I find it online and then I do it. It's fine. But if you follow like a whole course it is hard to stick to it. Um. Because you often don't really plan it out and then you forget about it. So it's a positive experience but it's a shame that I don't always have the time or to finish it or to finish the whole course.

[I] Hmm. Oke

And you also had experience with step by step tutorials?

[P] Uhm, yeah I guess so. I mean like every tutorial is like step by step.. Right? I I I I guess. Like otherwise it's not really a tutorial it's like for example you have these cooking tutorials. I suppose that is also a tutorial. So that is also step by step. Like you have to do this, this and this. So in that case I guess yes. Because I wouldn't know else how a tutorial works if it's not step by step.

[I] Oke. Sometimes it's not that chronological, and they switch between steps. But Instructables for instance, that is very step by step.

[P] Oh oh, Like that! Oke. No, as far as I know all the tutorials I followed were step by step.

[I] And is that a positive or negative experience?

[P] It's a, it's easier but um the point is of those kind of tutorials is that you often get bored because you want to speed up the pace. Um so what I see doing or what I see myself doing often is that I start watching the tutorial in the beginning. And it's very slow and very boring so I kind of do other stuff. And then when they are further more like further in the tutorial and um I wasn't paying attention I was like what what? What did I had to do? And then I don't know what to do anymore. That's the. Overall it was a positive experience. But that is the thing that is um. That's um. That sucks a little. Oke That the beginning is boring and then you lose track.

[I] So you followed the Academy of Skills version of the cardboard modeling class.

[P] Yes

[I] Can you compare this to your experience of learning a practical skill in class? So comparing your experience with the Academy of Skills and a regular class.

[P] Is it like the whole service? Also with the pedal and the lamp?

[I] Yes.

[P] Oke. Umm compared to a class right?

[I] Right.

[P] Um the Academy of Skills is much more on your own. So like self develop- yeah um self development. And um. Self-continuous learning. Umm what I do find a pity is that you cannot get realtime feedback. So like if you're. I took some sketch classes here. And if you are sketching you can get direct feedback from people around you. Or the lecturer. And this is something that I missed. Because if I knew that while making a model, that I was cutting it wrong. Or I don't know. I did something else wrong. It would be way handier. And also it is nice to have some validation or support from people around you. That you can see what other people did. That is something I missed. But I guess that can be implemented. Like showing videos of how other people did. While you're making it. Or something. I don't know. If it's available. Just. I don't know. Something like that.

[I] So you would want to see what um. other people are doing at the time you are doing something?

[P] Um. Yeah. I would be nice to. Um if I was working. That I would also see other people making it or doing it. Like um. Like it is optional. Because it kind of feels like. You can watch how they do it. So learn from them. Because you are starting and they already have this kind of experience. So you can see where they make mistakes. And um. I don't know. It kind of feels

motivating I guess. To have other people also um. Doing it.

[I] Oke. And if you compare the experience with the experience of learning a practical skill with tutorials or step by step tutorials?

[P] Um. I found. Because I had to do this for your research. It was nice. Because I had a strict planning of when I had to do it, so. I finished the course. So this is the first. I finish like a whole um. Online course. Because normally I forget about it. Or I don't really plan it. But now I had to. And I also had to go to a certain location. Which I liked. Because it made me. I had to, I had to plan it. So that was positive regarding online courses and the negative part is then also that if you have to go to a certain location it can not always do it when you want to. So it kind of has a positive and negative side. Because it would be nice that on a free night. I would like um. Oh. I now have time and then I can start modeling. But I need that lamp and the pedal and stuff such so. It wasn't really possible. So that was um. Planning wise it was not. It felt kind of like a burden but on the other hand it was also helping me to plan it better. But that um. Yeah. It has a positive and a negative side so.

[I] How would you normally receive feedback when you do video tutorials?

[P] Um. For like online courses? Just to learn something. Well that is just learning something obviously there is no feedback. I'm not sure I once. I am not very familiar with receiving feedback from online tutorials so only from SketchDrive. That I handed something in and then later on I get a drawn-on feedback and text feedback. So um. Not really from video tutorials. I don't really have experience with that.

[I] Oke. So can you compare the feedback you got from SketchDrive to the Academy-

[P] Um. It is kind of. Yeah I don't know. It is kind of like, similar. Because it is also drawn on the visuals I handed in.

[I] hmmhmm.

[P] And because it is sketching it's actually. It's nice because you can see directly, maybe not very much in detail, what is meant with this. With the video tutorial I had a little bit of struggles. Because it seemed like the lines drawn on my video were not always. Um. How do you say it. Um. timed precisely with what the feedback was given. And my video. So it would be a line drawn here. Saying you have to cut like this. And then afterwards my knife was in that position. So sometimes it seemed that the feedback came sooner than my video. So that was a little bit weird. When receiving it, that was not always very clear. Um. Yeah compared to it. I actually don't know it. It seems um, kind of similar but it kind of um. Yeah it sucks that you cannot really give feedback like it is a 3D thing and you can't really give the feedback in 3D. Only on 2D. And that makes it a little bit harder. So with sketches it is easier. But for making models it kind of um. It's not optimal. So that is why um I would have like um real time feedback um better.

[I] Oke. Then I am going to go through your answers with you. And I am going to ask for some explanations.

[I] So. "I received feedback at the right moment / moment I needed it.". You crossed a 3. Can you explain why?

[P] Um. Because um. I received feedback. But the feedback didn't always seem at place. But is was there. Like after I watch it. But for the last couple of videos I can't recall I received feedback. Um. Maybe I just forgot about it and then um. The feedback was not always very helpful. And I didn't really feel like I needed it. But when I got it it was like Ah that is nice to maybe keep in mind. So I was not sure if it was really helpful.

[I] Oke. So why was it not really helpful?

[P] Um. Because it was like. The feedback often was like. Yeah you have to cut more straight. And I was like Oke. Hahaha. And then it was. I don't know. Like most of the skills I learned was through explanation. And then the feedback was yeah. Complementary but not really necessary. But it was nice to get some certification that I did something right or wrong. But I guess in this case with cardboard modeling it was more like a skill practising and sometimes when you cut something out too much then it was um. Just a mistake but you, you learn from the mistakes you make and next time you do it better. It was however. Sometimes I got valuable feedback. But um. It was not really that I needed it right after the video to continue my process.

[I] Oke. Then. "The feedback I received was very concrete."

[P] Um. No. Because like I said it was like 'you have to cut more straight' it was not really situation specific. So I think it had to do with the camera. I I um. In my opinion the camera was not very high quality so um. If there was something like glue on it or a little cut out of it. Then um. You cannot. You could not really see it. I also think the tasks we got were not really that specific to get concrete feedback on. So it was more like. More general. Not very. Yes, specific. Because I also think if you make something. The feedback you get is more on the process of your making and it's more valuable if you get it while you make it.

[I] Oke. "I had to wait for feedback while I did not need it." You

[P] Hihi. I did not fill it in. hihi

[I] Yes. You did not answer this question. Can you explain why?

[P] *silence* Um. I didn't really have. Have to wait. Because I could always continue. I don't know if that is a bug in the program. But I could always continue. So this question did not really apply to me. When I was going on SketchDrive I always got feedback. And I could always continue.

[I] SketchDrive?

[P] Huh. What did I say?

[I] SketchDrive.

[P] Oh hahaha oh sorry. I mean Academy of Skills. I could always continue. Either way. If I got feedback or not. So it was not applicable to me.

[I] Um "The feedback I received was very specific."

[P] Um yeah. It was not really situation specific. Like I said.

[I] Oke. Then..

[P] I always got feedback from Joep! Haha. because so um. I think I was the first one that finished the course..? So yeah always when I got feedback, I got feedback from Joep. And I know he gives the course. So I know he was of a high expertise level. So yeah always!

[I] You did not receive feedback from anyone else?

[P] I, Um. Maybe someone else. I am not sure. But if it was from someone else it was also from Joep.

[I] Oke. How do you mean?

[P] Um. I believe you can receive multiple feedback on one video right?

[I] You are not supposed to, no.

[P] No? I can't really recall. In the last, the last time. The last couple of courses. It was always from Joep. And I believe I did not receive any feedback from someone else. At least not something that I could apply. In my mind it is always from Joep. Maybe it happened but it was not valuable enough for me to remember them. Hahaha. I am not sure anymore.

[I] So. um. "I liked the way of receiving feedback." You crossed a 2. Can you explain why?

[P] Yes. Because.. I also explained it here.

[I] Yes.

[P] Because I, um. I thought it would be better if I could get realtime feedback. I mean I can

imagine it is hard to um plan. But it would have been super awesome that I got, um if I was cutting and somebody would look with me at the same moment. But I can also imagine that I would bring a lot of burdens with it. If you are doing something and somebody had to watch with you. But I think that real time feedback while being on the process could be better because then you can learn while doing it. And not learn after you have done it. And then rethink. Oh what did I do again.

[I] HmmHmm. You also mention here. "I would have liked to cut out multiple parts of my video that I would associate as feedback worthy. But I was not able to select those."

[P] Yes. Because when you have a video. You can only select like one timeline. While in the process you have like things like glueing or cutting and that was also in one video. So I would have liked to select this part, this part and this part. For example.

[I] But you do that already right?

[P] No, because you make multiple videos,

[I] Yes.

[P] But in one video you can only select one part.

[I] Yes.

[P] But I had multiple times when I was doing something and it took too long to select the whole part. So it would have been nice to cut up this. Those. This process and select like two small parts of it to show. Like cutting it out and then glueing. I don't know. I don't know what was the requirement of the video. But um. It would have been nice that I could select two parts or like fast forward it. I also mentioned that somewhere. But I don't know.

[I] Um yes. Oke. I understand now. So. "I felt supported in my learning process." You answered with a 3. Can you explain why?

[P] Yeah. Not really because the feedback was not always needed. Um. And it was not really when I was finished it was not really like YAY you finished another course. 'You learned something!'. It was more like, OK. I'm finished.. So I kind of missed that. Also together with other students. That I could compare myself. Or like. We finished this together. It was more like a, on my own thing. And not really rewarding.

[I] Oke. Um. Yes. *battery problems, stumbling, and charger plug in*. Could you explain your answer about liking the working rhythm?

[P] Yes. Yes. This was mostly focused on the working rhythm within the videos itself. Like I said in the beginning a tutorial is very boring. And you often want to skip it. I had this really multiple times. That you first watched the- Because you have to watch all the videos, You can't fast forward. That's so frustrating. So you have to watch it. And you are like OK. And it would have been so much easier if you could have already started while these kind of video's, like drawing for example. But it was not possible because you couldn't record at the same time. And also you didn't know what to record. So if in that case. Um the working rhythm was a little bit out of sync with the videos because also in the end. You often had to glue something. And then you have to wait 20 minutes before you can record something else. And so you were like sitting there. And that is what I mean with the working rhythm. Like videos were not really tailored to be in the same rhythm as the making process. Um. Because first you had to watch a whole part. Than you had to cut- that part in between was OK. Because then you could cut, and could do your own thing. And then afterwards you had to glue and wait again. So the beginning and the end. The rhythm of that was not really satisfying. So that is why I gave it a 2. Because it was, It took very long. So. While it could have been faster. en I enlarged the video. I wanted to get it away. I clicked on the screen below. But then it stopped recording.

[I] HmmHmm.

[P] And that really. That was so f*cking annoying. That was a big minor points. I don't think I mentioned it here but um. It just popped in my mind. It was really. Yeah that really sucked. Also in the beginning when you watch the videos. Because I know the process videos that was OK, because you could watch it during recording the video. But you had first. You first had to watch the video on the beginning and this one you could not skip forward. And there was also a big explanation in that one that you had to see before making it. So you had to see it. But you could not do something while cutting or um. Yeah you could not record it while you were watching that video. So the combination between those two would have been nice. Or maybe like, um. Plan the videos differently. I don't know. But that was something that slowed down my working rhythm.

[I] Hmmhmm. So what was missing regarding the Academy of Skills platform? You explain it here. Can you elaborate a bit more on it?

[P] Um what I said like selecting multiple video parts from one video. Like um. Select two things that you want to show. I had this quite often. That I wanted to show multiple things within one video. Or be able to fast forward it. Because I could imagine that it could be some somewhat tiresome for someone to watch it. Uhm, being able to skip through the first video. Because that was also not possible. Like if you wanted to. If you missed something. Or weren't paying attention, that also happened. Um. Then you had to rewatch the whole video. So that was not really nice. I kind of see the benefit from not being able to skip forward it. Because you have to, You HAVE to pay attention to it. But it kind of felt like a burden.

[I] So what if you only could go back?

[P] Um. That would be quite helpful. Going back. Yes. That would be a lot better. Like 10 seconds back and then oke well yaaa. That is what I missed. That would be, that would be awesome. Um um, *mumbling to self*. Oh yeah like I said before. With the video, that I could already record while it was being explained. And that I also knew what I had to record. So I would be able to prepare myself for it. Um. And also with the pedal. You could indicate like the beginning of your time mark. But not an end. And I always. I don't know why, but I kind of did it like 'I want to start here' and finish here. But then I just set 2 timemarks. So I just got the last one. And I don't know. For me it seemed logical to start somewhere and to also mark an end. And that was also not possible.

[I] Actually, you mark the middle. Of the selection.

[P] Really? Hmm. You mark the middle of your time?

[I] Yes, so the time is spread around the point you marked. It is half before, and half after.

[P] OOOH well, that was not something that I knew. I thought I just marked the beginning. It is also not something I found out later on. So I would still prefer to mark a beginning and an end.

[I] Oke. Good that you say that. Let's continue. "What was unnecessary regarding the Academy of Skills platform?" You left this question open. Can you explain why?

[P] Um. I found it was very minimalistic so there was not really a function on it that was unnecessary. Um For me the pedal and the lamp were not really necessary because often I just did it on my computer. But I had sometimes that I was making it. Or like the model and then I wanted to record. And then I thought Wow this pedal is very handy. But it is not always. It is like, it is a nice gimmick that comes with it. But I don't know if like the costs and all. And effort to place it on a um um. How do you say like a um um. 'Vast punt' place it on a point that is always on one location. I don't know if all the hassle is worth the nice gimmick of that. So it might have been a little bit unnecessary but I liked it. But the problem is always when I sit on the chair, I fold my legs under each other so I don't touch the ground. So it was for me harder then, to use the pedal. Because I could not reach it with my feet either. Hahah. But that is more a thing like how I sit on chairs.

[I] Hahah. Oke. So what did you like best concerning the Academy of Skills platform?

[P] Hmm. That is was very easy to use. Besides the little box that was in it. And the camera I

was not able to use haha. Also with the video that you enlarge it and then when you click next to it you stop the video. But that are just like, minor things. The whole idea of the wireframe and how it all links together is very easy to use. Um. And it is very stepwise. So that is what I really likes. Yeah plain and simple.

[I] Oke. So your opinion about online education. Did it change during the course? Or after the course?

[P] Um. Well it gave a nice insight that an online education is always able to do where ever you want and whatever you want. It's always a thing also with cost. This one was free. So Yay. But normally it's like, you have to pay for it. And I, I, I like um. The you want to have, som-, um kind of um verification that if you pay for it you get something nice back. And so, so, therefore it is nice to have like some sort of trial. But that is not really int- I mean um applicable to this scenario. Uhm what I. Yeah what I. Again what I liked about this is that you really had to plan to do the course. Because you had to go to a certain location. It was kind of a burden but it helped me to really finish the course. But it's also, I finished the course also due to that you wanted me too. If it was free for me to, plan it. I think I wouldn't have finished the course by now.

[I] Why not?

[P] Um. Yeah in a certain moment. You, you. You set other priorities. So. Then also going to a place to finish this is also more burden so.

[I] Oke. So what would you like to keep regarding the Academy of Skills platform? You answered with 'being able to'. Can you explain this?

[P] Hahaha. I think I wanted to say something and it kind of went wrong. Um, I don't know. Being able..what would you like to keep regarding the Academy of Skills platform.. Um. I really don't know what I wanted to say. Oke what do you mean with what would you like to keep regarding the Academy of Skills platform?

[I] So um. If we changed everything up, what would be the thing you wanted to keep the same?

[P] The easy user interface. And also the selecting of different timeframes because it um solves a lot of editing. So that is nice, that you could select different timeframes. Only I would differ to selecting a beginning and an end. Um. Um I think the videos were quite nice but yeah the camera um. Quality was a little bit low. Also, um maybe videos from like two sides would be awesome. What would I really like the keep? Um. I don't know. Yes. The easy interface. And also the selecting of timeframes easily.

[I] Oke. So you say you would like to follow another course in practical skills in this manner. Can you explain why?

[P] Um. Because it's. Um. It kind of depends on what it is. But it's really nice to get um. Feedback. It is nice to get feedback on the process but it would be nicer to get it in real time. But obviously that is not always possible. So for example. I can also. Because doing practical skills is a lot about the process. And if you for example like sketching. If you would get feedback during sketching while like 'no you have to move your wrist like this' *shows wrist movement* that would be very interesting. I could imagine it is not always applicable in every case. Like maybe sometimes it is not really necessary to get the feedback on the process. But then it would be nice to get some feedback on this. Um. while making stuff. I could imagine that this platform could be actually better usable for sketching then for cutting stuff. Because now the only feedback I got was um, you have to cut more straight. And also one time I cut too deep and therefore I broke a piece of when I flicked it away. Um. But that was also something, um feedback I got while showing the result. But for sketching for example it is more like really the process of sketching and um how to move your hand or how to place your hand. And also a lot while coloring or drawing stripes. Well I don't know. So I could really see this really be really useful for sketching.

[I] Oke. Would you then see this as more useful than SketchDrive? Where you followed the sketching course?

[P] Um. Yes it would be nice to get feedback on the process and also on the result. And for SketchDrive it is only on the result.

[I] Oke. So you left open, the question “I would replace a regular course with the same course in the manner I followed this one in.” Can you explain why?

[P] I did not understand the question.

[I] Oke. The question says that if you had a regular course, like just a course in class. And you could replace it with the same course online, an online practical skills course. On the Academy of Skills. Would you do it?

[P] Hmm. In my mind when I do it like this. I would do it only, if I then could fill in the gap of the regular course with another course. So I do this one on top. But if I would spend the same amount of time on it. Like no extra course. And instead of a regular course I would make it digital. I would say no. Only to save time, and to do more stuff. I would do it. Because that would be awesome. To learn more. And also that I could plan the times myself so that I could follow another course. That would be great. But if I would. But if I didn't make um anymore time.. To follow other courses or something. I wouldn't really see the value of it. Because you have some then you um in a regular course you have people sitting next to you who are also making stuff and you have like direct feedback and more quality of um like higher resolution of seeing how your model looks like. Um and also receiving better feedback. And also hearing what other people got as feedback. That could also be very valuable for you to know.

[I] What would you rate?

[P] I think a 3. I am a little bit doubtful. It is more like a: I-have-to-experience-it-before-I-believe-it situation.

[I] Oke. Can you explain why you enjoyed working with the Academy of Skills platform?

[P] The interface was really easy. That's how, why I liked it.

[I] Then, can you explain the 5 you gave by “Various functions of the system were well integrated”?

[P] Um. Also due to the camera first not working and um. Also with the clicking of the videos that I stopped the video so there were like still some little bugs within the program. Um so. Overall I really liked it. But that made it a little bit less. It's still a program or a platform that has quite some bugs in it. So. And also. They were well integrated but I had the feeling that still some things were missing like multiple parts of video and fast forwarding.

[I] Oke. “I thought that there was too much inconsistency in the system.” You rated a 3. Can you explain why?

