



## MG2135 - 2020-06-02

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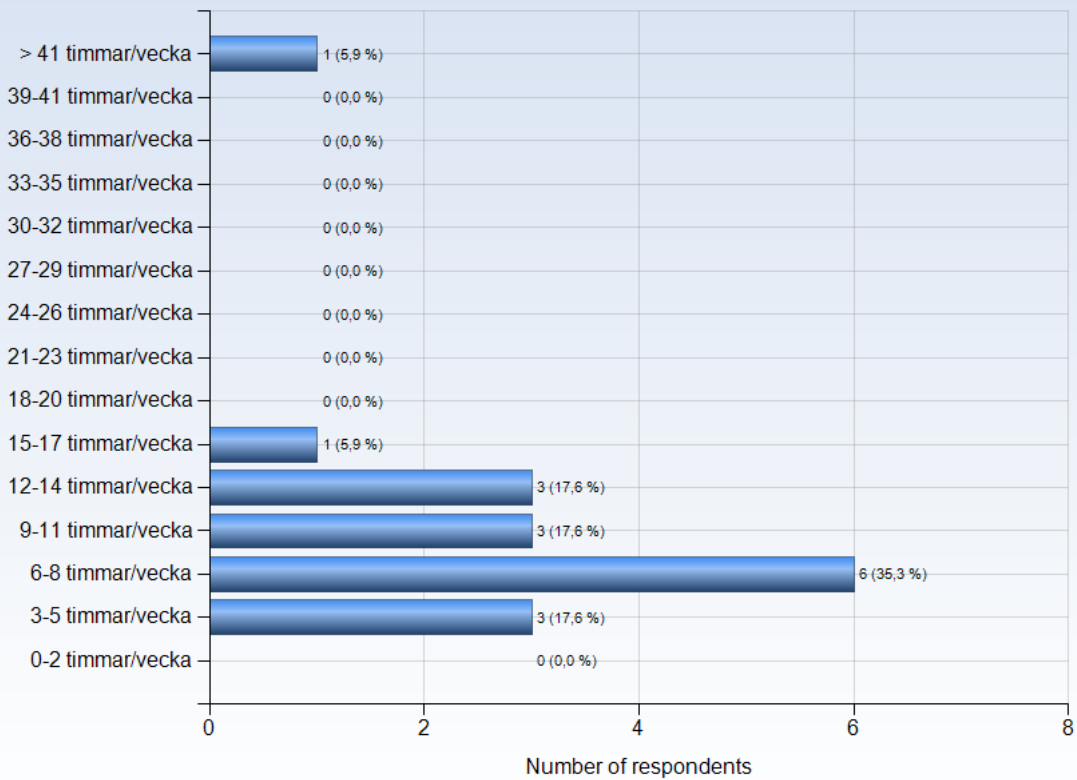
Antal respondenter: 45  
Antal svar: 17  
Svarsfrekvens: 37,78 %

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## ESTIMATED WORKLOAD

On average, how many hours/week did you work with the course (including scheduled hours)?



### Comments

Comments (I worked: 3-5 timmar/vecka)

Online platforms were effective in organising online team meeting in this COVID situation. Though discussions were not as fruitful as expected but still it worked out somehow.

workload mainly in second part of the course during project

Comments (I worked: 6-8 timmar/vecka)

this course demands more time then what is stated....

Comments (I worked: 9-11 timmar/vecka)

A great mix of lectures and lab sessions

Comments (I worked: 12-14 timmar/vecka)

Learnt a lot from this course

It was a reasonable amount of workload as 4.5 credits per period should be around this many hours a week.



## LEARNING EXPERIENCE

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The polar diagrams below show the average response to the LEQ statements for different groups of respondents (only valid responses are included). The scale that is used in the diagrams is defined by:

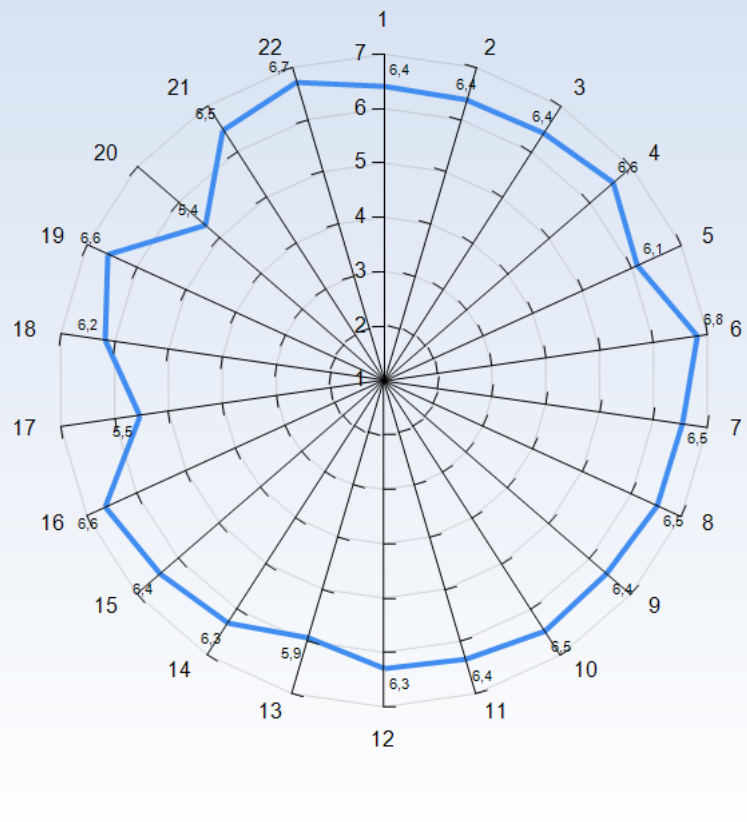
1 = No, I strongly disagree with the statement

4 = I am neutral to the statement

7 = Yes, I strongly agree with the statement

**Note! A group has to include at least 3 respondents in order to appear in a diagram.**

### Average response to LEQ statements - all respondents





## **KTH Learning Experience Questionnaire v3.1.4**

### **Meaningfulness - emotional level**

#### *Stimulating tasks*

1. I worked with interesting issues (a)

#### *Exploration and own experience*

2. I explored parts of the subject on my own (a)

3. I was able to learn by trying out my own ideas (b)

#### *Challenge*

4. The course was challenging in a stimulating way (c)

#### *Belonging*

5. I felt togetherness with others on the course (d)

6. The atmosphere on the course was open and inclusive (d)

### **Comprehensibility - cognitive level**

#### *Clear goals and organization*

7. The intended learning outcomes helped me to understand what I was expected to achieve (e)

8. The course was organized in a way that supported my learning (e)

#### *Understanding of subject matter*

9. I understood what the teachers were talking about (f)

10. I was able to learn from concrete examples that I could relate to (g)

11. Understanding of key concepts had high priority (h)



### *Constructive alignment*

- 12. The course activities helped me to achieve the intended learning outcomes efficiently (i)
- 13. I understood what I was expected to learn in order to obtain a certain grade (i)

### *Feedback and security*

- 14. I received regular feedback that helped me to see my progress (j)
- 15. I could practice and receive feedback without being graded (j)
- 16. The assessment on the course was fair and honest (k)

## **Manageability - instrumental level**

### *Sufficient background knowledge*

- 17. My background knowledge was sufficient to follow the course (f)

### *Time to reflect*

- 18. I regularly spent time to reflect on what I learned (l)

### *Variation and participation*

- 19. The course activities enabled me to learn in different ways (m)
- 20. I had opportunities to influence the course activities (m)

### *Collaboration*

- 21. I was able to learn by collaborating and discussing with others (n)

### *Support*

- 22. I was able to get support if I needed it (c)



## **Learning factors from the literature that LEQ intends to examine**

We tend to learn most effectively (in ways that make a sustained, substantial, and positive influence on the way we think, reflect, act or feel) when:

- a) We are trying to answer questions, solve problems or acquire skills that we find interesting, exciting or important
- b) We are able to speculate, test ideas (intellectually or practically) and learn from experience, even before we know much about the subject
- c) We are able to do so in a challenging and at the same time supportive environment
- d) We feel that we are part of a community and believe that other people have confidence in our ability to learn
- e) We understand the meaning of the intended learning outcomes, how the environment is organized, and what is expected of us
- f) We have adequate prior knowledge to deal with the current learning situation
- g) We are able to learn inductively by moving from concrete examples and experiences to general principles, rather than the reverse
- h) We are challenged to develop a true understanding of key concepts and gradually create a coherent whole from the content
- i) We believe that the work we are expected to do will help us to achieve the intended learning outcomes
- j) We are able to try, fail, and receive feedback before, and separate from, each summative assessment of our efforts
- k) We believe that our work will be considered in an honest and fair way
- l) We have sufficient time for learning and devote the time needed to do so



m) We believe that we have control over our own learning, and not that we are being manipulated

n) We are able to collaborate with other learners struggling with the same problems

## Literature

Bain, K. (2004). *What the Best College Teachers Do*, Chapter 5, pp. 98-134. Cambridge: Harvard University Press.

Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

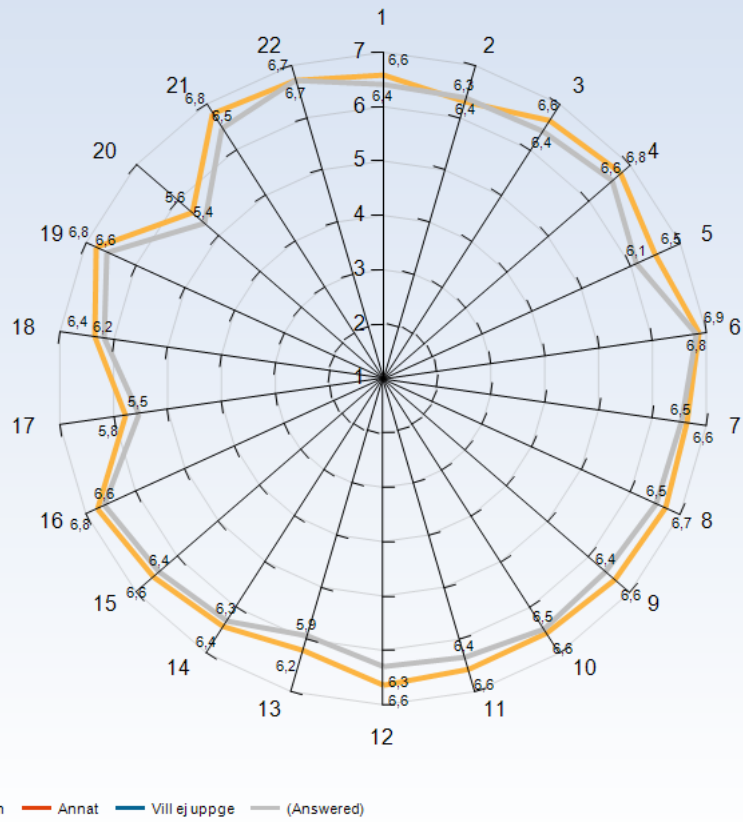
Elmgren, M. & Henriksson, A-S. (2014). *Academic Teaching*, Chapter 3, pp. 57-72. Lund: Studentlitteratur.

Kember, K. & McNaught, C. (2007). *Enhancing University Teaching: Lessons from Research into Award-Winning Teachers*, Chapter 5, pp. 31-40. Abingdon: Routledge.

Ramsden, P. (2003). *Learning to Teach in Higher Education*, Chapter 6, pp. 84-105. New York: RoutledgeFalmer.