[P] Because there was not a lot of inconsistency but again. It was also due to giving feedback. That was very unclear. When I had give feedback and receive feedback. Because you told me I could only continue if I had given feedback or something like that but-

[I] Yeah. That was a bug it was only between your third and fourth lesson I believe. It got solved later.

[P] Yeah, yeah, yeah. But therefore it was inconsistent for me because I could continue either way. And without having received feedback or having to give feedback. So that was a little bit out of place because there was not really. You could not really predict when something was going to happen. So you were like hmm Oke. That is why.

[I] Oke.

Let's see. You answered neutral to “it's easy to find the information I needed”. Can you explain why?

[P] If I needed information from a previous video I like could not really go to the point because I had to watch the whole video again. But then again everything in the user interface was always I expected it to be. Um and also. It was also largely due to the last task I was given. And that you

had to like a pdf, um. Of information. But some information was also missing. And at first I couldn't find the pdf. Because it was the first time they included it and I was like. Which file? Oh there it is. So it was um. Normally you would see um. You often would know where the information was. Like on the website itself it was very easy. But course related it was kind of hard to find sometimes. Because you had to rewind through the video or something.

[I] Oke. Then I have one more question. About giving feedback.

[P] HmmHmm

[I] How did you experience this?

[P] Um again. I think I said it somewhere before.

[I] You said: awkward.

[P] Yeah it was very awkward. Because I gave feedback I could do that from my home that was nice. But I live with multiple people and so it kind of feels like talking to your computer. Talking to yourself. Because they don't know what you are doing. And so it kind of feels like uh-uh-uh. Oke, awkward hahaha. So it is nice that you can give feedback but also a lot of times I didn't know what to do. Because it looks nice and it felt more like I was mumbling some words that really didn't make any sense. Like that had no, added value. So yeah. If it was valuable for someone I would have liked it but um I didn't think I was experienced enough to give feedback.

[I] Oke, why didn't you think you were experienced enough to give feedback?

[P] Because I made mistakes myself. And I like. It's not that I made one cardboard model and that I am a cardboard model expert. So it felt for me out of place to give feedback on someone that um was also doing it.

[I] Did you feel experienced enough to see what this person was doing wrong-

[P] No

[I] And help them with it?

[P] No. I sometimes said. You also maybe have to cut straight because I knew that was the mistake I was making. So I could imagine that if the knife was hold a little skew that I also have to. Yeah. That I have the feeling that I have to say that. Because otherwise it was pretty hard to say what they were doing wrong.

[I] Thank you very much for your time and effort. Do you want to add something?

[P] No, I said it all. I think.

[I] Thank you!

#8

[I] Oke. Um. So you mention that you have experience with video tutorials, can you describe this experience?

[P] Well um. I think it was a different experience than this. Um. But usually when I like something like for example typografie (typography). I don't know how to say that in English. I'll usually go to YouTube and search for tutorials and they'll help you. And they'll say what to do and how to begin and.. So yeah. But mostly those are tutorials for beginners. Just like these. And um the same goes for programs like InDesign. I don't know how to use it so I just looked for YouTube tutorials.

[I] HmmHmm

[P] But I mean sometimes like DIY like how to make a costume yourself. Or something. I made a lamp that I saw on YouTube and they explained how to do that. But I don't think that I have ever done something like this. Yeah. So.

[I] And is this experience positive or negative? If you watch the videos on YouTube.

[P] Um. Usually positive. Yeah. And I, yeah I think. Especially now, since there is so many tutorials. They get better, step by step. By using materials that everyone already has in their home or um yeah. I think it gets more accessible. Well, I think it's already very accessible and I think more than it used to be. So yeah.

[I] Oke. So you like them because they are accessible? Or-

[P] Yaaa. And usually it works. I haven't seen a tutorial from something that doesn't work. Um so for me it's quite reliable. If I, if I don't know how to do a certain thing on PremierePro or something. You just look it up online and they explain you step by step. It's really convenient and easy.

[I] Oke. And you also had step by step tutorials?

[P] Yaa. Yeaah I didn't exactly know what step by step meant. But if I don't know something I just Google it like 'Hey, how to make a gradient' and then they'll say. Oke, first you click there and then you choose this

[I] HmmHmm

[P] and then.. Yeah. So that's step by step I guess.

[I] And that's positive or negative?

[P] Positive.

[I] Why?

[P] Because that's easy. Um and you see it visually and I usually need something that's visual. In order to um know what I'm doing. Yeah, for me it's positive.

[I] Oke um. And then. So you followed the Academy of Skills version of this course. Can you compare the learning of a practical skill with the Academy of Skills to learning a practical skill on YouTube or another video tutorial?

[P] Yeah um. Youtube you can scroll back to the point you want to scroll back. So the point that you don't understand and you want to see again. And here, because it went step by step and you had to watch, although it was a short video, you had to watch it again if you didn't get it or forgot something. And you get filmed, which is different. Cause you know like for example 'this *breaking a small piece of cardboard* happened and you have to show it. That might be, There might be a bit more pressure. But in the end you are still doing this because you want to learn and YouTube as well I guess. Um yeah, so I think. It IS a different experience. I guess because of the camera.

[I] And positive / negative?

[P] I don't know. I think it can have a different effect on everyone. For me, I don't really mind. Cause.. No yeah, you do. You do get more aware of what you are doing. Which is positive, I think. Um but it's all a bit. Not necessarily scary but you do know you are getting watched. And it gets reviewed and you're getting feedback on it. And, you know it's good so that's positive. But it might be, it might feel a bit negative, if that makes sense.

[I] Oke. And if you compare this experience with the Academy of Skills with a YouTube tutorial or step by step tutorial?

[P] Well, I think um what helps me. I tend to skip the beginning and go straight to the difficult part because, you know, that is usually what you want to make. What you want to be able to do. And here it just goes slowly step by step. In the beginning, the only thing you make is.. it's a square. It's a cube. And for me, that's actually really useful. Because then you at least get the basics. And I wouldn't be able to make um. Something like I don't know with sensors and motors like that from in the first lesson. So, um, I think that's a good thing. Whereas with YouTube you can just say nonono I got it. And then you go to the difficult part and you.. you didn't get it. Haha

[I] Haha. Oke.

[I] Then I am going to go through your answers with you and see if we can add some more

explanations to some of them. Um.

[I] Oh. You answered quite neutral to "The feedback I received was very specific." Can you explain why?

[P] Well, the feedback I got was kind of the feedback that I would think I would get. And also the feedback I gave myself was quite- was kind of the same. Um. So in that sense it wasn't very specific. It was just like 'oh, you could have drawn the lines a bit thinner' or 'make sure you keep your scalpel um, like straight' um. And of course it doesn't mean it's not, it's not useful. But I thought there would be maybe, something very new or so. And it wasn't there. So that's why it was on neutral. But of course you need it and it's good to remind you. But I also think that for me what helps: When I'm doing something I need to actually correct myself instantly. And because I'm watching the feedback later it might be less. For me it might have less impact. But I don't know how that works with others. Um, yeah.

[I] Um and "the feedback I received was very clear" also neutral. Can you explain why?

[P] Yeah because well sometimes. The quality wasn't always very good. Sooo in that sense it wasn't very clear but it. What they said was clear, I think. Like make the lines um thinner or what else for feedback did I have..? I don't know. Yeah stuff like that. It was, it was neutral.

[I] Um then, from whom did you receive feedback?

[P] First one from Joyce and then from Matilda I think. And I might have gotten another one.

[I] Yeah. So, "I like the way of receiving feedback" you are also neutral about this. Could you explain?

[P] Um. Well I think it's. Well that has to be about the whole course of course. I like that it's so flexible. You can do it in your own time when you are, you feel like doing it and you know. It fits into your schedule. But then again a disadvantage for me is that I get the feedback later instead of at that moment. Cause then I tend to, oh yeah, oh yeah I get that. And then you start to.. again and then you just do what you did in the first place, when you do it again. Yes so.

[I] Hmm Oke. And "I felt supported in my learning process."

[P] I guess that has to do with the, with the same thing. That you sometimes need direct guidance. Especially really like, I'm not really skilled. And then it might have been nice if there is someone next to you that sometimes helps you. Um yeah, cause. Maybe I am going ahead with the questions, but I think I'm still going to follow the whole course. Because I know there is so much more to learn and this is the basics. And um, yeah. I still like. I think online education can be very good. But for me, with a course like this, I think I need more guidance. So that's why I'm. I would follow like the class as a full course. I think. Which is I guess the whole research of this. Haha.

[I] Haha. That's oke. Oh ja. Also about the questions, that were answered at the right moment or during the course or the feedback session. At all. So were your questions answered?

[P] Yeah hmm yeah. I didn't really know what that.. OOH for my questions.

[I] Yup.

[P] Hmm I didn't really have any questions. It was more like am I, am I doing it right? Is this going OK? But that's not something the course can say. 'Ah you're doing it right' so. But I didn't have really.. really have any questions. Hmm I think what was good is that in the beginning you really have to show how to remove the scalpel. Like replace the top on it. And um that solved a lot of my questions from the beginning. But further on. I don't know it's quite. It's quite, I like puzzling a bit. Like 'hey, do you do this. How, what kind of corners should this thing need to have?' And so most questions are more like 'am I doing it right?' And that's something you have to figure out yourself.

[I] Oke. “I received help at the right moments.”

[P] Yeah. I would have liked it if there was sometimes someone next to me. Like I said. And that's not something that this course is about. So.

[I] Oke. So. “What was missing regarding the Academy of Skills platform?” You answered with maybe being able to send a reminder to the one who had to give you feedback. Can you explain?

[P] Well for me, I didn't have to wait for feedback. Or at least when I went here to start there usually was feedback. Maybe one time not but I don't- and it doesn't matter because I thought I don't have much time today anyway. But I know another girl who had to wait for feedback. And maybe some kind of reminder that you can send to the one. Like someone just gets a notification like 'hey, give feedback' Cause it's really easy to give feedback. It takes you 5-10 minutes just to watch. So yeah um. Maybe, maybe that. I don't know if it works.

[I] You left open the question. “What was unnecessary regarding the Academy of Skills platform?” Can you-

[P] I think that it was quite clear and simple. And I don't I haven't noticed anything that was unnecessary for me. Um so yeah. I just, I didn't know. Maybe I'll come up with something.

[I] So did you use all the functionalities?

[P] No I didn't use the 'help' function for example. But I don't mind it being there because I know some people need it. So, yeah. For me it was clear.

[I] And all physical parts? The camera and the pedal?

[P] Yeah.

[I] How did you like those?

[P] Obviously the camera haha. And I liked the pedal. But I still liked to watch the video. Because then you thought maybe this part is still better and you moved it a bit and yeah.

[I] Oke.

[P] Yeah, the only thing is that um. the quality of the camera wasn't always that good. So giving people feedback was a little bit hard. Because you couldn't see every like detail.

[I] Oke. “What did you like best regarding the Academy of Skills platform?” You answered with it was simple and clear and not too detailed.

[P] Yeah. With that, for me, there wasn't anything unnecessary. I just

[I] HmmHmm.

[P] There's just 3 options. That says that you can watch your feedback, you can see your course or something or you can go to the next step. That's just, yeah, easy.

[I] Oke. So before you started you emailed your opinion about online education to me. Did it change?

[P] I don't know what I said anymore. I think I was quite optimistic. And for now, because I watch all the things online and because it did teach me a lot. I thought this would really be something for me.

[I] HmmHmm.

[P] Also because I like to do stuff in my own time and not like 'you have to do it now' and that usually doesn't work for me. But I still feel like. Yeah, like I said. That this course would have. I still want to follow it in classical- yeah. For, for better feedback and guidance. Yeah, so I think. So my opinion about online education is good. It's just for me, personally, with this course I'd like to do it in physical class as well. But I think it can work. Especially, you know, with everything getting kind of online. Internet of things, everything connected. I think it can work.

[I] And you mentioned, that for the quality of the feedback, you would like to do the physical course.

[P] Yaa.

[I] Do you believe the quality of the feedback is better in the physical course?

[P] Well, of course Joep cannot always be there when you are doing it. So it will be the final

product that he sees. Um. But from what I hear it's really good feedback. And he's quite good at what he does. Which also makes it feel better or good. When you have trust in the one, or someone, that is teaching something, it's always better. Yeah. Sometimes I think the quality will be better. Than how we get feedback now. But it's still. It's nice to give others feedback as well. Because you, you. Well yeah, at that moment you watch different things from, from when you're doing it. And you're like 'hee, but I made the same mistake' and that's yeah, you know. It's quite nice as well.

[I] Oke. So you mention your feedback giving experience. Can you explain a bit more?

[P] Yeah. Well for me it was that. Well, I wanted to give the, the people I gave feedback, I wanted to give them something valuable. And not like 'oke, you did that well' and I wanted to give them something they could use. But it was still the same kind of feedback I got as well. Like, someone didn't make like the first line. You have to, cause the lines of the board aren't always straight and so you make an extra line and you start from there. And someone didn't do that. So it's like that, that kind of feedback. Yeah. that's. I usually like to do that and also with pitching or writing and everything. Not because I think I can do better. Because I know I can learn from it as well. Like, mistakes you see. If you see someone else making a mistake, you, I tend to think about it when I'm doing it and yeah it helps me as well.

[I] Oke. So “what would you like to keep regarding the Academy of Skills platform?” You also left it-

[P] Yeah. I didn't know what they mea- did they like the site? The set-up?

[I] Well, the combination of everything. So the camera, the pedal the website with all functions.

[P] Well. What I like, is to. But maybe that's something different. But I really like the idea of running a community or online platform where people can help each other. And learn from each other this way. And that idea is something that I really like. And giving other people feedback. And people who are more experienced give you feedback and um. Just stuff that you are interested in. For example cardboard modelling. I, I, really like the idea of that. So that's something that I would like to keep.

[I] Oke.

[P] But I think it's really difficult. To set up a system like that, that works properly. So, yeah.

[I] Oke. -We already discussed this..-

Um so “I would replace a regular course, I need to follow, with a course in the same manner I followed this one in.” You are answering neutral about this. Can you explain why?

[P] Depends on what course for me. Um. Sketching, for example, I would really like to um. Follow that online. Also. I registered for a course, a sketching course, this year. But I don't know. I just didn't continue or something where I had to pay in the end and I didn't want to. But I think sketching is also something. If someone explains the basics and tells you how to do it. Sketching for me is something that you just have to try and do and re-try and in the end I think it's the same with this. You, you get to know how it works. Um. But other stuff I need like a tangible feeling of being in a class. Cause, I tend to, tend to learn better. Or understand more when I'm just physical there. Because it takes like an effort. And this is really easy and might be, you know, you're easily distracted and um. So it really depends on what course. If it's courses online, I don't mind doing them online because it's something I want to learn. And then you are more motivated and you stay there and you can continue. Whereas if it's something that I might be less interested in it's better for me to go to a physical class.

[I] Oke. “I found the various functions of the system were well integrated.” You also answered neutral to this one. Can you explain why?

[P] Yeah. Um. One thing. The, the first lesson. The camera, you helped me with it, because I didn't know. Or you said from the beginning 'OK, it's a bit weird. You have to disable that in order for the other camera to work' I don't know if that's a function you mean with this. Um. Yeah, you have to know them. If you don't then..

[I] Yeah, I mean this. It's supposed to work though. It's a Chrome thingie.

[P] That makes sense. Yeah. But further on, I don't really have comments on it. I don't. I think something can always be better. Sometimes the system, it's a bit slow. Then, you know, you had to a bit more.. Like your documentation. It took like ages for the page to reload. So that's something that could have been better. But it's not like it didn't work. So.

[I] Oke. And then. "I found the system very cumbersome to use." also neutral.

[P] Yeah. It was neutral. It didn't have any malfunctions. And it didn't not work. But because it, maybe also because it was so simple. It might have been.. I don't know. I didn't really pay attention to the system. Now that I think, now that I think about it it's actually a better system then I thought it was when filling in this. It's like oh actually it did work all and I did get different feedback from different people and I had to give it to different people. So it is maybe the thought about, that I couldn't-

[I] So why did you feel it in the first place? Because, well, you do not always think about-

[P] Yeah. I don't know how that works. Um, I guess. I don't know. That's hard to explain. Um I think in the first place I felt I wanted to be in the physical class, still. I mean, I am really happy I tried this. Um. Yeah. I think. I don't know. Hahah. It's hard. It's hard to.. Yeah.

[I] Oke. So yes. I will just keep asking all the neutral ones.

[P] Yeah haha.

[I] So can you explain "the interface of the system is pleasant.." you are also neutral about this.

[P] Yeah. That's because it was really clear and simple but also maybe a bit boring. But if you try to make it more, you know, more colors and funny or, you know, happy.; then it often gets distracting as well. So that's why it's for me just a neutral. I didn't really think about it. It didn't really draw the attention. Um so in that sense it wasn't necessarily like really pleasant. But also not annoying or something.

[I] Oke. And "I liked using the interface of the system".

[P] Yeah, for me. Um. I wanted to click on starting the next course. But then I by accident clicked on watch, or no redo or rewatch something. So it might have been um. Or a bit more space between them. So you have a more distinction between the, the purple bars. Um yeah. So that was about the interface. But it wasn't. Then again it still wasn't something I was really annoyed about.

[I] HmmHmm. "The system has all the capabilities and functions I expect it to have."

[P] I didn't have any expectations. Because I didn't know how I, how it was going to be. I. I don't know. I, I did think there would be videos that show you. But I thought more on a YouTube-ish way. Like just watch the video that does it. Where you see someone make it and then you can just.. I didn't know there would be so much verbal talking in the video. Which was really good actually. So yeah that's why I didn't, why I put in neutral. Cause I didn't really expect anything.

[I] Oke. Well, you cleared up all my questions. So thank you!
Do you want to add something else?

[P] I hope you have something, you know, that you can do something with all the results.

[I] Yes that will be fine I think! Thank you for your participation and efforts!

#9

[I] Can you describe your experience with the video tutorials? Like positive/ negative and what you did and why?

[P] Um. It was quite a positive experience I would say. The problem I experienced was not being

able to go in different parts of the video. Deciding where, because usually you want it to. You see something and then you want to try do do it and then you want to hear it again. Um and then you have to really start the video from the beginning. Uh, which I found a bit annoying.

In the full video? And also in the marker videos? I mean the step videos.

Yeah.

[I] Oke. But the experience with the normal video tutorials. I mean other video tutorials that you followed?

[P] I mean it was quite similar I would say. Yeah but if you do a YouTube tutorial you can usually um. Pause it. And um. Go back. It was just the navigational part I missed. But the videos itself were good. I mean. I like the- that it was divided in these different tasks. And that it really focused on that small task.

[I] Oke. And if you describe your experience with, well not compared to what you did in the course just your experience with video tutorials that you did before, would you describe this as positive or negative? Or how would you describe this experience?

[P] I don't know. It's hard. Cause I mean it's not a positive experience as it did have some problems with it. But I don't want to call it a negative experience either.

[I] Sorry. Um I mean, not in this course. But video tutorials you followed apart from this course.

[P] Other video tutorials?

[I] Yes. Video tutorials in general.

[P] Oh oh. Yes. Positive. Cause I do enjoy being able to find someone do something. Because for me it's really like. Um I can think of 'I want to do this' and then I am like. 'I have no idea how to do this' and then you find. So you just go to YouTube and try to find something. And then there is almost always someone doing a tutorial. But I really like it when they also put like text. Text in the tutorials because I when at times people are speaking really fast and I can't always catch up with what they say.

[I] Oke. So is that why you are positive about video tutorials? Because you can always find something?

[P] Yeah.

[I] You left open the question. "I received feedback at the right moment or the moment I needed it." Can you explain why?

[P] I couldn't really say. Um yeah. I left it blank as I couldn't really answer. It was um, hard to define.

[I] Can you explain why you couldn't answer? It is fine if you could not answer.

[P] Um. Because I didn't really know when the moment I needed it was. And I could say that I. That when I received the feedback I couldn't really define that either. Because it would usually happen when I was not at the computer. I mean it's..

[I] Oke. Do you feel like you received it at the right moment? Even if it would technically not be the case?

[P] Um

[I] Did you experience it as if you received it at the right moment?

[P] Well I mean cause it was nice that when we were supposed to do something there was always feedback from the others. But sometimes you would like to have feedback in the middle of a session also.

[I] Yeah.

[P] Because when you get stuck with something. Then it's like oke, how do I continue this now.

So um, mostly questions then?

Yes.

[I] Oke. Um yess. Then I needed to wait for feedback while I did not need it. Is that because you didn't know when too?

[P] Well yeah. Because I was. It felt quite similar to what I answered to the first one. And because I didn't answer the first one I couldn't.

[I] Oke that makes sense. Yes.

[I] Oke. You say here: "I like the drawing tool when the teacher used it. But the feedback sometimes felt rushed". Can you explain why it felt rushed?

[P] Because. I think it's just because the.. Well he needs to do it in this very short time. And even if they pause it and talk over it. It feels like he only knows a little about the entire thing. So they say, say that. But it is also with the feedback from um. The difference from the feedback from the teacher and the student.

[I] Oke. Can you explain a bit about the difference between the teacher feedback and the student feedback?

[P] The teacher is much more secure about what he is saying. And that was not when it was just another student. That I am assuming that it is. IT didn't seem as straight on. With like this is. It was more like a no, oh no um like. I think you do this right, like that.

[I] Oke. Is that something that you liked or you didn't like? And why?

[P] What do you mean?

[I] Well, that the teacher was very secure in what he was saying and-

[P] Yeah that was nice. That was super nice because I think he was very. He was very precise.

[I] HmmHmm. And that the student didn't know exactly?

[P] No I think the question about being as sure about what they were doing. They didn't give the impression about being as secure about what they were saying. And it sounded more like they just wanted to get over with the feedback. But this could also just be me. Because I am projecting my own feeling of doing it. But that is more something about how I perceived it so.

[I] But is this something you liked or you did not like? Or how could it be improved?

[P] I think it could be improved if you could be really sure if the students also know what they are um giving feedback about.

[I] Oke. Can you compare the experience with the Academy of Skills to the experience of learning a practical skill in class?

[P] I don't think I'm really talking practical as in really doing something. I don't know how many practical skill classes I've had.

[I] Did you do a drawing class?

[P] Not in here. Not on University level. Only in high school.

[I] That is fine. You can use that to compare.

[P] I think the biggest difference is just that you are able to ask for help. In that moment. When you are stuck. That you are like. Oke. Why am I trying to. Uh. because how would you call this um struggling. And then you would be like 'why are my lines weird?' and you could ask. the teacher like. Oke, I think I am looking at the wrong way. And you can have an instant conversation. You can't have that with a tutorial.

[I] Oke. And what are you saying then. If this is what differs?

[P] Um that you can get the tips but it's usually the maximum of feedback there is. In the end when you have finished one assignment.

[I] Oke. Can you compare the experience with the platform with learning a practical skill just on YouTube, via tutorials?

[P] Well, feedback is the big difference. Both, that you knew that you could get feedback and that you could ask questions and you would get an answer. Next time you were going to come. If I do that with YouTube I don't count for it. I mean of course you can always like send a picture. With I did this, this happened. But I would never count on people actually responding. And here I did. And that's why, at least I tried to ask questions if I was insecure with something. I

could say that at least I would get an response on my next video.

[I] HmmHmm. Did you always get a response on it in the next video? On your questions?

[P] Ya.

[I] Did you feel like your questions were answered?

[P] Yeah I think so. Maybe it would be nice to. Because like he did drawing over the video, and that I found nice. But maybe I would have liked to save that feedback and maybe have it next to me when I was doing the next set. To sort of get reminded of what. What he said.

[I] Oke. Why do you feel you need help with? Um. Sorry. I am assuming that you feel like you need help because you here said: I cannot autonomously plan and build my own cardboard models. Um.

[P] Because I still found it a bit. Even just to do these ones, without the instructions. I still felt like. Oke I still don't really know where to start. Or um. So I felt like it was a lot of um. Trying before actually like um what's this called again? Truncated cone. Yeah truncated cone. I actually had to go back a lot and think like um what is the math of this and that it does mean that it is cut in half and it did took me longer than I would have liked to. Hahaha. So that is also why I didn't feel like this didn't come like super naturally. So I still feel like oke, I still need some instructions. But then things are like I sort of know what I am doing so. Now I know how to make like a seamless connection. I know how to do that. So like, some parts I feel like I know. And some parts its....

[I] You feel like you need help?

[P] Yeah.

[I] So you mentioned to me before that you wanted to learn more about cardboard modeling?

[P] Yes.

[I] Which is why you are going to contact Joep, I guess?

[P] Yes. Because I find it a very useful skill to have and I am probably going to continue with more physical interaction and modeling during my master and sometimes you don't have a laser cutter. And then it's quite nice to be able to do something. Physical still. And with volume and still quite cheap.

[I] HmmHmm.

Can you explain why it's a nice skill to have? Why you or- hmm. What you would use it for specifically?

[P] I think I just. Because I am trying to get more into tangible interaction and these different ones. Because I have been working quite a lot with interface earlier. And now I am working on working more physical. And then it is nice to have more physical things. And also that you are not really afraid of that you do something and it costs a lot of money. Or that you put like a crazy amount of time in. Then you are going to be scared when you show it to people. And if you do a cardboard model and say how can I improve this? People know that it's. That it's fine to criticize. Because it doesn't looks like I put millions of hours in it. Even though I did hahah. People are. I find that people are easier to come with suggestions and improvements if it doesn't look as advanced and perfect from the beginning. So then cardboard modeling is a great tool for using. Usertesting and yes.

[I] Oke. Thank you.

[P] And stuff. Haha

[I] Haha

[I] Did you find something unnecessary regarding the Academy of Skills platform? Like, um did you use everything?

[P] I think I used, um. Like all the functions. I mean it was quite limited. So there was.. I think. I mean I think I yeah. I usually maybe only watch my feedback like once or twice. Just first once I got it and then I watched it like just before actually doing like that part of something I was insecure about. But I mean. It might not have been necessary to have it there all the time. But at the same time it is always nice to be able to go back and.. Yeah.

[I] And the pedal interaction? Can you tell a bit more about that?

[P] I usually forgot about it. And the because also. Because I had a lot of problems. So I had to re record myself many, many, many times. So after awhile you got sort of annoyed. And I didn't really think about it. Usually it ended up being that I made a video that was just the last part. It was just showing something and then I didn't use the pedal because then my video was only 20 seconds long. So it didn't really. So like I used it but then it didn't really use it because I was choosing which part of the video to show because the video was usually just as long as that moment. So for me it wasn't really usable. But if I had done longer videos it probably would have been.

[I] Oke. What did you like best in the platform? Or concerning the platform? You left this question open so that is why I am asking you. Otherwise you can explain why you couldn't answer it.

[P] Yeah. I think I couldn't really pick something. I think I saw it more as a whole. So the full package. So I mean I like that the video parts were cut up in different.

[I] HmmHmm.

[P] But I am not sure it that is the platform or if it's the format of the course.

[I] It is also part of the platform.

[P] Cause that I liked. In that case it's that. What I liked best

[I] Oke. You emailed me your opinion about online education before. Can you maybe explain if it changed? Or how it changed, if it did?

[P] Um. I don't think it changed that much. I would think I was quite positive about it before. And I am still. Positive to it. Uh so uh. No but I like. I've always been positive to it because I myself am a person who can't follow a lecture quite well. And I need this alternative tools to find the information. And thus being able to stop and think for yourself and then continue watch it again and until you really understand. That is what really appeals to me. That is also why I thought this was really interesting also to take part in. Oke. But I don't see it as a.. I think I also brought that up. I don't see it as only do that. I still really like the teacher student connection. Like you actually do meet and you show what you have done. And talk about it. But if the technology is usually in some way not working. It would be a perfect we would meet in virtual reality and show me what you have done. Then I don't see a problem with this kind of lecture. But it's the result that usually some part with the technology is not working. Or the communication or it's.. Then I still like the opportunity to meet with my teacher.

[I] Oke. So you had to give feedback to other students. Quite often I guess?

[P] Yeah, 2 / 3 times maybe?

[I] Can you explain why you didn't feel comfortable, doing this?

[P] Because I had, usually have to give feedback. After you had to make the computer task quite recently yourself. And I believe sometimes I even had to give feedback before I even had received the feedback on that section before. But that doesn't make sense. It couldn't have been like that.

[I] You are indeed not allowed to give feedback before you have received it.

[P] Yes. It doesn't make sense. Haha. But at least I just felt like I just learned this skill myself and then it felt weird. To grade or say someone else is doing it right or not. Anyway if I did receive feedback maybe I haven't. Say if I was making weird lines. And say that I received the feedback but maybe I haven't improved that skill myself. Even though I have received the feedback. I maybe haven't learned to apply it yet. And then it feels weird if I'm giving that feedback to someone else. I haven't proven that I have learned the skill yet. Uh so I think. Well of course it's a very personal trait for me that I am very insecure about my performance. And then like who am I to judge what someone else is doing.

[I] But did you feel able to give the feedback? Even though you didn't feel comfortable. Did you feel like you knew enough?

[P] In this case I think it was fine. But it was because I don't think the people I saw were really doing anything wrong. Because everything I saw was looking nice. And I think at least, I did a comparison with the instructional video. So I didn't compare it with my own result. I compared it with the instructional. And then it's like oke, this looks right. So it was fine. But, like I still don't know for sure that I actually gave proper feedback and I also felt a bit strange doing that. When I think this looks fine. Because if I would be the one receiving the feedback for me. I would be like, why doesn't she say anything. I was also start questioning, of that person. Well, it can't all be perfect, that is not possible.

[I] Can you explain why you would replace a regular course in the same manner you followed this one in?

[P] Because I see this as an opportunity. To do something more in your own time. When you are being less scheduled. Sometimes you are well you have so much to do. And some parts of the beginning of the quartile and .. can be very different. And with these courses it's a lot more spread out. That you can do it when you like it. And for me, I am not that productive in the morning. And then I have the thing not to go to lectures when they are like in the morning. And then I might do and try to compensate. And work later in the night. But if you only have lectures and class with a teacher at a specific time then you can't do that. So this works quite well for me. You can plan in your own times.

[I] Oke. Then I have one more question. "I enjoyed working with the Academy of Skills platform" you answer neutral to that. Can you explain why?

[P] Yeah. Because I wouldn't say that it was.. Also once again I don't really know it but I couldn't separate what is the platform and what is the course. It's a whole. So it's mostly that, that I couldn't really say that it was positive or negative. Because I couldn't really specify what was what. And also how much. Because I knew that I mentioned some things that I missed or didn't like. But then I was like how much is that actually making it a negative experience / positive experience. Like, I can't really tell how much. So that is why I went for more of a neutral.

[I] Oke.

[P] middle way.

[I] "I found the system unnecessarily complex." You were also very neutral about this.

[P] Yeah it was um. It was the same. What you count as the system. It probably was defined but I still found it hard to. I was like not really sure. And if it. Also like, I didn't feel like I didn't want to answer the question at all. Because I mean, that is also an option. But I don't see. When I pick a 4 it is actually that I don't really have a more positive or negative. It was just. It just was. Oke. Good to know. Is that also in the other questions that you answered with a 4? Yes.

[I] Oh there is one that I didn't answer? Oh I didn't know the word.

looking up dictionary meaning of cumbersome. Let's take 'unmanageable' as the meaning. How would you score it now you know what the word means?

[P] Um. I would have given it a 3. Still disagreeing. I wouldn't say that it is the easiest system I have ever used. But it was still not complicated. It was manageable. And I think most people born in the 90's would be able to. I mean everybody who has like basic knowledge about how a computer and internet works. Would be able to use it. The main problem was that if something didn't work there was really no, not a way to troubleshoot it. I had to call you. And ask. Which is maybe inefficient. If it's for an entire course with like, 80 students. And everybody is like Michelle. This is not working!

[I] Haha. And I will be like. Yes, coming! On my way.

[P] Running all over the school. Or biking all over the city.

[I] Hahah. And everybody has a camera. It would be a job though hahah.

[P] Yeah! Full time.

[I] Oke. Do you have anything you want to add? Or improvements that you want to make that you did not name yet?

[P] I think I. I mean it's really the thing with the comments that I really would have liked. If you could leave a comment together with the video. Also because. I had some technical problems. Some videos were quite strange. And it would be nice to give that as comment like before the people. Like the person watching this video will know like, oke. The video wouldn't focus. So it is going to be a little bit weird looking. Or,

[I] Oke.

[P] And I also think I had a quite weird. I don't know exactly. I don't think I wrote about this. Because I didn't know how to explain it. But when I was recording the last 3. For whatever it was that I was doing. So because I had all done those beforehand and I came here to record it. But then I was redoing one of them a little bit. So it might have been the last one. Or the second last one. So I clicked on 'go to next procedure'. Because I wanted to record the next step while the other one was drying. But I couldn't go back. So then it was like this video of um. Of nothing. Being there. And I couldn't replace it. But I might have been able to solve it in the end. By just going backwards like five million times. But um. It was not super efficient. Because I knew that earlier I had been able to like. Re record this part or something. But for some reason with this one I wasn't able to do it. The button re-record didn't exist. Um so I think I spend a lot of time on trying to solve that.

[I] Oke. Good to know. So for instance when you need to deliver more final versions of something then you should be able to skip through them because they are not necessarily steps.

[P] Yeah. Cause in this case I had done all of them. And I was like no, I want to redo this one. It didn't look as good as I wanted it to. So then. Yeah I was just waiting for the glue to dry. And it didn't make sense to just sit there. And I was like: I will record the next one. So maybe if you have like one with multiple ones. Than you can say I will show this one now. I don't even think I made them in that exact same order also. I think I went a little with. What am I in the mood of doing now. And I don't think it affected the way I was learning. Because it wasn't stated that you had to do them in that order.

[I] Oke. That was it. Thank you very much for your time and effort!

#10

[I] So you said before, in the questionnaire, that you had experience with video tutorials?

[P] HmmHmm HmmHmm.

[I] Can you describe this experience as positive/negative. How did you experience this.

[P] For me it's really positive. It's really nice to do stuff at your own pace and have someone explain it to you if you're not really skilled yet in the topic. So, it's really. Really nice to learn certain basics but also if you're a bit more advanced than um.. You can go more into detail with a detailed explanation of something you want to learn. So, do you also want to know what I did? What kind of things. Cause I think um YouTube is the most used. I think for most at Industrial Design at least. For example in the first year I did all the Berry White stuff, you know the black guy, YouTube, that does the whole Adobe Suite. So I started with that and then I followed illustrator and then I went more into detail about how to do certain things. And I did a lot of tutorials about that. And in the end I could do everything I want, basically. So that was really nice. Um, also something that I was more experienced in was web developmental programming. So I.. well my boyfriend actually had a subscription to linda.com, through his school. And I could get. I had a lot of more specific back end programming tutorials. It was really nice. Yeah.

[I] HmmHmm. And with step by step tutorials?

[P] Yeah well, I was um. When I was answering the questionnaire I was really thinking like: what do you mean with step by step? what do you describe as step by step? Because of course

you have a tutorial and well it's not really a tutorial but then you see someone doing something and you have to pause it all the time and it's not really an explanation. But you also have on like linda.com. There are longer courses and then you have, kind of like a book, with um subjects? Or how do you say?

[I] Chapters?

[P] Yes. So they are going to the chapter and then there are like four courses in a chapter and then you do it. But it's not THAT step by step, like this. This was really more specific. It really depends I guess on the subject you are taking. Like if the subject lends itself for doing that. So I am not sure if I did step by step, so.. You should give me the explanation of step by step.

[I] Uhm for instance, instructables and-

[P] Ah Jaa! Ahhh oke. Well, yes, like um. I used instructables as um as a reading tutorial kind of thing. Yes, than I have experience with that. Um, it's nice but the thing with instructables is that it gives you everything alright. So here's the code. Just copy-paste the code. So you are not really doing something yourself. While, with linda.com you could buy like a premium package and then you also get like all the course materials. But if you don't have that you have to actually type the code in yourself. And by doing that even though it's not that deep you learn a bit more than with just copy-pasting stuff. So. I think that is nicer.

[I] Oke. Then I have the question "Can you compare the experience with the Academy of Skills to the experience of learning a practical skill in class?"

[P] Uhm yes, what did I write there. Um. Well in class you can ask a question and get direct feedback and of course this platform doesn't lend for that. So yeah, that's not that nice. Um then it's also the context. Now with this research you kind of have to do it. Also in class, you kind of have to do it. Maybe if I would have to do it alone I would see myself go through 2 or three courses and then quit. Maybe because cardboard modeling isn't my real interest. So it depends on your motivation of course. So you have to be really self motivated. Um yeah, I think that is it. That's the difference between class.

[I] Oke. And if you compare it to tutorials? Or step by step tutorials?

[P] I think that step by step tutorials is that you really see it one on one kind of. That's also different with class. Maybe um, Actually I think it is quite the same. If you do YouTube or other platforms you can go through the video. I am not sure if you could do that now. I think you could only pause it but not go back or forward. But that is maybe more a problem of the platform itself. It was my biggest problem with it. Because I don't have that long of an attention span so that's just yeah. It's 30 minutes of video. It's just too long. Um yeah. That is maybe the biggest difference but for the rest it is quite the same.

[I] And the feedback, is that -

[P] Oh yes. Yeah. yeah that is different. Um it um. It depends on kind of like the quality of the feedback. But I guess we will talk about that later.

[I] We can talk about that now.

[P] Oke, well I think what I wrote down is that I find it really annoying because I like to work in really a stretch. So um just do it at once, and then be done with it. You couldn't do that. I think that it's the educational value that um benefits when you do it in a longer period so you can reflect on it and everything. Um but for me I just really like to do it at once. Have the feeling that I accomplished something. And then move on and probably never touch it again. So yeah, that's how I work basically. So yeah.

[I] Oke.

[P] I think in that it is really important. The feeling that you accomplished something. Because um you also have to work your method agile.

[I] Hmmhmm.

[P] And you also work in sprints kind of. And in the end you feel like you really did something good.

[I] Do you feel that way now as well?

[P] Um. I think a bit less actually. If I would do it at once then I would have all these models and be like woahhowoo this is cool. Now I still feel that I accomplished something but yeah it's more gradual.

[I] All little things?

[P] Yeah all the time. And in the end it's the same amount but it's al cumulative. Yes.

[I] Oke then I have some more questions. Um. So for instance the feedback. You say you didn't feel like those were at the right moment. Right?

[P] Yeah. That's basically what I said. I mean. Um next to that. I may be stupid. But I didn't understand that there was also audio recording. So I didn't ask questions. Yeah I would feel really weird to ask questions to the lamp or something. Um, well actually I knew there was audio recording. But I did not want to talk. Also, like normally I am watching video on a second screen and I had to pause that so there was no background noise. But yeah. I was maybe too shy to ask questions. So the feedback wasn't that well because it wasn't the feedback I wanted to receive. Because I didn't ask the questions. So if you could write that down. Somewhere on something that would be nice. Because the video and the audio. Well the video was a bit delayed or not in sync with each other. Um and then maybe pausing the feedback itself is lacking sometimes.

[I] Yes you mention that it was different from Joep and from other people.