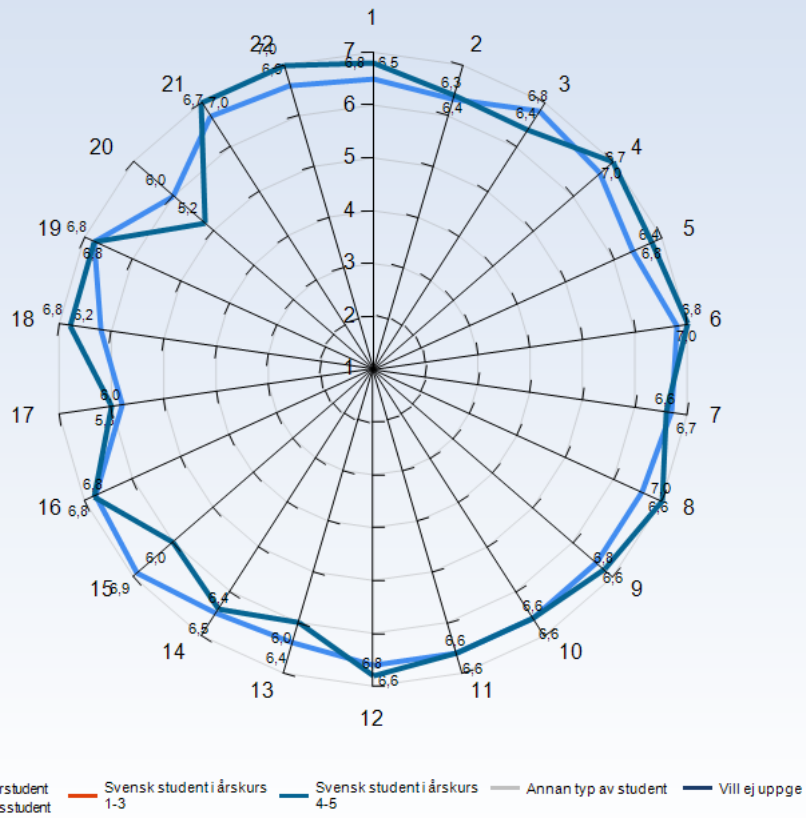


### Average response to LEQ statements - per gender



Comments

### Average response to LEQ statements - per type of student

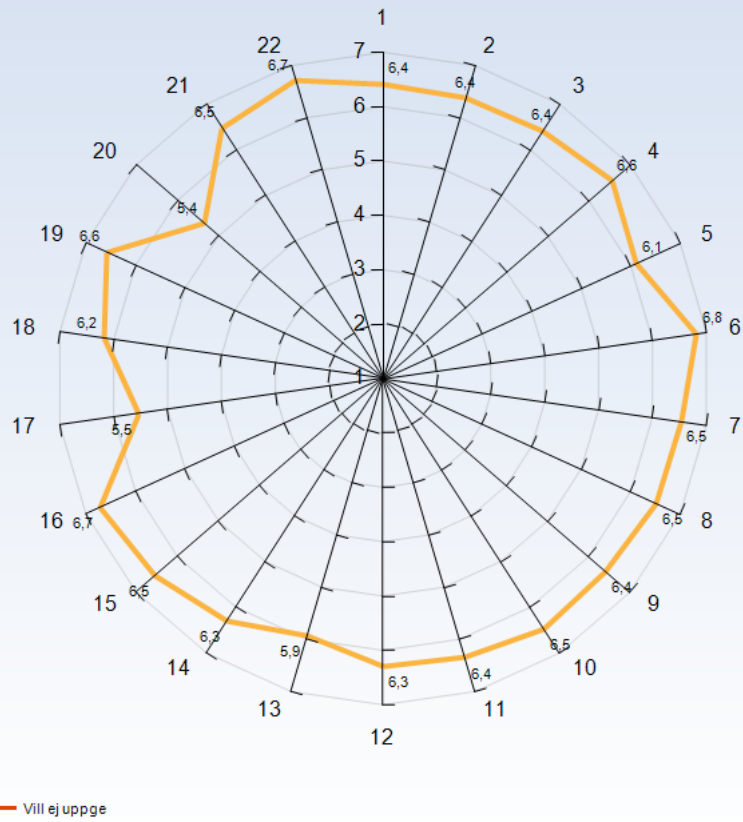


### Comments

Comments (I am: Svensk student i årskurs 4-5)

As an engineer I think you have to have an understanding of the different elements of PLM. This will help you very much in your working life. You will be able to see the next step in the process of transforming an idea to a service or a product. You will also have a clear picture of how to handle the data for that product or service that you are dealing with.

### Average response to LEQ statements - per disability



#### Comments

Comments (My response was: Nej)

No comments



## GENERAL QUESTIONS

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### What was the best aspect of the course?

What was the best aspect of the course? (I worked: 3-5 timmar/vecka)

The back up plan for the course project was effectively planned. The opportunity to collaborate with people to learn the intended learning outcomes was good.

The guest lectures and the project. I really liked how the guests joined the presentations and gave valuable feedback.

Also, looking at the issues we had with the Corona crisis, the project worked very well. I think the transition was quite smooth considering that Per had to re-arrange the project set-up.

What was the best aspect of the course? (I worked: 6-8 timmar/vecka)

Great organisation and amazing support throughout the course, labs as well as the project!

The Project that provides good exposure to the PLM system

I think workshop and project were the best aspects of the course.

The course was good in all of its aspects. The contents of the course were very well organized and helped me to have a very good grasp of the PLM.

The course is very interesting and the setup with all the labs gave a good and solid foundation for the project. Best of all was Per.

What was the best aspect of the course? (I worked: 9-11 timmar/vecka)

The labs were very helpful as, in my opinion, I ended up with a quite good understanding of the software Aras and PLM in general.

The project

What was the best aspect of the course? (I worked: 12-14 timmar/vecka)

Interesting project

Working together to solve the project. Was always able to get help. Good activities with guest lectures and having professionals involved in the course.

What was the best aspect of the course? (I worked: 15-17 timmar/vecka)

The project work. Group discussions and tips from Per made me learn a lot. Especially practical skills which I am very happy for

What was the best aspect of the course? (I worked: > 41 timmar/vecka)

The course structure. It was great to get a solid preview and insight in the subject through labs and guest lectures. This made it much more satisfying to work with the project later on. The project gave me a proper chance to elaborate and learn the Aras system in depth.

### What would you suggest to improve?

What would you suggest to improve? (I worked: 3-5 timmar/vecka)

More clear idea on the project plan in order to divide the work efficiently.

Slides, especially about programming were somewhat overloaded and did not really help understanding. If we are supposed to learn from those slides, maybe focus on key concepts of the programming language.

What would you suggest to improve? (I worked: 6-8 timmar/vecka)

Nothing. Per is great! Even the restructuring of the project due to the remote learning went very smoothly (from a student's perspective at least)

A small note on the difference between ERP systems and PLM system and the separation of the same during project work.