[P] Yes, well um. Joep is an expert at this. So the feedback you get is like, really detailed. But he would say like 'You should hold your scalpel like that' and then I mean like what. What do you mean? Like how? Like you have to do it perpendicular. And I am like yeah, I'm doing that but it still fails, right. HmmHmm. And of course he said "You need a lot of practice." But um of course I need practice but if I don't know what I am doing wrong then I can practice all I want but I will still walk into a brick wall because I don't know where I'm going wrong, right. Hmmhmm. So um that is quite sad. I got some good feedback from the other participants but that was really because I forgot some things that were mentioned in the video. And then they remind me of that, like, do that next time. It would be awesome if I could have like some pointers with every lecture. Like in a sidebar. Like you have to do this, this, this, this. Because you could rewatch the video when you were doing it but it felt redundant to watch 30 minutes of video again. That would just be too much.

[I] Hmm, what do you mean? You could only rewatch the marker videos, those are the smaller step videos.

[P] Hmm?

[I] So after each long introduction video there were the short step videos.

[P] Yes.

[I] Those were the ones that you could rewatch during recording the the making. You could also scroll through those, and pause them.

[P] Aaah I completely missed that. I just didn't click those videos on my own. It didn't feel like something to do. If it would be written, I would read it. That would be more logical. Or like pictures or something. But the video was just like. I just watched the video and I don't want to watch it again. Leave me alone.

Basically that.

[I] Oke. I understand now. I still wanted to mention this because this is a video that you can actually scroll through.

[P] Yes. I can imagine why the first video you won't have that capability. Because then you have to really focus on it. But it would still be nice to be able to scroll through it. Yeah I noticed that, um one time I started. And there was a really long video at the beginning.

[I] The first one? That was the longest intro video.

[P] No, actually it was the one I did at home so I think the third one? The third one was the slider right? Um, it was the second one. The, the the... cylinder. But somewhere I got distracted

and I was like pfff naaah. I will do that later. And then it took another day for me to start up again. Just because I lost my chain of thought. And if I could have gone back to where I lost my attention span. Than I would have finished it that day, not the day afterwards. So um. I think every educational thing has that. I think it is just necessary to do that. Just being able to scroll, pause it, speed.

[I] Play it at double speed?

[P] Well actually, I never do that. I most of the times just keep it going actually. Just play it on a lower speed so I can go with the flow. Because if you are doing it yourself you always work slower. So yeah.

[I] So now you had the one that you had to watch fully and the step video's in between summarizing what you needed to do and show. Did you watch all of those?

[P] Um. I think the first 20 seconds of it. The first time I watched them but the second time it was just like yeah. Point the camera in the direction of your hand that you're using or whatever. And draw lines really smoothly or something. And I was like fuck this. I heard this six times so this is not what I wanted. I wanted... I don't know what i wanted. But that's not what I wanted. It felt repetitive at a certain point.

[I] Oke. Are there other things that you ran into? Or that you want to say something about.

[P] Um, I um. Don't know what I wrote down anymore because it is a lot. Um yeah. Like this part. The last part. About um. The interface. I'm a bit of an interface-nazi, so. Just a lot of technicalities like you could have done this or you could have done that. Um, yeah. Because I know I can bitch about that. The thing that I found important at least. The thing that I hated the most was the webcam stuff with the feedback. I have mentioned that 3 times. I want to mention it again because that was really a point that made me anxious. The first time I just. I think the first time I got feedback from Joep. And Joep is also like, he's the lecturer. I don't know him that well, so he is kind of an authority figure. And then you have him on your screen. Giving you feedback on your work. And really seeing his reaction and everything. So I had to pause it. And collect myself for a second like: Do you want to watch this? Yeah, I have to watch this. Oke. Let's do it. Yeah. I didn't, it's maybe personal because I am not really the most social person. So for me that was really awkward. And giving the feedback was really awkward. Basically because you have no idea what you are talking about. I think I am not the first one saying this. Um so. Yeah. So I got some feedback that I find valuable. So I repeated that basically to that person. I don't know if like, like if it was even necessary at that moment. When she was making the model. Also she didn't ask questions in the video either so I did not have, like a point to talk about something.

[I] HmmHmm.

[P] I noticed that in somebody that gave me feedback as well. He was like. Yeah, looks nice. Yeah, yeah you are doing well. Ok. Basically that so. Yeah that is basically. So yeah I think you need some more expertise to be able to do that. Um. Maybe being even further in the course. Or um, let's see, um. Or having a feedback session in real life between a certain amount of courses or something that would help to boost your feeling of expertise at least. So you feel confident enough to give feedback. Something like that.

[I] So would you say that you need to feel like an expert to be able to give good feedback?

[P] Yeah, I think so. Um. Because um. I also have been student assistant to some courses and there I was super OK giving feedback because it were topics of interest for me. And I knew something about it, so even if I didn't know something about it I could just 'bluf' (boast) my way out of it. So I never felt reluctant to give feedback. While here it was like: shit I do not want to do this.

[I] Well, thank you very much for participating. I think you gave me a lot of good input. So thank you for your help.

#11

[I] So you s [I] So um. You said you had this experience with video tutorials. Can you describe this experience?

[P] Um Yeah. Yeah. It's just um. Especially with working in Photoshop and Illustrator. That, to start with these programs I always watch a few programs to um just a tutorial to know the basics. And after that many times. I don't know. How to- how to draw a line in illustrator or something more complicated. Or some tasks that are more complicated. Um. So. It's mostly just a basic tutorial to getting to know the program. And after that I search for specific functions. Which I then, um, because I then I'm making something in Illustrator and I think. 'Oh, I would really like to do this' I'm not sure how to do it and then I'm going to look for it.

[I] And would you describe this experience, this learning experience, as positive or negative? Or how would you describe it.

[P] Um. Yeah. positive. It's really yeah, um. Accessible, it's very easy to do. And um, really specific also. It's just 'I want this' and then immediately, immedia- immediately you get it.

[I] So you know what you want? When you look for things?

[P] Yes.

[I] Oke. Can you describe your experience with step by step tutorials?

[P] Um yeah. It's mostly the beginner um tutorials of the Photoshop and Illustrator. And InDesign. And, yeah, well. Mostly, for me. It was that I. It was that you watch the tutorial and then I try to reproduce it. And then it doesn't work. And then I watch the movie again and reproduce it step by step haha. And then it, it works. And yeah it's kind of a good experience also. It's I really get the feeling that I learned something after those experiences.

[I] Oke. So you followed this course through the Academy of Skills.

[P] HmmHmm

[I] And can you compare the experience with the academy of skills to um. A learning experience. Um learning a practical skill in class?

[P] Uhm. Yes. I have done explorative sketching. Um. So what I think I missed is some more personal um hoe zeg je dat, begeleiding. Um. attention yeah. Mostly um on how to make a cut actually. To have the angle right and um also with power. I think that's something which I, want some more um. Feedback on. And what also was. I discovered that making a good video, to receive feedback on, is also a skill. I noticed that the more videos I made the more, the further into the tutorial, the better videos you can make for receiving feedback. And the better the feedback is, you receive.

[I] So from whom did you receive feedback?

[P] Um, from Daniëlle. That was the last tutorial. And the other two, um I forgot her name. She was blonde um.

[I] On the cutting. From whom did you receive feedback on the cutting?

[P] The cutting. Um. Joep.

Um. And what was also a thing with receiving feedback. From some people the microphone didn't work very well and the video was shaking so there you also lose some information. And I guess if you see just the cutting from one angle of the camera. You can't see everything. And when somebody is walking around also with the-. What was also a thing with receiving feedback is that you do something wrong. And then, in real life then hè, for example you do something wrong. And you see feedback and 'oke, I have to do this otherwise' and then you improve it. But then there is still something else that you do wrong. And you can also receive feedback on that other thing that you are doing wrong. Um and because that also happened very frequently after each other, you can improve your cutting really fast. And if you now, if you do something wrong. Oke next you do and oh you do something else wrong. And there is a longer time between that. Um. So. um. To compare it further with the r- what was really nice. Is that because you can um. You can decide when you want to cut. That it's, when you are cardboard modeling, you can really decide. Well it feels very freely because when you are following a

course. It's sometimes, I don't know, they teach it in the morning. And you're like OK, oke I have got to get out of bed. And now, because you can pl- because you can divide the time yourself you can. You are more in charge and that feels a little bit more free-er and more enjoyable.

[I] Oke. Um. Well, you also followed tutorials. Can you compare the learning experience with the Academy of Skills to following video tutoria-

[P] Yes. It's better. Um because what I also explained. I just follow a basic tutorial and then I'm going to.. Going more into depth. By finding specific tutorials for specific task. But um, it's way more detailed, the Academy of Skills, what you learn. Um. And it just gives you a certain learning path that you have to follow. Um, and I think that's um. More learningfull after a while than looking for specific things that you need. Because you also learn things that you don't need. And I think that will, learning things that you don't need, also will add to your skill and make you even more skillful. Then only learning the things you need.

[I] So how do you normally know what you need?.. To learn.

[P] Hmmmm. Mostly it's what I said. With InDesign, Photoshop or Illustrator. And then you know well oke, I have to um. Create this image that looks um, this and this way. And then you google how to make an image that looks that and that way. So, so that's how I know what I need. Just, how I want to change something.

[I] Oke.

[P] I am not googling how does this tool work? More how to make something look like that.

[I] Oke. Thank you. So, can you explain a little bit more about your opinion about online education?

[P] Yeah, well did I um. Um my opinion about online education. Yeah, I think it's a good thing that it's very accessible.

[I] Maybe you can just explain, how it might have changed during this course? If it did.

[P] Um, yes. I am wondering because um, this course did change um. My percep- no. Because before this course I didn't really know that there that online education could be also that personal. Um but I always was very positive about online education. And I still am.

[I] Can you explain why?

[P] I am positive because it's very accessible and um you can do it whenever you want to do it. It's um, it's also almost a freedom of skill that everybody can learn what they want to learn because it is so accessible. Um. And then the negative part about online education. Is that education is more than just learning something. It's also meeting other people, um, seeing different perspectives and also face to face contact. So I guess that's something that is kind of missing. But, yeah. Mmmmh. Wait I'm going to think a little more about this question.

Yeah because. What does online education actually. What do you um. Mean with that. Do you mean, um just follow a course to deliver a skill. To deliver? To learn a skill. Or do you mean something bigger than that. Because, well.

[I] Well, you can see online education overall. Like.. Well this is then online education to learn a skill. And you have online education to learn theoretical courses and there's like different sorts of online education. Maybe you can just say for each one of them and overall how you feel about it?

[P] Hmm. Well overall I guess online education gives you a kind of.. Makes you a kind of anonymous. And I think it's. For some people that's very positive. And for other it would be negative because it's also kind of stimulating if others see your results. But maybe for others they are more. They dare to do more different things because they know they will be staying anonymous.

[I] How would you see this in the Academy of Skills?.

[P] Well it's good that you work on um something. And um. Well it's kind of anonymous that you don't have a full class with other students around you that are also doing the same. Although you still receive feedback and you see somebody talking. Hmm. I am not really sure if I have really have an opinion about it actually. It's just there. And it's good that it's there because it gives you very easy access. And I think that's also um especially for knowledge, for skills. That's a very good thing to have, good access. And yeah of course you will always miss some, some learning experience that you really need to have during face to face teaching. But well, for some things, especially if you have a course with only um a lecture. That you only have to sit and listen. Well, then of course you can do it just online. That's where it depends on what you want to learn.

[I] Oke. then I have a few questions about what you filled in and you can maybe explain a little bit more.

[I] So you answered to "I received feedback at the right moment / moment I needed it" with a 3.
[P] Well I had twice that I wanted to start to work on um. Wanted to start cardboard modeling. And I couldn't go further, because I. I didn't have already feedback. So. And um. Therefore a 3.

[I] Oke. And "the feedback I received was directly useful for me"

[P] Yeah. The quality of the feedback video's were often quite bad. The microphone wasn't very good from some people that I couldn't really hear what they were actually saying. So. Also some drawings they were there but. It still was hard to understand. And what I also find difficult was that when somebody was saying you couldn't go back into the video to listen again to that piece of video while you didn't have text to read it back.

[I] Where do you mean?

[P] Well if somebody says about, I don't know. Um. If somebody said something and you were like oke what did they say? I want to hear it again. But you can't turn that video back to that moment and play again, to hear that again. Or you can read it back. And also, I guess it was really helpful to hear the feedback which I received. Or maybe the option was there, I don't remember. But I was thinking. The feedback that I, which I received on the first lesson. I think it would be better for my learning experience if I did listen to that feedback again a few times. But well, the option was there. I just didn't do it. So it's kind of my own mistake. It's not of the program. Or maybe it would be nice if you just also could have some written text with some tips next to your screen, or next to the video. Which explains some of the basic things.

[I] The basic things from the feedback? Or-

[P] Yes. From the feedback.

[I] So the feedback that you did receive. Well you said, 'it was not directly usable for me' but that was because it wasn't that good in quality?

[P] Yes.

[I] That is what you said right?

[P] Yes the quality wasn't that it was always um. Very understandable. That wasn't something that um yeah. Not directly understandable what they meant. So yeah. That.

read through statements together

[I] So can you explain why the feedback was not always -

[P] Yeah um. I had a few times when I really had um. Well for example the first time that I made the cube. I really cut away some of the cardboard. On places that um you only remove one layer and that I removed also, a part of the second layer, or actually third. So there were things that I really wanted to have feedback on. And that was kind of also my own mistake because I didn't properly edit the feedback videos in that way. That I really got directly feedback on that. Um but

there were um some things which I know that I really did wrong. And I wish I wanted feedback on. But I didn't get any. I didn't get feedback on that. So I guess therefore I put down a 3. And also yeah, sometimes somebody just said. Yeah, yeah it looks good and I am wondering. Are you just saying that to have something to say? Or are you saying that to be nice? Because I did.knk- well, it isn't that good.

[I] Oke. Can you explain a little bit more about the liking the way of receiving feedback?

[P] Yeah. Well, I found it was very awkward in the beginning. And especially with the girl with the blonde hair. Because I have seen her face around but I never talked to her. So I think it's, I think it's awkward in a way that.. Um you know her. And don't really know her. And still if you are making something. It's still kind of personal. Because you put time and effort in that. And you really want to make that good. And to have something that gives you, have someone that gives you feedback that you only know by face.. It's like. I don't know. It's really like showing someone, something very personal of yourself. Um um, to somebody who can have a bit of an opinion about you. Because they have. Because if it's someone, you will never meet than I don't mind. Because you need someone else to learn your skill. But now it's to show something very personal of you that somebody that you can, that also could know you and then.. So that was a kind of personal private issue. What I did like is that you actually can see them talking um doing the videos. And um that there, you see their faces. You hear them. Well yeah, the already makes up for the part that you kind of half know them. And what I, might um. Like to have as a function with it. Just to have kind of an introduction for the one who gives you feedback. So, this is.. Um I don't know. This is .. she studies this and this in this city and she is going to give you feedback now. To make it kind of, a little bit less awkward. Because it's also very awkward to just have a.. Not really a stranger, because I know her face. But to have like somebody who is telling you that. I don't know. If you just always had, at the start of the course. If we then would have a meet each other with the, I don't know. Everybody that is going to do that. That would also be different, than. Um and, for the functions of the program itself. Yeah, I guess I really want to have more text in there. That it's not only sound, but also that you can see um. What the feedback is. And the drawings are not always very clear.

[I] Oke. Can you tell a bit more about the drawings?

[P] Well, Um. Sometimes somebody was trying to um. To make something clear with the drawings. But maybe the line was too thick. Or maybe they couldn't draw precisely. But I was like what? What do they mean? And then I wanted to reverse a little bit. Um to see what they are actually saying. But you couldn't do that. So I was like oke, there is just some line over there and they are trying to tell something but I'm not seeing, for sure, what it is.

[I] Oke. So did you sometimes have questions that were not answered? "If I had questions, my questions were answered during the course or feedback session." Can you explain?

[P] Yeah, well um. The example of the cube, I had a question about that and I also, during one of the videos. Ohja, when I was cutting in the um cardboard to make the slider um I also. Found it very hard to cut that, because I had to um, put way much power into the cardboard to even cut it. And I don't know, well I wanted to have feedback on that. And I also did ask that in the video but I didn't receive feedback on that. Oke. And also when making those circles. I also cut um with a nice angle haha. Or ya, actually not really nice. So I also hoped to get more feedback on that but I didn't really get it.

[I] Oke. So that. Is that also why you did not receive help at the right moment?

[P] Yes.

[I] Oke. You mention that you do like the working rhythm and that it fits your needs. But we talked about that before.

[I] Um. So you explained here what was missing, regarding the platform. Can you also say something that is unnecessary in the platform?

[P] Uhmhm. For ex- um. I think I used almost every button over there. So, and um. Yeah, I actually used every function of it. So I guess that isn't um..

[I] Oke um, something that we haven't talked about yet. Um. the pedal. Can you explain a bit more about that?

[P] Yeah. um. I had trouble with the pedal in the beginning. Forgetting to press it or um um when to press it. Um but at a sudden, after a few times I yeah um started to get a feeling for when to press the pedal so. That's just another skill which I have learned haha when to press a pedal.

[I] And did pressing the pedal help you selecting the videos?

[P] Yes.

[I] Um and you like best to look at the explanation video. Um, what would you really like to keep in the platform? You left this question open, can you explain why?

[P] Yes um because I. Because I was not sure which item to choose. Haha.

[I] Maybe you can just say the items that you like most then?

[P] Oke. So um. That you can replay the explanatory video when filming, that was really nice. Um. The videos were very nice um, because they really well explained how to.. Step by step that was very good. Um. Also the step by step part. What I would like to keep.. Um just the tutorials actually. I find it also hard how to say, how to answer this question because it's well it's a tutorial. So what would you like to keep in a tutorial? That would be the tutorial films.

And in the platform? So if you disregard the course that is in there. More the way of working with the platform. What would you like to keep then? You already mentioned that you can watch back videos while recording and the step by step part. Is there something else?

Hmm. The goback function. To go back not only one step, but also 3 steps or 4 steps. Yeah so that.

[I] Um. Oke. So I guess the rest is quite clear for me. Thank you very much!

Do you have anything you want to add?

[P] No, not really.

[I] Oke. Thank you!

#12

[I] So you mentioned that you had experience with video tutorial.

[P] HmmHmm.

[I] Can you describe this experience?

[P] Uh yeah, my experience with video tutorials is mainly on YouTube. Because in high school I was a big fan of all those make-up tutorials. Um um, girls like beauty gloss. And then um. Yeah, they would do their make-up and I would do the same. And also the do it yourself videos like.

How to make a, yeah. How to make clothes and stuff. And then I also did that.

[I] HmmHmm. And is this experience positive or negative?

[P] A positive experience. And I must say that sometimes I just watch them and didn't actually do it. But it was also fun to just watch it.

[I] Why was it fun to watch?

[P] Because it was fun to see the whole process and learn something new.

[I] Oke. Then. Can you also describe your experience with step by step tutorials?

[P] Yeah. It was also the um ac- the same experience. Because the make-up tutorials for example were always step by step. It was always in a chronological order and first do the make up base,

first do this, first do that. And for the DY, DIY videos it was the same thing. And I think that is a really good experience because that makes the process more clear. Because it's cut in little parts.

[I] Oke. Then you experienced learning a practical skill with the Academy of Skills.

[P] Hmhmhm.

[I] Can you compare this to learning a practical skill in class?

[P] Um. Yeah it was kind of different. Because you had to plan it for yourself. And sometimes I found that hard. Because when you have a class you exactly know when to do it. And it's easier to plan. But I also liked it because you could also work on it in the evening, for example. And yeah.