I think including more laboratory work will be good.

No suggestions.

What would you suggest to improve? (I worked: 9-11 timmar/vecka)

It is a minor thing, but maybe the scheduled hours for the labs sometimes were not enough to complete them.

Nothing, it was a perfect course

What would you suggest to improve? (I worked: 12-14 timmar/vecka)

Larger groups recommended

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What would you suggest to improve? (I worked: > 41 timmar/vecka)

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### What advice would you like to give to future participants?

What advice would you like to give to future participants? (I worked: 3-5 timmar/vecka)

- Fix a date for weekly meetings
- keep minutes of meeting
- regular feedback from Per

Do small chunks of the project at a time, don't be shy to ask the teacher if you are stuck or need to double-check on the progress.

What advice would you like to give to future participants? (I worked: 6-8 timmar/vecka)

Invest more time. More you invest on project, The better the output

Participate fully in labs and workshop which will help you do the project in best possible way.

Do all the labs on time so you have no labs left to do while you are working with the course project. In that way you will make it easy for yourselves to carry out the project.

Make sure you understand and do the labs!

What advice would you like to give to future participants? (I worked: 9-11 timmar/vecka)

That they should try to learn as much as possible from the lectures and guest lectures

Make sure you spend a lot of time in the project, it is an open ended activity with a lot of potential for learning new things

What advice would you like to give to future participants? (I worked: 12-14 timmar/vecka)

Attend all the lectures and focus on improving yourself during the course

Look through the laborations from previous period before starting with the project.

What advice would you like to give to future participants? (I worked: > 41 timmar/vecka)

Spend time outside Aras, planning and sketching before starting to implement things in the system.

### Is there anything else you would like to add?

Is there anything else you would like to add? (I worked: 6-8 timmar/vecka)

Thank You for all the last minute changes due to the current situation of corona

The course was interesting and fun to learn. I did not have background in computer programming but Now I know how to implement a PLM system in any industry.

Nothing

No

Is there anything else you would like to add? (I worked: 9-11 timmar/vecka)

I appreciate how the course was adapted to online learning, the fact that we were able to have guest lectures on zoom and perfectly carry out the rest of the course.

Is there anything else you would like to add? (I worked: 12-14 timmar/vecka)

Well handled online learning in the second period!

Is there anything else you would like to add? (I worked: 15-17 timmar/vecka)

Thank you for this great course! I Highly recommend it. The best course and teacher within the production department!!!!

Is there anything else you would like to add? (I worked: > 41 timmar/vecka)

I must say that i am very impressed over how Per handled the course. Despite the whole Covid situation, Per managed to always be present for us students whenever we hade any doubts or questions.

The communication was always straight and easy to follow.

Well done! Probably one of the most interesting courses yet during my 4 years at KTH. Thank you

## SPECIFIC QUESTIONS

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## RESPONSE DATA

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The diagrams below show the detailed response to the LEQ statements.  
The response scale is defined by:

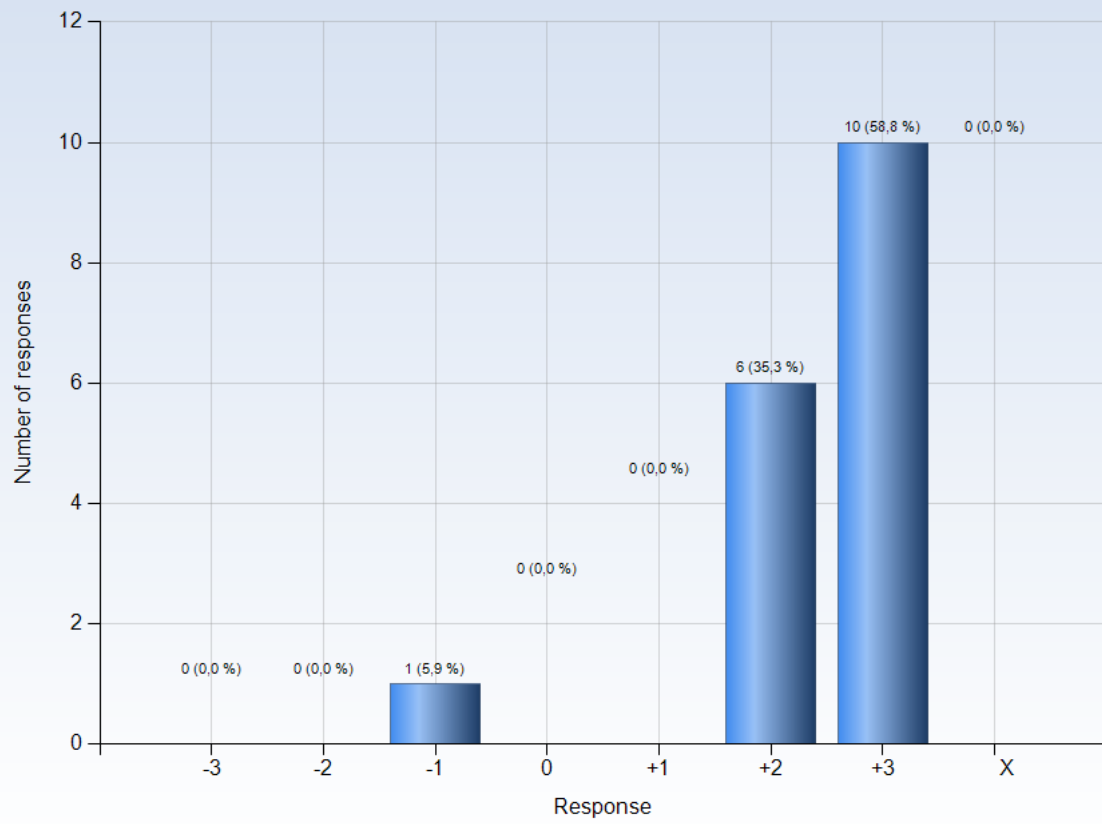
-3 = No, I strongly disagree with the statement

0 = I am neutral to the statement

+3 = Yes, I strongly agree with the statement

X = I decline to take a position on the statement

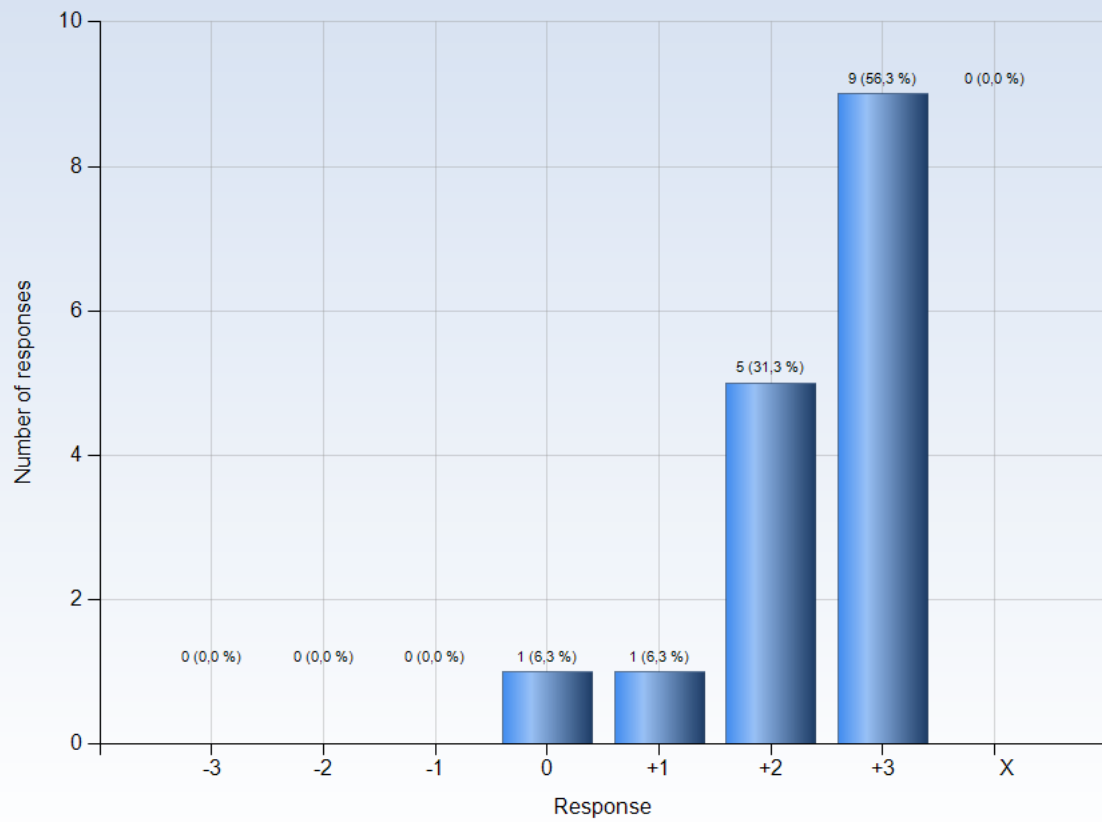
### 1. I worked with interesting issues



#### Comments

Comments (My response was: +3)  
project seemed to be very close to real life

## 2. I explored parts of the subject on my own



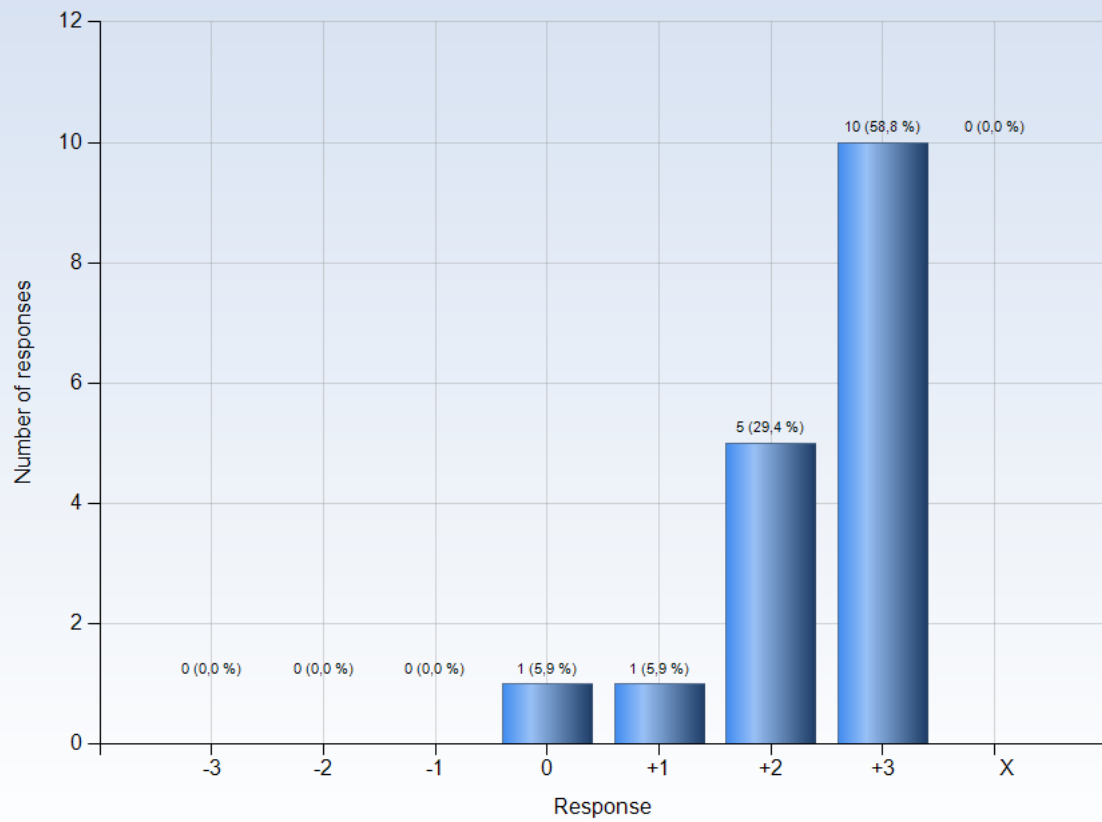