[I] And in the way of like, getting class?

[P] Oh, in the way of yeah, learni- I didn't actually learn like a practical skill in class here yet. Like, that someone really explained it. So, this was.. I can't really compare it to that.

[I] Hmm. For instance, did you have drawing in high school?

[P] No. Um yeah. Oh, oh yeah. In the first years I had. Yeah. Yeah that was different because then you had really a place to work on it and you were also with other people. And then you could look at how other people were doing it and how you are, all on your own.

[I] How did you experience that? Like positive / negative?

[P] Um. I like to work with other people more than working on my own. Because then you can get direct help if you need it. And here you have to film yourself and then wait for help.

[I] And if you compare it with like, learning a practical skill with a video tutorial? So you compare learning this practical skill, with the Academy of Skills, with for example the make-up tutorials you named.

[P] Yeah that is different because now you also had to film yourself. It was more direct that you also really did it on point. Because with the make-up tutorial I just watched it and then I remembered it. And then I would do it another time. And didn't really watch it and do it at the same time. And here I did.

[I] And your experience, positive / negative?

[P] Yeah. that's a positive experience. Um. With the Academy of Skills. Because you see something and you directly do it. So you um. Remember it better, if you do it afterwards. After watching the whole video.

[I] Oke. Then I am going to go through your answers with you and I will try to get some more depth about your answers.

[I] First of all, who did you receive feedback from?

[P] Um, I received feedback from Joep Frens from um Lisa but I didn't hear the feedback because it didn't um yeah have a microphone or something so yeah it didn't work. And I received feedback. I don't know how they're called. Um from a girl that was from last year I think? I don't know. I don't remember.

[I] Oke. Yeah. Oke. So you mention here that the feedback is not at the right moment or the moment you needed it. Can you explain why?

[P] Yeah. Um Because for example I planned two times to reserve this room to work on it. Um, and then I was sitting here 'Oke, I'm gonna start' and then oh. I have, I don't have feedback yet. So I can't start. And then I waited on the weekend. And then- yeah because that was on a Friday- I waited for the weekend. And then on the Monday it was the same thing. So that was also why um, I was behind.

[I] That is OK, I checked. It was indeed really weird. The system thought you already received feedback which is why you didn't get any. I don't know what happened.

[I] Um, and then. “The feedback I received was directly usable for me.” Can you um- well besides the time that you didn’t receive feedback because there was no sound, ex-

[P] Um yeah. Yeah, I think it was directly usable. But I really had some problems with the quality of the feedback. Only the last feedback I get. I could really understand. But the other ones you just had to yeah. Do my ear on my laptop to really hear it. And Joep Frens was stuck all the time. So. It just didn’t work well in my computer. I don’t know what was um, going wrong. So this was really about the quality? So not-
Yeah it was really about the quality that I couldn’t. Yeah. Couldn’t really use it sometimes yeah.

[I] Oke. And the feedback that I received wa- Well both of those are a 3. Because the quality-?

[P] Yeah. yeah. It was because the quality. Yes.

[I] Oke. um. Did you feel like you needed to wait for feedback while you did not need the feedback?

[P] Um, pro- ? huh.

[I] Sorry. I mean. Because you crossed a 5 here. Did you feel like you needed to wait for the feedback while you did not need it? Sometimes.

[P] Well I d-. Um so I did not need it? But than I.. but then it’s not waiting right?

[I] Well, you need to wait to get on, to the next lesson.

[P] Oooh. um yeah, um. Well. I guess. I really don’t understand the question quite right. Yeah.

[I] Oke. No problem. So um. The statement is “I needed to wait for feedback, while I did not need the feedback.” so um. Did you sometimes feel like you didn’t need the feedback to continue while the feedback was not there and you needed to wait to continue.

[P] No because, If I don’t need it. Than I didn’t need to wait. Because then I didn’t watch it I guess.

[I] Oke. Yes. And I guess. Um. Yeah. You mentioned that you- well, you did not mention. You crossed a thing on a scale. That you do not feel really supported in your learning process. Can you explain why?

[P] Um yeah. Because it felt like. Um. During the real learning process that was all on your own. Your own. You had to film yourself and it took a while before you get real feedback and then you already kind of forgot what you exactly did. And so that. I guess if you are in a real room with someone really experiencing it next to you at the same time. Then it would feel more, more as a supported.

[I] Oke. Then let’s see. So you also have that you didn’t receive help at the right moments. Does that tie into what you said previously?

[P] Hmmhmm.

[I] Oke.

[P] Yeah but just like in more um if you just work together um on something.

[I] Hmmhmm.

[I] Oke. So you mention that you are not motivated to continue cardboard modeling.

[P] Yes. But I think that’s a really personal reason. Cause I just didn’t like to do it and I find it mainly yeah really frustrating because it didn’t work out quite well. And also. That was also the case because I was also kind of busy. And it’s kind of in between and stuff. And um, yeah. I don’t think I am going to use it in the future.

[I] So. Where you missing information about where you could use it for?

[P] Yeah. Maybe that could help because you can use it for um making models and prototypes. And stuff. But I don’t feel like I have the skills now to really make a working model.

Oke. So why do you feel like you don’t have the skills yet to make a working model?

Um. Yeah mainly because the last assignment was to make the um. Um. Slider and it had to turn

around. But I didn’t. I just couldn’t do it. I didn’t understand it. So I um, think I need some extra basic skills.

[I] Oke. What was missing regarding the Academy of Skills platform? You answered with ‘some kind of help forum and clear overview of what to do for a model in written text’.

[P] Yeah. Yeah, I like that more. Because sometimes I forgot how to do it exactly and I just wanted to go back to the video and watch it again. But then you had to watch the whole video again and you couldn’t really select it. So I think I like it more if there. If you could watch a video but there also was a step by step approach in written text. So if you forgot a thing you can just watch there ‘oh yeah, that’s what I should do’.

[I] Hmmhmm. And if you, did you sometimes watch back the small videos while you were filming?

[P] Um yes, sometimes.

[I] You could scroll in those, right?

[P] Ooh I didn’t know. I didn’t experience that.

[I] Oke. Good to know.

[P] Sorry.

[I] No problem, if people miss something like this that is also something I have to take into account.

[I] Oke. Then you left open “What was unnecessary regarding the Academy of Skills platform?” Can you explain why?

[P] Yeah. Didn’t really know what to answer on that question. What was unnecessary? Um. Because yeah um. All the main components were in it and if you would leave one out of it.. Yeah. Then it would yeah, I don’t know.

[I] Oke so it includes the camera, pedal, website, steps, options-

[P] Oh yeah, the pedal was unnecessary because why don’t you just push it on the button?

[I] Maybe for your flow.

[P] Yeah because it wasn’t really working in my flow because every time I was like ‘oh ja, oh ja pedal, where is the pedal’ And I had to grab it. For me it would be more handy to ju- to just push a play button.

[I] Oke. Um then. “What did you like the best concerning the Academy of Skills platform?”

[P] Um. What did I say again?

[I] The videos were explained very clear.

[P] Yeah it were good and clear videos. And I also liked that you first had like an overview video and then small steps on it. Took sometimes, the overview video took quite long and I was like ‘you are going to show that again, right?’ Yeah. I liked that. It was very clear.

[I] Oke. Is there something else?

[P] Um. I thought the lamp was really cool. That you could, in that way, film yourself.

[I] Then. Your opinion about online education. You send me your opinion before you started the course.

[P] Oh yeah, true.

[I] Did it change?

[P] Um. I think it’s quite the. Yeah I think it’s kind of the um stayed the same. Because I also had some experience with online courses.

[I] Hmmhmm.

[P] I am also doing an online course for USE right now. I am not going to the lectures anymore but doing the online course of it. And I like that it’s. That you can um. You can do it in your own time and just plan it for yourself. But with learning a practical skill, I think it’s better to have like a real person. Because then it feels more real. If you have to really show it to someone, instead of yeah um. A camera. For me.

[I] HmmHmm oke.

[I] And then, well. You also gave feedback to other students.

[P] Yeah, yeah. Only one time.

[I] Oke.

And how was that?

[P] Yeah, I found that really difficult because yeah. I wasn't really good at modeling myself and the other person just did exactly, yaa, what he has to do. So. I was only 'yaa oh I think it's good' and I didn't really know how to give some extra feedback. HmmHm. Because I didn't feel like an expert.

[I] Um Yes. Well, you do say that you want to follow another course in practical skills in this manner.

[P] Yeah! Because um. That is also more um yeah personal reason. Because I am not continuing this study but I like to do some creative. Um learn some other creative practical skills. So then it's handy to have an online course instead of learning it here. Yaa.

[I] Oke. But you wouldn't replace a normal one. So that explains.

[I] Um. And you are neutral about enjoying working with the Academy of Skills platform. Can you explain why?

[P] Yeah. Because um. Someti-. Because there was sometimes some really good parts so like yeah the lamp and the feedback. But also, some things didn't work so.. it levels each other out.

[I] So the feedback-

[P] Yeah the feedback didn't work really good for me. So it wasn't really helpful.

[I] What else did not work?

[P] Um. Yeah meanly the feedback I think.

Yeah and sometimes just the videos a bit- But I think that's something with my laptop or with my wi-fi. It buffered really a lot. So it took more time than necessary.

[I] Oke. Um. Then let's see. Oke. So here you scored neutral too so I am just going to ask why. "I can effectively complete my work using this system." You scored neutral. Can you explain why?

[P] Um. Yeah. Because, I think yeah because sometimes it really worked out. Because for example the cylinder worked for me and I was yeah. Quite happy with the result of it. But um. Sometimes it's just because it was, for example with the last lesson. Because it was so much it only got me frustrated that it didn't work and yeah. That's because it needs to work.

[I] Oke. Thank you. Do you want to add something?

[P] No. Not really.

[I] Thank you very much for your time and effort.

[P] You're welcome.

#13

[I] In the questionnaire you mentioned that you have um. Experience with video tutorials. Can you describe this experience?

[P] Um. I think I prefer to give a, give an example of that. Um. Code Academy, which um on YouTube tutorials. And I use them to learn coding and to learn Photoshop. So. I was, when I was watching the video's I was simultaneously applying what they did in the.. Oh in the software. Of the programs. And um. I think I also afterwards, then tried to figure stuff out on my own. By playing with the parameters, they were, they were using. So during the tutorial I, especially with Photoshop. Not with Code Academy. It all was very new, so I just did what they said that I should do. Then I was like 'Oh, do this' and I didn't really understand it and then the

Photoshop is just, pause, turn out a different setting on the tool. And then paw, that's how it works. That's how I can use it.

[I] HmmHm. And is this experience positive or is it a negative experience?

[P] Positive.

[I] Why?

[P] Um. Well, in regard to my goal. That I want to learn something. Without the video it would be harder to get started.

[I] Oke. And step by step tutorials. You also mention that you have some experience with those. Can you describe that as well?

[P] Those are the.. I guess the.. Kahn Academy tutorials. HmmHm. Oh no no no, the Code Academy, sorry. Yeah with Code Academy you have like um write this line, then this line.

[I] HmmHm and that i-

[P] Yeah it's positive because something comes out of it. But I don't really think that the knowledge stuck with me.

[I] Because?

[P] I don't know why.

[I] Why do you think?

[P] Well, it's the thing with learning. If you just, repeat, repeat, repeat and with Code Academy it is. You do something and then, well you are constantly typing that's what you're repeating. But it's something different the whole time. So you don't do the same thing over and over again. And um. Varying a bit you do different things. And different and different and then nothing really stuck.

[I] Oke. And then you followed the cardboard modeling course, well part of the course, through the Academy of Skills. Can you compare this experience of learning a practical skill via the Academy of Skills to learning a practical skill in class?

[P] *long silence*

[I] Sorry, that was a bit fast. Shall I repeat the question?

[P] No, no, no. I get it. I am just trying to formulate my own answer.

Um. Hmm. That's sort of the case. In class the feedback is more in the moment, when you're working in class. And um, well. If you work in class. If it's not just a lecture. And um, and with the Academy of Skills it is really homework on which you very quickly get feedback also. But not within the process. And um. So there's this thing with um, when you work in class you get this feedback that is valuable for the process and if you make homework then the feedback is viable for the end result. And with the Academy of Skills the feedback on the process is very key to the end result. And that's why it's.. That everything is about the process of making. Um. That's how it compares to the class. Teaching / learning.

[I] Oke. and can you also compare it to learning a practical skill with YouTube tutorials or Code Academy tutorials?

[P] With-um without the feedback? Yeah without the feedback. The feedback is pretty nice. Because um. It's not always.. Things you notice. So like holding the blade in a certain position. That, and you pay attention to very other stuff. And with a YouTube tutorial nobody says that you should focus more on this. And with the Code- Academy of Skills, AoS, the feedback can also be of that caliber.

[I] Oke. Then I am just going to ask you some questions about things you filled in. So I'm just going to scroll through your answers with you and repeat what you answered and then ask why you said it.

[P] Yeah.

[I] “I needed to wait for feedback while I did not need it.” You scored a 4. Which is neutral. Can you explain why?

[P] I wasn't really busy with the course, um whole lessons thing. I did it when I, when I had time. So I wasn't really planning for it.

[I] Oke. Can you also explain why you did not finish the course?

[P] Why I did not finish the course? Um. I had priorities somewhere else.

[I] Oke. Is that the only reason?

[P] That's. Yeah.

[I] Well, it could be because of the course.

[P] No that's not. I think um. For, for what. The course is very nice even though. If you have your priorities somewhere else. Because you can also look at it like 'Oh, I'm going to relax right now. And cut shit.' But um. It did not relate to the, the, Academy of Skills.

[I] Oke.

[I] Um. Oh yeah. “I liked the way of receiving feedback” and you said ‘for example when someone found I could exactly see because of what.’ Can you elaborate a bit more?

[P] Well. um. With Joyce for example. She gave me feedback on how I hold the knife. I could look at both the screens simultaneously. With Joyce there was this problem that it was not in sync, but I'll still use it as an.. Um oh um. You know when someone is going to give feedback because of certain indications. Like 'huh' or 'hmm' and you can relate to the video and then you can expect what is going to be said. And then that can be true or it's something else and that's. Well that's interesting. It doesn't add to the quality of the feedback, maybe. But it was nice to see a face.

[I] Well, why do you like it that you can see this?

[P] Hmm. relatable. Someone who. You are sort of insecure of what you're doing cause you are doing something that you are not skilled in yet. But then this sort of, you're fragile and insecure and you open up yourself to criticism. And then the other one also does that by showing you his face. Or maybe it's a bit symbolic. Not exactly the thing, but it could be it though.

[I] Oke. Then. “If I had questions my questions were answered during the course or feedback session”. It says 3, which is towards never. Can you explain why?

[P] I never had questions.

[I] Ah. Oke. “What was missing regarding the Academy of Skills platform?” You left this question open. Can you explain why?

[P] Uhm. I thought about it the other way around. Um. All the things that it consisted of. It was not so much but, it was um. Enough. And perhaps most perfect for the process of making. You have the whole picture and then the steps were very... afgebakend (demarcated). And um I think I couldn't come up with anything to improve that. What I liked. So that's why I left it, um open.

[I] Oke. And also in terms of functions? The website, the camera and the pedal.

[P] Oh um. Yeah. So the second course, no the third course I constantly forgot to push the pedal.

[I] HmmHm.

[P] I wasn't aware of that I should do it. But I don't know if it was because I was a bit rushed or not. I think I was rushed.

[I] Oke. But there was nothing missing in functions?

[P] No.

[I] Oke.

[P] Well, in the first lesson I filmed like the whole thing. From start to finish. But I finished way later then.. The recording stopped way earlier then I finished. So I didn't have a.. I didn't document the thing that I had to document. Uh yeah. And so I. The videos could be made longer. Or not immediately film everything, just start filming only when someone has what he

wants to present or something.

[I] Um then. “What was unnecessary regarding the Academy of Skills platform?” So what was in there, that you did not need.

[P] Um I didn't need the 'film again'.

[I] Oke. HmmHm. Something else?

[P] No.

[I] Oke.

[I] “What did you like best concerning the platform?” You answered with ‘the split up videos that can be watched when recording’ What do you mean with this?

[P] Ah. So you have the. The instructions are still there and you can see what you have to do. And also be able to actually do it, so you can just keep on cutting. And also just stop cutting and look at what you have to do.

[I] Oke. Your opinion about online education. You wrote this down on a post-it note, for me, before the course. And did it change during the course? Well you answered with ‘very valuable in a 24/7 society’-

[P] Well it changed. It's a bit different. I don't know if it changed in the same essence that I definitely elaborated more on what I first wrote down. But I don't know what I first wrote down is related to what I wrote down right now. But um. Yeah, next to that it's um. Very valuable in society as we have it now. Everybody wants to access to anything. Which is. Is nice, on one hand. But um. There's something with learning and teaching that is.. It should not be only be on a platform. Like, having meetings with Joep is um. Far more interesting then one might expect, when he um he goes to a meeting with Joep. Before it begins um. It misses um insights from a teacher. Which might be implicit in the way that one teaches.

[I] Oke. “What was it like to give feedback to other students?” Why did you not answer this question?

[P] I did not give feedback on other students.

[I] Oke. Um. That's it. There is nothing neutral left to discuss. So, thank you. Do you want to add something?

[P] Um. Nope.

It's very nice that you. Oh ja, I do want to add something. Oke, I like it that when you log-in, that you can immediately start with what you have to do. And um. Also to see your progress. I think. With the courses you can click on, and also the courses you cannot click on. Because you have to be further with another course first. So it's very transparent in where you are and um. How to get to what you want to do.

[I] Oke. Cool. Thank you!

#14

[I] Um. You mention that you have experience with video tutorials. Can you describe this experience?

[P] Um, yeah I have quite a lot of experience I guess. Um. So um. I first started using tutorials from YouTube and all this stuff for for um. I don't know. Learning how to program something and especially since I play music a lot. I did a lot of those kind of tutorials.

[I] HmmHm.

[P] And during my master study I also followed the course on Coursera. I don't know if you know the platform. From um I don't know anymore which university it was. It was about innovation um this and there was a lot of theory. Um and basically the homework was um questionnaires that you had to fill in. Yeah they were graded automatically. So they um they were not really reviewed by peers actually Um and at this moment I am following a course which is also really passive. So it's just. It's on a website for learning bass guitar.. And that is basically a guy explaining theory. And giving you homework to do. But it's not checked at all. So it's nothing interactive. Um, so not the course itself. But um there are weekly sessions where you can log in and, and have an interview with the guy that um gives the lessons.

[I] Oke. And would you describe this experience as positive or negative?

[P] I like it very much. Um. I always find it very tedious to follow a course um not on my own time. I am not able to skip the stuff that I already understand and um. Rewind what I didn't understand so that's what I really like about it. Yeah.

[I] Hmmhmm. And you also have experience with step by step tutorials.

[P] Um, yeah. So what I understand from that is that's just basically a video that you could pause on a certain time to work on something and then um you continue. Yeah. So the um, lesson that I am following now. Is, is pretty big steps. Just um a video of ten minutes, then a a pause and you continue afterwards. Yeah.

[I] And is that positive or negative?

[P] I think it's necessary. I don't think you can learn by just watching a video for an hour and then later on have to do some homework or something. I think, it's, especially for online um. platforms. Yeah.

[I] Oke. You also did the Academy of Skills version of the course. Can you compare this experience to learning a practical skill in class?

[P] Oeh.um. Well, I have to think of learning a practical skill in class. So um. I did some drawing courses. I think what I value a lot about the um. offline way, um. Is that you get feedback while you are doing it. That's kind of. I missed that kind of in the course. The, the. I didn't expect it of course. Because it's online and very difficult. Because you need someone else to be, to be there then as well. So that's I think um. Um. The only negative side about online courses.