### Comments

Comments (My response was: +3)  
project!!

The project gave a lot of freedom regarding the implementation so we had to mix what we had learned from the labs combined with a lot of googling and such



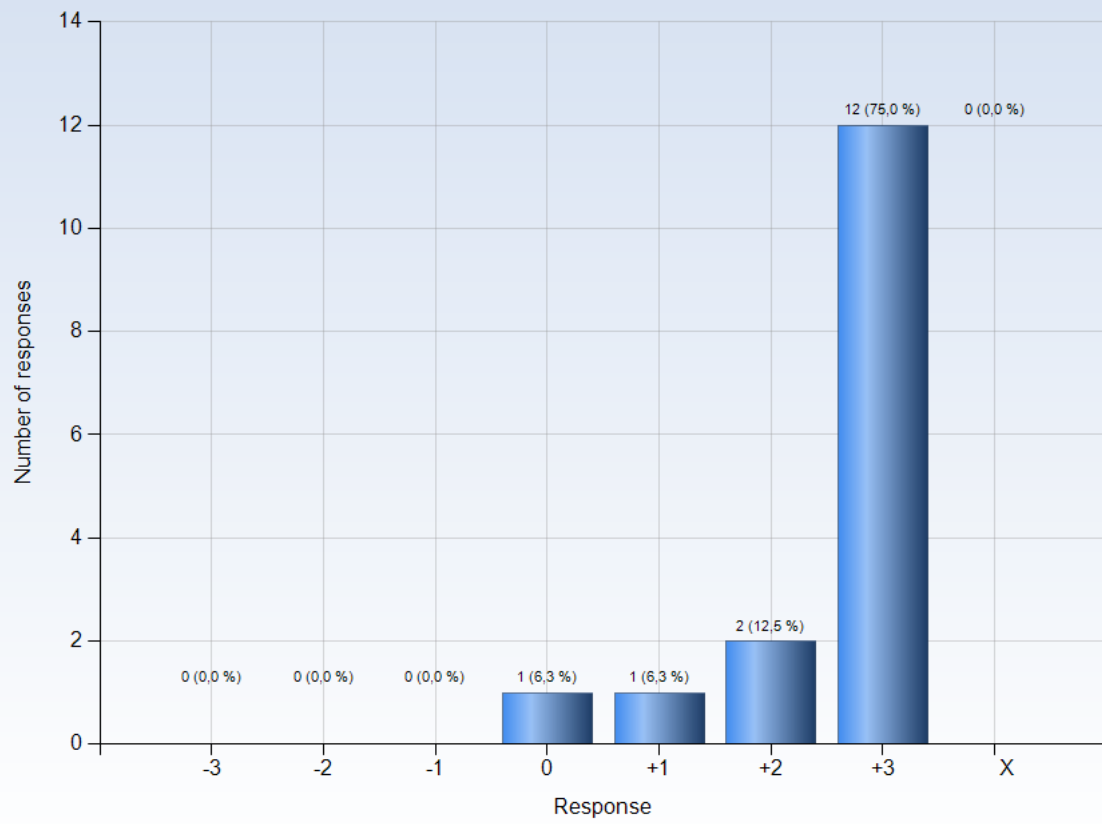
### 3. I was able to learn by trying out my own ideas