[I] Hmmhmm. Oke. And if you compare it to learning with tutorials or step by step tutorials? The Academy of Skills platform. Can you compare those two?

[P] Um. Yea. So in my opinion I experienced the difference that would be in that you now record as well what YOU did. As you have to be- um that is what I found a bit awkward at the beginning. So let's say. It videos your mistakes as well. You cannot just do it over and then say I throw it away and do the best one. So.Um. That has positive sides and negative sides. But um yeah I think the interactive part as well is um. Is um different. The fact that you get feedback on it. So the step by step tutorials for me were passive, so just following the course and then. Or or following a tutorial, actually a video. And then you have to say whether you did it right or not. And you don't know if you did it right or not.

[I] Hmmhmm. And would that be positive or negative to do it with the Academy of Skills compared to video tutorials?

[P] Um. I think the feedback thing in essence is very positive. Because um. I did stuff wrong that I didn't know about. But on the other hand I also did stuff wrong that I knew that I did wrong. And I knew how to do it the right way. But there is no way to communicate that in the platform. So you get feedback on it and you think 'Yeah, I know. Shut up, continue'. So um. In essence I think it's very positive but um there are some negative sides with that as well. So um for example also the step by step tutorials you can do on your own speed.While a big negative from the Academy of Skills, so disadvantage for me was that I had to wait for feedback from others before I could continue to the next class exercise.

[I] Oke. And why would this be a negative?

[P] Um. Yeah. it could have to do with the fact that I was a bit in a hurry. I has, had to be finished in two weeks. And I didn't have a lot of time. So um. For me for example. At a day I was able to plan um two slots to work on it. In the morning and in the afternoon. But in the afternoon I didn't receive feedback yet so. I was. I was not able to do anything at that moment. So I might be able to record one feedback video. And that's it. While I had an hour for it. So that's um. I think um. If you do it in um. So if I would start using this platform, for real. Not only for this study. Then um. I thinks still this possibility of not being able to continue can be a downside. So of course if you wait a week before you do the next step. Um than the chances are harder but it's still possible that you didn't. That you wouldn't be able to continue.

[I] Oke. Then I have um. I will go over the answers with you together.

[P] Oke, yeah.

[I] And then sometimes I will ask why you did something or did not answer something.

[I] So."I received feedback at the right moment or moment I needed it". You crossed a 2, Can you explain why?

[P] Yeah. That's basically the two things that I mentioned. So, um. I had to wait for feedback while I wanted to continue. And sometimes I received feedback that wasn't useful to me because I had. I knew that I did it. That is was not the right way.

[I] Oke,

[P] But sometimes it was, so it wasn't always.

[I] Oke. Why do you think the feedback you received was very concrete?

[P] I think because the skill that we learned was also very concrete or basic actually. Um. There was very easy to say um. You have to use the scalpel in a different way.

[I] Oke. Um you are neutral about "I needed to wait for feedback while I did not need it." Can you explain why?

[P] Ya, um. That's I think because I found it a difficult question. So yes, sometimes I needed to wait for feedback, while I wanted to continue. But in hindsight this feedback was useful. Um. And sometimes I was able to use it in the next um. lesson as well. So that's why I crossed it in the middle. Um. It's both.

[I] Um let's see. Oke. "The feedback I was given was given by someone with a higher expertise level." You said 'always' can you explain why?

[P] Yeah. Um. I thought. So. In my experience I only give feedback to people that had the course. That followed the course. That I already finished. So that's already some kind of. That gives you an idea of the people that give you feedback also. So have completed your lesson as well already. So there is already some kind of expertise level as well that of course I had a lot of feedback from Joep. So. That helps. I knew he was an expert so but um. That was also apparent in the feedback itself.

[I] Oke.*mumbling* Then, we have talked about this already so I will skip that.

Then um. "I felt supported in my learning process". You crossed a 5. Can you explain why?

[P] Um, yeah. I think it was the personal touch of giving the. Um providing the feedback of others providing feedback to your work. So um normally in my experience if I follow a course. It's basically you have to check whether you did the right thing and now someone else can also give some feedback on that so. So that's why I liked it. Yeah.

[I] HmmHmm Oke. “I liked the deviation of the process of making the model into smaller steps.” You-

[P] I didn’t get the question. Um so is this about the step by step part?

[I] Yeah.

[P] Ah. Oke. Sometimes. I guess that was usefull. Um. Sometimes it was a bit too slow for me. And um so. In some lessons I skipped parts, I have to say. And then while working I was thinking ‘Oh, how should I do that?’. So um. I am not sure if the, I think it’s a good thing. That you divide it up in small parts. But sometimes it were too big parts, you can’t make. So it was in the beginning a lot of stuff that I already knew. So I thought ‘ok, I can skip this video’ and then in the end it was like well, I missed something. Because I don’t know how to do this. Um. So I was able to figure it out by myself but. So I think um, splitting up would help. Maybe smaller steps then. I think it was in the cylinder course that I had that.

[I] Oke. Oh yes, I can imagine. You had to delaminate and cut to size at the same time I guess.

[P] Yeah there was one video. I think. So um. At first. Um. This is difficult to remember but I think were, where I had problems was with the. The um. Was with the cube. So cutting out the smaller parts. Um. delaminating the smaller parts. So to fit them. And I didn’t see that in the video. And I think that’s because I skipped it. Because at some point I was like ‘ok, I know I have to cut out my drawing’ and then um..

[I] And the smaller step videos? Did you watch those? The in between videos?

[P] Yaa, yaa. I always watch them. Yeah. But um. During that tutorial I think there was a longer video where I just skipped the end somehow. Maybe because I’m bored or..

[I] HmmHmm Oke. Then “If I had questions, my questions were answered during the course or feedback session.” You crossed a 2. Can you explain why?

[P] Um yaa. Maybe it should have even been a 1. Um I don’t know how to ask a question on the platform. For me the um. So in hindsight I thought well maybe there is a microphone in the thing as well. But I didn’t know. So I recorded stuff in silence. And then on the last course. I think when I was placing the markers. I heard myself whistling. And I thought ‘Oh, there is sound as well.’ I don’t know. But I didn’t see it in any of the videos well, which I provided feedback on. So nobody actually verbally asked questions so um..

[I] But it is possible?

[P] Yeah.

[I] Good to know. Oke. “I received help at the right moments”

[P] Yaa. Um. Not always. Actually. Um. I think overall I had to wait longer than I wanted to wait for the feedback.

[I] Oke. And “I liked the working rhythm.”?

[P] Yes, same thing. Because of that.

[I] Oke. So “the flexibility of the working rhythm of the course fits my needs”.There you are neutral.

[P] Yaa, I think. Um. Again, because of the same thing. So sometimes I was able to um. Sometimes when I went into the room and I had feedback and I was able to continue. It was OK. And sometimes, I wasn’t able to do anything. So. um.

[I] Then. Let’s see. “I had fun making the models.”

[P] Yeah it’s nice. It was nice. And um. You know it’s a skill that you always see on this faculty. But I never followed the course so I um yeah liked to do it. Just to see how it works.

[I] Oke. And “I am motivated to continue cardboard modeling.”

[P] A bit less. Um. That’s because I am not sure how useful it is for me at this moment.

[I] Oke. Can you elaborate a bit more about what your opinion about online education is.

[P] Um pff. More than I did in the beginning? I think I was quite elaborate already in the beginning um.

[I] Hmmhmm.

[P] So I’m very positive about online courses and schools and um. But what I can imagine um OK this is something else. So, what I saw during those. Especially during the courses that you don’t have really a lot of um um. Feedback from others let’s say. So they’re very individual but they are given by a person that provides videos and stuff. Um. When it gets though you have to. There is kind of a tendency to just stop or just skip something. Because you don’t get it, it’s too difficult and um you are like oke maybe this is not so important. And then you skip it. And that wasn’t possible in this platform actually. So you had to do everything because you knew that someone was watching your video. At least one person. Maybe more. Um. So I think that was a good thing about it but that was also because.. I think it wasn’t that difficult this course. So, it was not that you were making a lot of big mistakes actually. That you were afraid of or that you didn’t want to show to others um. So I think that’s a big downside for me for online courses. So. That you easily can so, ‘ok, nevermind, I’ll just quit’. And this was a. This motivated me a bit more to go on.

[I] Oke. Um. Did your opinion about online education change further, besides what you just explained?

[P] No. No, I don’t think so. Because I already have quite some experience with it.

[I] Hmmhmm. Then, “What was it like to give feedback to other students?” Can you elaborate a bit more on this question as well?

[P] Um yeah. I liked it. It was a bit weird in the beginning. Just to sit there in the room and talk to your computer and knowing that someone else might see this in a day. Or in a day or two. Or something. So. Especially because I didn’t feel like kind of an expert. In cardboard modeling. And I still had to give feedback. So. Um but it helped as well for me to um actually check how much I learned. So um. I don’t want to say that I really learned a lot from this course. But it was surprising to me that I now know for example how to use this scalpel. Because I didn’t really think about this in the beginning. And now, also because of giving feedback and seeing how others do it um. I know how to do it. So. So in the end, it was nice, yeah.

[I] Do you also feel that you gave valuable feedback to others?

[P] I hope so. Um. I think I received some feedback on my feedback. Like it was very useful. But that was just a standard sentence like ‘yes, it was useful’. Um so I don’t. Yeah I think so. But I don’t really know.

[I] Oke. Then. “I would like to follow another course in practical skills in this manner.” And you are neutral about this. Can you explain why?

[P] Um I am not sure if I’m neutral about it but. I think it’s a big question to answer on a 7 point scale. So because of all the positive and the negative sides that I mentioned before. I am actually not sure if I would like to use the Academy of Skills platform for it. Maybe for some um some courses. It fits very well. But it kinda limits me in whether I can do it on my own pace or not. And that’s, that’s maybe why I ticked the middle box. So I, I like it but it’s sometimes it’s difficult. So maybe it would be a good idea to have this as optional stuff or something. That you can follow the course. Um. But that you can also say well, OK. I’ll just skip the feedback at this moment and go to the next course. Um. But that kind of depends on um, how YOU see courses, I think. So for me a course is something that I do whenever I want. But if it needs to fit a semester then of course you need a certain pace like that. Then of course, waiting for feedback fits more.

[I] HmmHmm. Um. “I would replace a regular course that I need to follow with the same course in the manner I followed this one in.”

[P] I think a lot of courses that you have to sit into a classroom and just um. Hear a teacher out. Can just be moved towards um. Online courses. So that’s why I, why I was a bit positive about it. But you also have to be careful about it. Yeah you have to be careful with that. Because you lose a lot of grip on your students. I guess. If someone HAS to learn something, than maybe an online course is not the best way. HmmHmm. But if it’s really only up to the student. Um then yeah, I think the online platform can be better. Quite often.

[I] Oke. And if you would see a MOOC in practical skills. How would you see this if it was not on the Academy of Skills?

[P] Sorry if I saw wh-

[I] Um. A massive online open course. Um you had experience with one before..

[P] OH! Oh yeah, MOOC. Yeah.

[I] Um and this also could be a massive online open course.

[P] Yeah.

[I] Would you like to use this as a MOOC for learning practical skills or would you want to use the current um. What is currently there? Um, well they are mostly theoretical but then-

[P] So yeah. That’s the thing. They are all theoretical. So it’s really, you have to fill in some kind of questionnaire or some. Answer to some questions. And then in the end you get a grade for what you answered. Sometimes you have to write some kind of essay or something and then people react to that. So you get feedback. And you have to give feedback as well. Um um. And that kind of course, this difference between the two exercises is very big. And that’s why the second way. So writing this essay and giving-receiving feedback seems to be um. Sometimes have a higher threshold or something. It’s it’s more difficult. Well this is the standard in this platform. So I think if other people start in this way as well. Like this is the standard. This is how we do it. Then it can be more useful and um and more fun as well. I think. So I think for practical skills it fits well. And I think I would rather have it through this course then through the, the, the theoretical way. I would say.

[I] Oke. Then I think we’re at the last section, so almost done. Um. “I think I would like to use the system frequently?” a 4. Because?

[P] Yeah. I found this similar to the other question that um. So yeah. It’s a big question with a seven point scale. So I, just what I said. Well sometimes yes, sometimes no.

[I] Hmmhmm. “I found the system unnecessarily complex.”

[P] Yeah hmm. It was quite.. Nah it wasn’t difficult to learn, but. In the beginning I wasn’t sure whether I did it the right way. Um. And that’s just because you see a video and then you just have to start. And you have the figure it out yourself actually. But I think I managed. So um. Yeah. It was a bit complex. So. that’s why I filled it in this way.

[I] Oke. hmm

[P] But after you learned. I thought it was easy to use. So you just knew when to press the pedal and how to do it with the markers. How to give feedback. Then it was easy, easy to use. A bit of a learning curve.

[I] HmmHmm Um. “I think I need the help of a technical person to be able to use the system.”

[P] Yeah. In the beginning. You know um. We had quite some problems in the beginning.

With the camera.

Yeah. That’s why I thought oke, maybe I might need some help. Um. Especially in the beginning. But yeah. After you are set up, you are good to go.

[I] Oke. Um. “I found the various functions in the system were well integrated.”

[P] I didn’t see that much functions, actually. In the system. So. Um. For me it was recording a

video and then being able to select part of the video that you wanted to send. Um. So the question wasn’t really clear to me what you meant by functions actually.

[I] The camera and the pedal and everything around the platform.

[P] Oh so the whole. The setting, let’s say. Oke. um. Yaa. They were well integrated but again the pedal you had to learn in a bit. So I quite often forgot it and then in the end it was like shoot um. Press the pedal. It wasn’t really useful to press it at that moment then. But yeah. Well I was really constantly working on my stuff I didn’t think of the pedal at all. I just forgot it.

[I] Oke. Then “too much inconsistency in the system”

[P] Um. why did I fill it in that way. Yeah that. there wasn’t a lot if I think about it. It is a negative question. No, it wasn’t really inconsistent at all. It was very consistent. Yeah.

[I] Oke. Where was it inconsistent? As you said ‘not a lot.’

[P] Yeah I think with the placement of the stuff. So you had to work here, with the food you had to press it at the right moment. You had to adjust the camera sometimes. Sometimes you had to turn off the light because the material would just reflect it too much and you couldn’t see it or. Um, so I think the placement or something. Yeah.

Short interruption of someone telling the participant that she had to leave for a meeting

[I] Almost done.

[P] No problem.

[I] “I find the system very cumbersome to use.”

[P] Yeah cumbersome. It’s like not really um.

[I] Managable.

[P] Yeah. Um nope. It was OK. So yeah, the pedal again. That was sometimes a bit too much.

[I] Oke. “I felt confident using the system.”

[P] Yeah. After a while I kinda knew how to work with it. And I think I was able to explain it to someone else as well. So.

[I] You explained it to someone else?

No, I didn’t actually. Haha. I think I am able to.

[I] Um. “The system has all the functions and capabilities I expect it to be, um to have”

[P] Yes. Yeah um.

[I] Can you explain why?

[P] Hmm. So there might have been some functionalities that might have made it easier. Or maybe um. You know. The pressing the pedal was OK. But it maybe was easier, for example to have um. So that you knew beforehand what you needed to record. Or what you needed to show to someone else. That you could just press when it started and when you are done with it or something. Because, during the action you don’t think about it. So that may be something that could have been um. Added to it. Um. And the function that I maybe would have liked is to have the option to ask questions. Maybe written, then. I didn’t know it. About the camera. So that’s um um. That’s maybe why I missed the function. But I think that’s why I answered it this way yeah.

[I] Oke. Do you want to add anything else?

[P] Ya. In the system, make sure that people know there is a microphone in there. I didn’t know that it recorded that as well. So um. That wasn’t clear to me. That’s the downside of Flash and security.

No. I don’t think so. That’s it.

[I] Oke. Thank you for your participation, time and effort!

#15

[I] Can you describe your experience with video tutorials? And is this positive or negative?

[P] I think they're positive. And like it's nice when you are starting from zero. However when you need like one kind of specific information which you might have heard or you don't know. You're like ah, oh. I think I heard about this. But I don't remember how to do it exactly. And you need to go through all the videos and you need to scroll through it and that stuff. And then 'oh I heard it in the next video' and then you go to another video. So. I guess a way to solve that is to have like a summary of a video. Like small descriptions. And points that he is talking about. But, that's my biggest problem with the videos.
Yeah.

[I] Oke. So also with other videos? So not only with the, um. Cardboard modeling course. But just with video tutorials. Overall. Would you describe that as positive or negative?

[P] Oh like, to compare, those tutorials to these ones? Hmm. No I think it's nice that it's all in the same place. That you don't have to. You know, when it was on YouTube, you have to go to a channel and you have to. Well he's making some other tutorials, and they are all like mixed up and shit.

[I] You want to have the right order.

[P] Yes. exactly.

[I] Oke. Cool. And you also followed step by step tutorials.

[P] I guess I have done that.

[I] Oke. And what was your experience with that, like positive or negative or-?

[P] Hmm. So I did the. I did the exploratory sketching course. And I guess there it's more free. Because you have to just paint something that looks good. So there's no like real. Step by step thing. Well, yeah. So oke. There are like steps on how to initiate something.

[I] HmmHmm.

[P] But I guess there it's more. I haven, haven't really that is step by step this precisely. Because yeah. Because here you have to, if you do something and you forgot then you have to redo everything.

[I] So would you see Joeps videos as step by step videos? Or just like an overview.

[P] Of course they are not like step one, step two, step three. But yeah. In a way, yeah.

[I] Oke. So you actually followed the video tutorials and now you have lessons. Can you compare like, following the online part with, in combination with the feedback session- to learning a practical skill in class. Like how that compares to each other and what you like better and why?

[P] What I like more, feedback. Well of course there is. I can always just come to him after class. So that's a good thing cause. If I have a question I can always, you know, first ask him. I don't have to wait for email or whatever it was if it would be online. However, when there are feedback sessions. He doesn't really give that much feedback.

[I] He gives little feedback?

[P] Yeah.

[I] Oke.

[P] I am not saying it's a problem. But if I'm n- because you know, you can always walk up to him after class. But if there is, we take the time for a feedback session then you know he walks up to you and then he walks up to everyone. And one after one he picks up the models. And then he says 'oh there's glue' and it's kind of like a bit disappointing.

[I] Oke. That's in class. And when you did the online tutorials as well.

[P] HmmHmm.

[I] But now he for instance gave an explanation on the board and he did a demonstration. Do

you like that better or worse than, like, watching the videos?

[P] I usually don't listen when he's explaining in class. Cause if it's. Sometimes it's not what I'm doing so I'm going to be thinking about how I can use this for myself and just drift off. And in video courses, you know, I can use. I can pick what to, I can pick what's useful for me and then apply it to yeah.

[I] So do you like go through the courses then? Or do you like double speed them? Or-

[P] Hmm. I usually skip through like 10 seconds and then left / right arrow key. I don't know if that works on vimeo but. So I usually do that. And then if it's useful information I skip back and see the full context of how he build something.

[I] Oke. Then I'm going to go through your answers now. And ask some more questions about that.

[I] Um yeah. Your opinion about online education. You answered with 'very accessible' can you explain a bit more?

[P] Hmm.

[I] Especially concerning practical courses such as this one. Because there are of course already a lot of theoretical courses.

[P] Hmm I would say it's very hard to show the hand movement and it was also the case in exploratory sketching. Where you have to see in real life how he does it and what's his thing. But I think that the videos in cardboardmodeling.com are very well recorded. You can see basically everything that he's doing. Yeah and I guess only the right negative is that you can't ask him 'can you switch it around so that I can see how he holds it or something like that'. Because in class you can always just walk around and hold it in your hand.

[I] So you would kind of need live sessions or something?

[P] Yeah. Something like that. Because these are more. I don't know. It's so so hard to, like hands-on or something.

[I] You did say that you didn- would not like to follow another practical course in this manner.

[P] No.

[I] Why?

[P] I don't really see the use of it for industrial design.

[I] I mean like in the manner of using video tutorials and a feedback session.

[P] Hmm no, no. Because I think I have the basics.

[I] Um. Like another practical course. Like, something totally different that is thought by means of video tutorials and feedback sessions. Same as you followed the first lesson of this course in.

[P] Well, if we start from practical skills. I think I have all the practical skills I need for industrial design. Some electronics, some physical prototyping. Some sketching. That's it. That's like basically all you need. And if there's something more complicated than. I guess you can. It's always online. It doesn't need to be a course.

[I] And then you would like to follow it online, rather than in a course version?

[P] Ya. yeah. Not in a course way. Not in a course like university way. Because they like to steer off into directions which are not usually useful.

[I] Oke.

[P] I mean, if it was very specific. Like this is what they are going to teach. And I'm like oke, that's very cool. That's very cool. Let's say. I never knew before this course, how to use motor shields. So let's say it was a course all about motor shields. Then I was like 'this is what I want to learn' and I will learn this. But. Now I didn't knew motor shields are included in this course so. You know. Cardboard Modeling what is this? Probably with cardboard.

[I] So you were 'Are there electronics in this course?!'

[P] Yeah. So it was kind of a nice surprise. But if it was something I wouldn't have enjoyed I wouldn't be..

[I] Oke so. You are neutral about enjoying um. The cardboard modeling website and the feedback session. Um why?

[P] Why? Um. why the website or why the-

[I] Well it's the website in combination with the feedback session. So the first lesson of cardboard modeling.

[P] Oke. Hmm. I enjoyed the website..

[I] But not the feedback session?

[P] Yeah. You have lectures of like, very chaotic. And you have to bring your thing there. Like today. I didn't know like, we were about to start like making models out of cardboard. And half of us probably don't have any cardboard because we had the last two lectures all about electronics. And we're used to bringing electronics. So yeah. I got lucky because for some reason I brought cardboard.

[I] Oke.

[P] But maybe they could be like complimenting; the website and.. Because now it's just a website about the first lesson.

[I] Yeah. Well, I'm actually also only evaluating the first lesson, as I mentioned before.

[P] Oh. then I think it's. I think it's good.

[I] Oke. Thank you. Do you want to add something.

[P] No.

[I] Oke. Thank you for helping me by participating.

#16

[I] You followed video tutorials before. Not only those you followed in the first lesson, but also other tutorials.

[P] Yes that is right.

[I] Can you describe your experience? Is that positive or negative?

[P] Generally that is positive I think. But often they do not um go with the working speed. Sometimes too fast, sometimes too slow. But um, I thought it was OK with cardboard modeling.

[I] Oke. So would you say that normally when you watch a video tutorial that you would work while it is playing?

[P] No I would pause it, then.

[I] Pause it. Oke. Can you explain then how it sometimes does not flow with the working times?

[P] Um. Sometimes they go too much into detail while I for example um watch a tutorial over something I want to know in general.

[I] Oh like that, oke.

[I] So did you also have experience with step by step tutorials (wait let me check)? Ah. Yes you do. Well, you answered that you did. Can you also describe that experience?

[P] I thought you meant that um for example with the modeling course, there were also some sort of video tutorials um. I didn't really like them. Um.. they were way too slow, very lengthy. And I couldn't really get information from in clearly because it was just too boring.

[I] Oke. Here you also mention Photoshop or Visual effects that you also followed step by step tutorials for.

[P] Yes. On YouTube, yes. And your experience with that, is that positive/negative? Very positive. I think I learned many skills from those videos.

[I] So do you like step by step better than an overview, or an overview better than step by step?

[P] I think the right balance between those two would be optimal.

[I] The first lesson for this course you followed online on the website. And then you had some

feedback session after that. Yes. If you compare that, like, that part of the course and how that was given to how it is given now: so I mean learning the practical skill in class only. Can you describe that?

[P] Um.. I like both. In the beginning with the video you can work at your own convenience at any time you want. And the feedback is still there in principal. That is very nice with this course. That is what I like very much now as well, the feedback. You really learn a lot of that feedback.

[I] So it is mostly the feedback that you are really glad about?

[P] Yes. But the instructions themselves are also important.

[I] So if you compare the instructions, video or demonstrations?

[P] They both have advantages. Real life and video.

[I] So what do you-

[P] What I prefer you mean?

[I] Yes, but also, what are those advantages?

[P] So what I said before. Video tutorials you can do whenever you want at your own pace. And for class you are bound to a time. Monday morning.. It's not that great. I'm not that focused then. Um.. But the disadvantage of video tutorials is that it's not personal. And you can only see everything from one angle. While here you can often walk around it. And there is this thing with video tutorials that you can postpone them.. And that is a bit dangerous.

[I] Oke.

If you watch video tutorials, do you watch them fully? Or do you skip through them?

[P] Often I watch them once fully and then I watch it in steps by pausing it.

[I] Oke. Then I am just going to scroll through your answers with you and see if I need some more depth added to some questions. Oke? Um-

So did you like, when you were watching the video tutorials and you did the homework, those 6 models, that you could ask questions or receive help at the right time?

[P] Um.. Yes. Joep was digitally and in person available in the building.

[I] So did you go to him in between?

[P] Nope, I actually didn't have questions. I thought the video's were clear. And you can also ask peers of course.

[I] And you did?

[P] Yes, I most certainly did.

[I] If I may ask; what did you ask? If you remember.

[P] I had some trouble with some technical details. If you make a cube they have to fit together without seeing edges. That was terrible. I needed to find the right balance between, I eventually even broke a knife when I made the cut- um how do you call them? Cut-outs? Yes. So the right balance in how deep and um *flicking hand movement*.

[I] And that is what you asked?

[P] Yes.

[I] Oke. Let's see. Oh you left this question open: "What wasn't necessary regarding the lesson and the feedback session." You did not answer this question can you explain why?

[P] I didn't think anything was unnecessary.

[I] Oke. Uhm that would be it. Thank you for your time and effort.

[P] I still have a tip, for how the website is holding up now. If you.. It's mostly a lot of precision work so you want to see it from up close often. And the web page is now limited to a certain frame. Um and if you want full frame than you have to find the video on vimeo. That's not user friendly.

#17

[I] So you mention that you had experience with video tutorials. Can you describe this experience? Like positive or negative?

[P] Um you mean the, from cardboard modeling only?

[I] No, like any video tutorials.

[P] Um well, I think it's really clear if you use like step by step. Which is used in the cardboard modeling because then when you are stuck or something you can go exactly back and um some tutorials on internet. For example how to install things or a certain thing is just like one bunch of information and I think that's not very clear. Yeah I think the best method is just to go step by step and to just explain everything very clearly. And it was the case with the You- video tutorials of Joep Frens. So I thought that was pretty clear.

[I] Oke. And with tutorials over all, what is your experience with that?

[P] Um Yeah. Most of the times I like to rather watch a video instead of reading things, to learn. Because, then you can just. Be passive and just look at it instead of um having to do something. Um But I think videos are most of the times clear because you have audio and you can see and hear things. So, I think that's the best way to learn, I guess.

[I] And you also had experience with Instructables, which is step by step.

[P] Yeah. yeah.

[I] And those are reading. Could you describe that. Positive or negative or-?

[P] Well, for example when you do programming or coding. Or you're building something. It is not very useful if you have to skip back all the time in a video. And when you are reading something and you are at the end of the line of the code that you need to write in your code, then it's very handy that you can just have them next to each other and you can write things from one thing to another and you don't have to what they say. Because from a webpage you can copy immediately. That's very handy.

[I] Oke. And if you compare this experience to the website with video tutorials of Joep. In combination with the first feedback session? So the first.. That you did have feedback on your models. To the experience of learning in class. So, you are also now, learning this skill in class. Um, can you try to compare those?

[P] Um. I think it's very useful that Joep actually um sees the model and can touch and feel it and see the quality. And I think if I would only do the online tutorials, I wouldn't notice what I'm doing wrong. So I thought that the feedback sessions were really good to see what you are not doing well and what you could do to improve. But for.. I don't know if I rather would have a picture by picture thing, step by step, instead of a video I don't think that would matter a lot but the feedback sessions were really helpful.

[I] Oke so for you it doesn't matter if the explanation is in a video or by Joep, in class? But the feedback is very convenient to have. Am I right?

[P] Yeah. yeah, or. The videos are f-. But I think that like.. But the video is like this close so you actually see and measure all the things. And in class there are a lot of people and you can make a demonstration for example. So I don't think that. Yeah, I think that the videos are more useful cause they are close. And you can also go back when you didn't understand something.

Oke. So then I had a few questions about your responses.

[I] Oh yeah, what would you like to keep regarding the lesson on the website and the feedback session? So in your answers you mentioned that you really liked that he could see and touch your models.

[P] Yes!

[I] Did you need to see and touch his models?

[P] No, not really. It is more.. It's a good question. I think it is, I think it was unnecessary to.. Well for the first models it was then. But when we had to make the mechanisms etcetera it was really useful that we could actually touch. How should it actually move instead of..

[I] So if it is a moving part?

[P] Yeah, yeah exactly. But like for the first model. For the cylinder and cube etcetera it really is just esthetics and if it looks good you probably have the same as his.

[I] Oke cool. Um, yeah. You did not give feedback to other students. I know. Um would you like to give feedback to other students? Do you think you are able now. To give feedback on the first models of other students?

[P] Um. Yeah I can say what's maybe wrong with it. But I don't have that much experience that I can actually say what they should do. Or what they are doing wrong. But I can determine of something is done right or something.

[I] So you would be able to grade it, but not really-

[P] Yeah. But not proper feedback like you should do this and this differently.

[I] Oke. Thank you.

Do you want to add something?

[P] Nope.

[I] Thank you for your time and participation!

#18

[I] Oke. So you said that you had experience with video tutorials.

[P] Um. Certainly yeah.

[I] So can you describe that experience? Is it like positive or negative?

[P] Um. Like from YouTube. Um it also really depends on the video. Cause like um, if there's a.. The video quality is good. Then it's really clear to what's presented in the video. And it's like sometimes better than actual classes you know. You see the core and you can always go back on the video and see it. See it again and stuff. I think that explains it sometimes better than actual real life experience. But sometimes. If they not really um pay attention to quality stuff. Then it can be really unclear and you cannot even ask further questions. And it can be hard to follow.

[I] Oke. And for cardboard modeling, was that positive or negative?

[P] For cardboard modeling? That was really good. Like I, I understand everything. And he already answered all the possible questions. It's like very clear and complete.

[I] Hmm Can you compare the experience of the website with the video tutorials and then the first feedback session that you had afterwards. That your models were judged, or um sort of judged. To like, learning a practical skill in class. And like, not watching video tutorials but just having the instructions. Like you have right now.

[P] Um I think that the worst point of the video tutorials is that you are not able to ask questions. In exact time. And the, that's something that really irritates me, but. Having the video tutorials and then a class about that, is kind of a good match. Because if you have questions, than you can ask the questions in class. And um. Yeah, in this, in this case specifically. I haven't experienced any problem. And I find it really um. Suitable for that purpose.

[I] Oke. Then I had some more questions about these. So. You left these open. Can you explain why you left them open?

[P] *mumbling, what was missing regarding the lesson on the website and feedback session?* Why I skipped this question? Um that could be um. Can I be hard then?

[I] Yeah.

[P] *mumbling again* um. I couldn't come up with an answer for that question when I filled in the questionnaire and now I don't also. I don't come up with anything.

[I] So, you don't think anything is missing?

[P] No. no-no-no-no.

[I] Oke that's fine. No problem. I will just be asking this for each question. If the answer is 'well, there wasn't anything' then that's also oke.

[P] I just thought you expected me to come up with something.

[I] Oh no. kt's OK. If you say that everything was fine, that is an answer as well.

[P] Oke. cool.

[I] So. Oke so the same for the question "What was unnecessary regarding the lesson on the website and the feedback session?". Did you think everything was necessary?

[P] Um. Yeah. Yeah in, as I said. If you are making a video tutorial then you need to be really um. Careful, answering all the possible questions. That may arise. You know. And then it's like. If you do that. You sometimes bore the people that you.. That not have that question. So but. It's the inherency of video tutorials. So like I um. Didn't find it logical to write down. But. Yeah. I think there is no, like, solution for that. If you want to make it more like, clear and complete. Then you need to be that way.

[I] So did you also skip through videos? Sometimes?

[P] Sometimes yeah. For example I um didn't watch the first video. Cause I thought it can be also covered in the- because the first video, it explained um how to um. How to um. I don't really exactly. Can we check it or something?

[I] Yes sure.

[P] Yeah for example these videos. Materials and stuff. Yeah I didn't watch them because it's already like, kind of covered.

[I] Changing the blade?

[P] Yeah, for example. Ah. I watched that, I watched that yeah. Because it was really hard to change the blade. haha

[I] Hahah oke.

[P] But for example these three. I didn't watch them. *pointing to: creating a joint, delaminating foam core and cutting a circle*

[I] Oke. So what would you like to keep regarding the website and the feedback session?

What I would like to keep regarding the website and the feedback session?

Yes. So for instance, we would change everything. What is the thing that you want to keep the same.

[P] One thing? Um I think the order. Like first the video tutorial and then the feedback session. And then have some platform to ask the questions. That order really makes sense to me. And um. Second thing. What would be the second thing.. Um hmm. I couldn't come up with something right now.

[I] No problem. Oke then this one. You did not fill this in. Maybe you forgot, or you did not know. Can you explain why?

[P] "I needed to wait for feedback while I did not need it." Like in the class. Like you were in the class or, in the first lesson you said you were in the class. Or? Like in the first cardboard feedback session?

[I] Yes, then.

[P] Yeah the feedback session was. Yeah it was a little long. Like the tables were like this *points out U-shape*, and Joep starts from here *points out one end of the U-shape* and gives feedback to everyone and goes like this *moves around the U-shape*. So everyone waits a bit to get feedback. So it's like.. I didn't get this question actually. Like I needed to wait for feedback why I did not need it?

[I] When you were making the models. You made 6 models before you had the feedback session. Um so. Maybe you thought. Well, I could have continued doing stuff because I don't

need the feedback now. Or something. So in that case you needed to wait. Until the lesson was there. To show the models before you could continue. HmmHmm. And the same with 'I needed to wait for feedback' did you need feedback like, after model 3. And then you needed to wait, actually to be able to-
Yeah.

[I] That's what I meant.

So could you answer. Like. Here you said "I received feedback at the right moment / moment I needed it." but it's not completely as you wanted it. So can you explain that maybe?

[P] Um. I was thinking. What was the reason that I did this.. Um yeah. I meant that um for example one of the feedbacks I received was um. Ohja, I meant this. That the feedback I got for the first lesson is not like applicable for the first lesson again. Because I already made the models. And then.. I meant that. But.

[I] So it was not directly applicable, but it was.. You did receive it at the right moment?

[P] Iee Yeah. But if I think that I need to do really good. First homework. Than I get the feedback when I complete all the models. You know what I mean. Like for example. Best case scenario: You watch me while I am doing the cardboard and say 'Oh you put the glue, too much' than you will make the model too dirty. But I will finish it and the model is dirty and I get the feedback like 'your model is dirty' it is helpful for your future, future projects. But for that project I couldn't change it. But if you watch me while doing and give that feedback. Than I can um. Apply it.

[I] So would you also say that um. If I would do that. Like watch it while you do it and say to you that you put too much glue that the next time you wouldn't put too much glue? Or would you say that you first need to screw up before you-

[P] Um. Yaa, I think that learning by mistake is like, more effective. But if I had feedback.. If I don't get any grade for the first homework. Than I would prefer learning by mistake.

[I] Oke. Thank you. Than I have all I need.

Do you have something you want to add?

[P] Um. no.

[I] Oke. Thank you for your time and efforts!

#19

[I] Can you describe your experience with video tutorials? Over all.

[P] Over all.. It quite depends. They are very different. Many topics. For example I used it to learn specific things about After Effects. Or Premiere Pro. Or different um also Fusion and Illustrator. Or Inventor I mean. So it's mostly software related. Um, and now recently I am also watching um cinematography, videography, photography. All those sorts of yeah. online tutorials.

[I] And would you call that experience positive or negative?

[P] Depends. It really depends on who you are viewing. So I found some pretty good channels for a lot of them. And what I found frustrating is that most of the time they just explain one specific topic.

[I] HmmHmm.

[P] And without any regard for the experience you have, usually. Or the experience, or what you are going to do after. So they are single tutorials instead of courses. But then because I followed the um. Yes the single tutorials. The few courses that I did find or did use. Sort of found, they are the beginning too, too boring. Because usually a longer course starts by explaining the basics in a really simple way. So that I often think 'OK, get on with it. I want to do something that is actually interesting'. Um, so yeah. It's quite hard to find a good course that actually has a, has a nice pace and actually explains all the basics. So.

[I] Oke. And your video tutorials from Joep? For the first class that you did. How would you describe that experience? Positive or negative?

[P] Um. What I mostly did. Because I missed the first. I missed. I did them during the first actual lecture we had. Because I, I, I'd been sick before so I didn't have any time to do them. And I just watched them on mute. So I just followed his actual instructions as how he was doing them instead of actually listening to it. Which were um pretty alright. It's.. there were some blanks that I had to fill in myself. But they were not major or something. And then later I watched a few of them to do the rest. And what I find is that they are quite slow. Slow pace. And I, I rather have a high pace video that I go back to the same point a few times. To see again because then you can actually see it a few times and.. So for me they were a bit slow.

[I] Oke. And can you also describe your experience with step by step tutorials? Because you also had that. And positive or negative?

[P] Yeah. They are basically the same. I usually use reviews to um oh not reviews but I mean instructions. To get a general idea of what you have to do. Instead of following step by step. I find that following instructions blindly is not something I do. For example if I cook, it's kind of the same right? It's also recipes, though step by step recipes. I am usually just like these are the ingredients and this is sort of the order you have to use them. And then I go from there without further looking at the tutorials. Or the, the reference.

[I] Oke. So can you compare working with the website with video tutorials together with the feedback session, to learning a practical skill in class?

[P] I think that in class um. If you watch an online tutorial you don't get any feedback. So you can try to mimic the person on the screen as best you can. But you never know if you're quite there. Because they, or someone doesn't. Someone with more skill than you never actually looks at your work and says 'Hey man, you could do this better or this better'.

[I] But you did get a feedback session afterwards.

[P] Yeah well I think that's the good thing about having learning in class. You actually get feedback afterwards. So you can see, hey I thought that had to do it like this, but I can better do it like this.

[I] HmmHmm.

[P] So it gives some more insight. And some more specific insight. Regarding your own skills and your own accomplishments or models.

[I] Oke. So I am going to check your answers again and see if I need some more information to understand you better.

[I] Yeah. You left a lot of questions about the feedback open. Because you didn't receive the feedback in class.

[P] Yeah. You know. What it was.. Everyone got feedback on their first models. Which was really the most specific feedback regarding everyone's personal skill in cardboard modelling.. That was the lecture that I was working on my models. So he said well, I will look at them another time or next time. Next time there was another, full program. So there was no time for the previous models.

[I] Did you now receive feedback on your models?

[P] Do I now? Not specifically on my cardboard modelling building skills. Like um, for example the gaps are too big or. Um but. I did in general about the models. Like how we had the group sessions about for example. Um. the exploratory cardboard modelling. So all the different steps and I. I did get feedback on that then.

[I] So that feedback was directly usable and concrete?

[P] Yeah.

[I] In how far did you like the way you receive feedback now?

[P] Yeah, I like it. It's v-. What I like is that the feedback is always. Or at least always partially constructive. So you can always say 'hey you can improve this' It's not like never 'this is wrong' and then end of sentence. Because that. You can say it's wrong but if you don't know what to improve it doesn't work.

[I] HmmHmm.

[P] And there is always something to improve. So Joep explains what. Or what you can do better. Or what you could have done differently or what direction you maybe should have taken instead. So there is also some. Yeah some. Some feedback to work with. I like that.

[I] And are there also things that you don't like about the feedback?

[P] The feedback sessions are usually quite long. Which is partially because.. He explained it in this lesson. There is a lot of detours regarding normal theory. Which is very good to know and interesting. But it make.. Because. I think we spend um. How long is the lesson? I think like three and a half hours. Four hours. Yeah. We spend like three and a half hours just on feedback. And then, after a while, it starts getting a little bit tiring. Just because it takes. The amount of time it takes. That's the problem. And not really what is being said. But yeah.

[I] Oke. So you skipped the question "What was unnecessary regarding the lesson on the website and feedback session." Is there something that you still want to answer here or explain?

[P] The question is, what is unnecessary regarding the website or?

[I] Yeah well, regarding all the things that you had to do. Or the- Because well, for instance you said: the videos were rather slow and I want the in a higher pace. But what can you leave out to make it a higher pace?

[P] I think the. Joep talks quite slowly. So there's small breaks in his sentences anyways. And that, I think if you just talk faster it will go faster and personally I don't mind someone that speaks fast. I also understand that there's people that are not so good in English. And have trouble understanding the English in general instead of. So yeah. I think just talking a little bit faster and maybe doing it more like 'this is how you do it' and then um giving some general remarks. Instead of maybe a full on step by step. I think there are some spat up parts about finishing some models. But maybe that can be done a little bit more or..

[I] And for instance like how would you compare the um. Like watching the video tutorials with seeing the demonstration in real life?

[P] I think the video tutorials are actually nicer. Because if you are with a class of 25. And usually there is not even 25 people. You are all crowded around this desk. And um, again it takes a while. Because cardboard modeling is just something that takes, takes some time. So you drift away a little bit or someone is standing in front of you. And you only take a glimpse every once in awhile.

[I] HmmHmm.

[P] So I think the video tutorials are better for a clearer explanation.

[I] Yes. So um. There's a statement that says "I think I would like to use the website frequently, imagine there is also other practical skills videos." And you lean more towards the disagree then towards the agree. Um but in our conversation you mentioned that you actually liked doing it. So can you explain this?

[P] Yeah. I feel like the website was. Was made for a different purpose than video lessons. And that reflects in its design and the way how the videos are implemented. For instance, you cannot look at them full screen. Um. So I think if you make more. A platform that is more purposed. It's purpose is more focused around being an online learning platform. That it. That would help a lot.

[I] Oke.

[P] So for example there is no. You have to scroll quite far down in order to find the first link to a video I think. So you have base shapes and then you have a cylinder. So if you have a tab right away 'getting started with' or 'basic cardboard modeling' and then you get the videos in a. In the order that you are supposed to view them. Because there is no order either. And I had the feeling it stopped. Maybe I'm wrong. That the videos stopped after the first lecture. There is no videos regarding the rest of the assignments. So. That's also why I said no, because there is not really anything.

[I] So then there is also the statement "I found the various functions on the website were well integrated" And you just explained what you didn't find.. So that-

[P] Yes.

[I] And you are quite neutral about the consistency of the website, because there is a statement saying "I thought there was too much inconsistency on the website". You do not disagree nor agree. Um.

[P] I think it ties in with the. The last question I answered. The layout and the making of the website is pretty consistent. What I have seen of it. But. I don't think the consistency of the system is focused on the on the right things. So it focuses on cardboard modeling in general. But not so much on. On the tutorials. Yes, maybe um. Is that an answer to the question?

[I] Yeah. No, you answered my questions.

I was scrolling through it and I think what was missing you sort of answered. But were there things you ran into? That you would like to add?

[P] No not really.

[I] Did you feel like you needed the sound in the videos? Because you were watching them on mute.

[P] Not really. Partially because the explanation does add something. And it was also, when I watched it later at home I did watch it with sound, obviously. I think that him showing the cardboard modeling itself is also quite, quite a good instruction, in itself. And it really depends. For example there is a lot of videos that um. Where, you know, Joep just, mostly just explains what is happen- what he is doing. So then it's complementary to his actions. But not really. It doesn't really add a lot. Um. And there's also videos for example on YouTube. Where people just keep talking. Also about other stuff. That they come up with on the go. For example in After Effects there is, while they talk about some. Some tool they have that is very good to use or some, some tips. That are, not really related. But that are tied into what you are doing. So then listening to the sound gives you more information then just watching.

Yeah. So you think there could be more information in the sound, maybe.

Yeah well maybe. Maybe some more mjeh. Some more general remarks. Or um. What I, what I usually like about the text is that you talk through what you are doing. Um. Instead of just.

Reckoning what you are doing.

That's it.

[I] Thank you. Thank you for your time and participation!

#20

[I] Can you describe your experience with video tutorials. As in, positive or negative?

[P] Well, um. The videos were nice and they were pretty clear. But some things weren't explained in the videos so that was a little bit negative.

[I] Can you give an example of-

[P] For example how you have to cut the circles exactly. He explained it later again. And then I

was like OH that's easier.

[I] Oke, so what did he change in his explanation?

[P] Oh well, that you had to bow the knife a little bit.

[I] And with video tutorials overall. Like not only the cardboard modeling tutorials? But just video tutorials?

[P] Um. My experience?

[I] Yes.

[P] Well. Most of the time I like it. But you often don't get feedback and then it's not motivation enough to actually do it. Because then you are too busy with other things. But when you get feedback it is pretty useful. And sometimes when you want to learn something it is really useful.

[I] And you also did some step by step tutorials, right?

[P] Yeah, for exploratory sketching. HmmHm. Yeah it wasn't. It was kind of step by step. And sometimes just to make a recipe. Or something.

[I] Oke. And how is your experience with that. Is that positive or negative? Or do you like the overview videos better?

[P] I like it that the video first tells you what to do and then it explains it step by step. But, so you can skip steps if you understand it already. But you can actually look at the harder part.

[I] Oke. So did you also skip through the videos of cardboard modeling?

[P] Well, sometimes I didn't pay a lot of attention. And then I did it my own way. But then if I didn't understand how to do it, I looked back. So.

[I] Oke. Why didn't you pay attention all the time?

[P] Because I was busy making the models at the same time. And because it just gets too fast than. But that is fine. Because you can stop it.

[I] So you did watch it one time beforehand and then worked while it played or-?

[P] Well sometimes I watched it and sometimes I just played it and worked along with the video.

[I] So now you had the first lesson with the video tutorials and in combination with one feedback session. And now you have the class sessions. Can you compare those?

[P] Well. Um. They have both positive and negative sides. Because video tutorials were really nice because you could actually look back and see how to do it exactly. And in the class it was sometimes I forgot how to do it exactly and then I just had to do something. And, so. But it was nice that you got feedback. Have feedback immediately and that you could actually really see what he was doing.

[I] Oke. So do you see better what he is doing in class?

[P] Well, yeah. It depends on where I am standing in class. But then I can actually look at the models in real life. That he made. And I can touch it. So it's easier to see what it is about. And in the video tutorials it's also pretty clear. But um. Less touchable.

[I] Um yes. So you did also do the SketchDrive course. Right?

[P] Yes I started it. But I don't have a lot of time to do it. So I just did the first two lessons.

[I] And how did you like that? Compared to a regular lesson?

[P] Well, I didn't do any exploratory sketching lessons. But I really liked the way he explained it and it was pretty good.

[I] So um. Here you answered neutral to "I received help at the right moments." Can you explain why?

[P] Um. I think that was because when I was working at home. Sometimes I really struggled. And then I was like Aahrg I need help but then I couldn't receive help because I was on my own.
 [I] So you think you need the lesson divided into smaller steps that you get feedback on? Or-
 [P] Yeah maybe there should be a lesson where you review your work and get feedback. And also just a work lesson where you work on your models. And that it can be maybe optional. So that you can. Like, in the middle of the week. So that you can try and make it as far as possible. And then you can get feedback.

[I] Um. Can you answer the question, thinking back to the first lesson. Why you are motivated or not motivated to continue cardboard modeling? So when you made only the basic models.

[P] Oh um. Well I am motivated. Because I am doing this course. And I have to. And also because it is a quick way of prototyping. And it is relatively cheap and easy.

[I] So did the first lesson motivate you more or less?

[P] Well it did motivate me. And it also didn't because it was I was like. Why are we prototyping like this? Because it takes a lot of work and I don't have a really good result. And um. Well. But I also. It's nice to see that you can make some thoughts really physical.

[I] So was there also something unnecessary about the video tutorials and feedback session?

[P] No I don't think so. Because the feedback session was pretty quick. And we got personal feedback. So, it was all about your models. So. There is nothing to say.

[I] And the video tutorials, was there something unnecessary there?

[P] No I don't think so.

[I] So here you answer neutral to following another course in the same way. Can you explain why? So let's say we changed all courses at industrial design to feedback sessions and video tutorials. What would you think.

[P] Well, I wouldn't like that because I like physical lessons. And it's motivating me more to work on something. Because otherwise if I get like really somebody who is like we are going to work on this. Than it is easier for me to actually work on it instead of just having planned it in and than being like. Oh shit. It is the end of the week and I didn't do it. So then if you start together it is easier to..

[I] Oke so you would need a startup point?

[P] Yes

[I] And a feedback session?

[P] Yes

[I] And it doesn't matter how you get the instructions?

[P] Well the instructions are fine in the videos but I like it that I have some help in class. Like if I have specific questions or..hmm

[I] Oke that would be it. Thank you for your participation..

#21

[I] So you say that you have experience with video tutorials. Can you describe this experience? In like, positive or negative.

[P] Well I've um. Just general? In general?

[I] Yes.

[P] Yeah, I have. I watch a lot of YouTube videos on um everything. From drawing to using software and tools. And um. I usually like this way of working because you can skip stuff and you can replay it, make it faster, slower and you can just easily google stuff while you are watching a video. So that's what I like about it.

[I] Oke and um. So it's quite positive what you are describing, right?

[P] Yeah. I think it's an easy and accessible way of learning.

[I] Oke. And um. The video tutorials from the website, that you followed? Is that positive or negative?

[P] Those were positive, I think. Because um. They were quite complete um. In content. And um, almost all questions I had were explained in the videos. So. That was positive. And the overall quality of the videos was good.

[I] Oke. And you also had experience with step by step tutorials. Is that a positive or a negative?

[P] Um. Usually, positive experience. Because you can just scroll to the part you need and you don't have to watch a video and listen to what part you need exactly. So that's positive of those things but you can't see the people doing something.

[I] So a step by step tutorial combined with a YouTube video would then be ideal? Or-

[P] Yeah. or a way of jumping to the right moment in a video.

[I] Like a favorite or mark?

[P] Yeah or chapters or how would you, um like a transcription. On Khan Academy you have those um. Literal transcriptions of what they say in the video.

[I] Well. You did the first lesson of this course in tutorials and then you had one feedback session.

[P] Yes.

[I] Can you compare that experience to learning a practical skill in class, like you are doing right now?

[P] Um. Yeah. What I liked about it was yeah. Well all the information I needed was on, in videos. So I could just sit at home. Work in my own tempo and well. That kind of stuff. And then in class I got feedback on my work and he could show things that he couldn't show in the videos. So I thought the combination was nice.

[I] So you really needed the feedback session. Besides for getting comments on your work. Also for explanations?

[P] Yes.

[I] Oke. And if you compare that to how you are having classes now. So now you have just him giving demonstrations and explaining things on the board for instance. And then you have to work and show and get feedback again.-

[P] Yeah. I think it's quite similar. Except for the fact that he is in front of the class, explaining it. But he explains the same things he could do in a video.

[I] So you wouldn't mind it if he was here in video version then, or-?

[P] No. If I could ask questions, no. I like to ask questions also before um starting working on the assignment.

[I] Oke. So you ask questions about? Can you give an example about a question?

[P] Um. For example on the modular marbles machine. There was a, the positioning lips. And um. I was wondering how to attach them to the machine. While still having a modular machine. So that kind of questions. Really specific, content related questions.

[I] Oke. Then I'm going through your answers and see if I need some more information about things you answered.

[I] Why are those quite in the middle? Can you explain that?

[P] Because there are always exceptions. And I won't. I won't say not at all if there was one occasion that I did have to wait.

[I] So um. In the first lesson. For the first class. You made six models. And then you had the feedback session about that. Did you feel like you needed to wait for feedback then?

[P] Um yeah well. He was making a circle. Around so. So I think you wrote something about feedback on your peers. But that didn't happen. So um. He went around the circle. And I heard. Well, of course I heard already what he told to other students. And I thought well, Oke. I see that in my model as well. And I had the same problem. So this is feedback he gave to me as well and then I, well I didn't need it.

[I] Oke and was the feedback he gave you very concrete? Or very abstract. Because you crossed neutral. So that would be neither concrete nor abstract.

[P] No. I perceived the question differently. Because you only work on a scale from not concrete to very concrete or always concrete. So I think it's. It was quite concrete. On a scale from 1 to 7, a 4.

[I] Oke that makes sense. Oke. Let's see. Oke. So you answered that you do not really like the working rhythm. But you said that, in the videos you could put your own working rhythm. Can you explain why?

[P] Yeah. Of course um. The working rhythm regarding the exercises I didn't mind. So within an exercise the rhythm was fine.

[I] HmmHmm.

[P] But overall um. Making six models in a week. While not having a clear overview of how much time it was going to cost. Because it was one of the first exercises. That was hard. The rhythm of doing all these exercises in a week and you don't know beforehand how much time it's going to cost. That was hard.

[I] Oke. That makes sense.

Oke so you left this question open. "What would you like to keep regarding the lesson on the website and the feedback session?" So. If you.. I am going to explain this question further so you maybe have an answer.. So if you have the lesson. Like all the video tutorials which you can skip through and stuff. And you have one feedback session.

Suppose we change the whole course. What would you want to keep?

[P] Um. Well, I think the combination of all those things is essential to a, to a functional course. So you need to get feedback to get better and you need instructions to start on your first exercises. And if you cut out either of those things you would have a dysfunctional course.

[I] That's true. But it is also about the way you get those instructions. So you could change it to um: some student giving the instructions in the class. Or working in teams or for instance something like that. So it wouldn't be that I would destroy the whole base of the course. But within that base there is also a certain manner of working. So you had for example, a video tutorial instead of a class session.

[P] I would. What I would like to keep. I would like to keep the feedback session live. Yeah. In-person feedback. And I can ask questions. That's I guess the most important thing I would like to keep.

[I] So why live and not for instance through Skype. Which is also live but not real-life?

[P] Because in um. Video sessions you um. Using Skype, you can't have a proper discussion. So because as soon as I start talking the sound gets muted of the other person. So that's a really uncomfortable way of communicating. And you cannot grasp the object you made.

[I] So you need to be able to physically experience the models?

[P] So to have a not real-life version that is just as efficient you should have. Some kind of virtual reality kind of thing going on. In which you also can feel the model physically.

[I] But why do you think that's needed? To feel the model physically? Because for instance when you watched the video tutorials. You didn't have the models, to feel them physically, either. Was it needed then?

[P] Yeah. I think it's um. Because that's what I got from the feedback. That um, it's also about the things that you cannot see in a video. It's about the things you can perceive in real life. Thus feeling and um. Well of course the resolution of a video is not that high. That you can see all the little spots on the. Yeah. On the dirty areas of the.. Glue. Those things.

[I] Oke cool. Thank you. Do you have anything you want to add?

[P] No

[I] Thank you for your participation.

DELIVERED MODELS AND RANKING

Participant number	Condition	Cube	Cylinder	Slider mechanism	Rotator mechanism	Cube-cylinder combi	Truncated cone	Quality ranking Joep Frens	Category of quality Joep Frens	Quality ranking Bart Hengeveld	Quality ranking Simon Bavinck	Progress*** seen by Joep Frens
#1	In class	Delivered	Delivered	Delivered	Delivered	No time	No time	4*	Good	4	7	0****
#2	In class	Delivered	Delivered	Delivered	Delivered	Delivered	Delivered	2	Good	3	4	+
#3	In class	Delivered	Delivered	Delivered	Did not understand	Delivered	Delivered	7	Sufficient	8	3	0
#4	In class	Delivered	Delivered	Delivered	Delivered	Delivered	Failed attempt	11	Sufficient	10	16	-
#5	AoS	Delivered	Made but broken	Made but broken	Delivered	Delivered	Delivered	6	Sufficient	13	14	+
#6	AoS	Delivered	Delivered	Delivered	Delivered	Delivered	Delivered	9	Sufficient	16	15	+
#7	AoS	Delivered	Delivered	Delivered	Delivered	Delivered	Delivered	16	Insufficient	21	11	+
#8	AoS	Delivered	Delivered	Delivered	Made but lost	Made but lost	Made but lost	17	Insufficient	19	13	0****
#9	AoS	Delivered	Made but broken	Made but broken	Delivered	Delivered	Delivered	14	Insufficient	12	17	+
#10	AoS	Delivered	Delivered	Made but broken	Delivered	Delivered	Delivered	5	Good	6	9	+
#11	AoS	Made but lost	Made but broken	Made but broken	Delivered	Delivered	Delivered	13	Sufficient	7	10	0****
#12	AoS	Delivered	Delivered	Made but broken	Made but broken	Delivered	Delivered	19	Insufficient	17	20	0
#13	AoS	Delivered	Delivered	No time	No time	No time	No time	20**	Insufficient	14	6	0****
#14	AoS	Delivered	Delivered	Delivered	No time	No time	No time	8	Sufficient	5	8	0****
#15	Website	Delivered	Delivered	Delivered	Delivered	Delivered	Delivered	18	Insufficient	15	19	0
#16	Website	Delivered	Delivered	Delivered	Delivered	No time	Delivered	12	Sufficient	11	12	0
#17	Website	Delivered	Delivered	Delivered	Delivered	Delivered	Delivered	21	Insufficient	20	21	0
#18	Website	Delivered	Delivered	Delivered	Delivered	Delivered	Delivered	3	Good	1	1	0
#19	Website	Delivered	Delivered	No time	No time	Delivered	Delivered	10	Sufficient	9	5	+
#20	Website	Delivered	Delivered	Delivered	Delivered	Delivered	Delivered	15	Insufficient	18	18	+
#21	Website	Delivered	Delivered	Delivered	Delivered	Delivered	Delivered	1	Excellent	2	2	0*****

*Good start. Models are good but incomplete.

**Not enough models to really say something about it. Quite good models.

***Progress can be judged with a minus (-), a zero (0), a plus (+) or double plus (++)

****Too little models to say something about growth in skills.

*****No growth but consistently done well!

The criteria with which they chose to assess the models were as follows

Joep Frens: Building quality, gaps between the joints (neatness), quality of the cut-outs, cleanliness (no glue), drawing lines (precision and lightness meaning thin and finished lines and no double lines).

Bart Hengeveld: Neatness / care, edges of the cubes, gaps between the joints, finishing.

Simon Bavinck: Working of the mechanical models, the fit (gap between the joints), neatness (or sloppiness), finishing.

PICTURES OF ALL MODE SETS