#### Comments

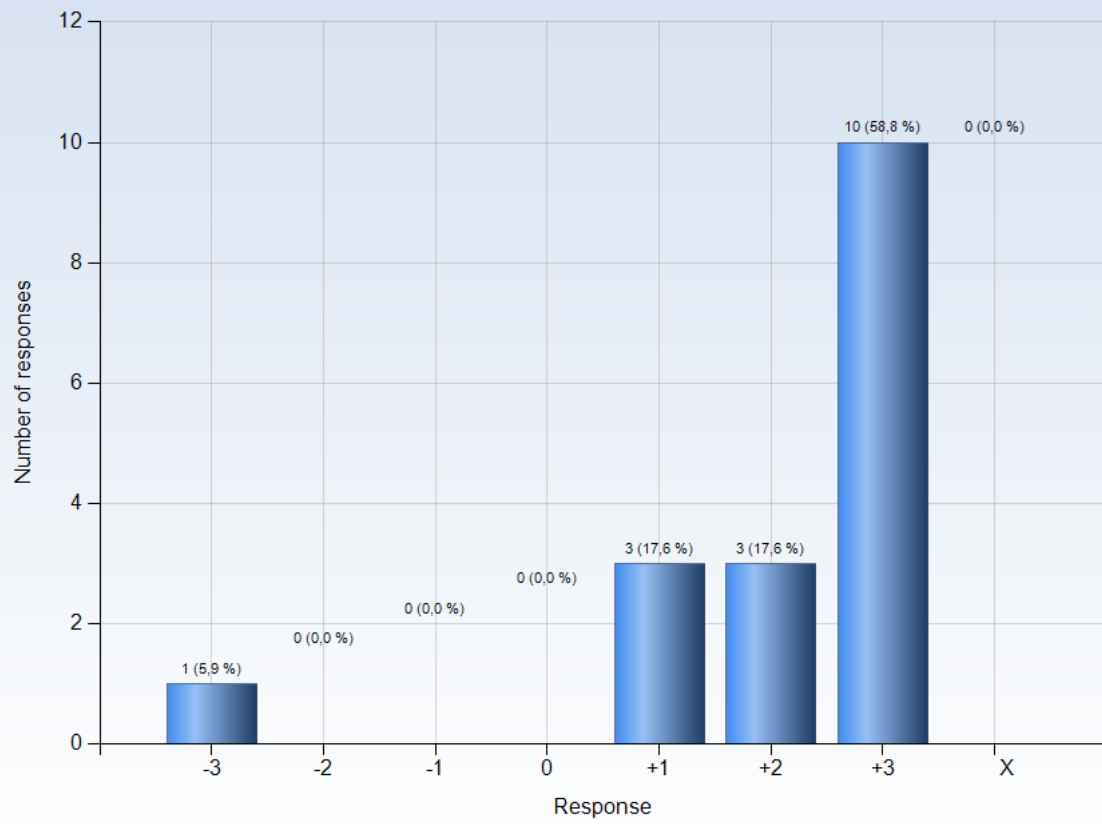
Comments (My response was: +3)  
project!!

#### 4. The course was challenging in a stimulating way



Comments

### 5. I felt togetherness with others on the course

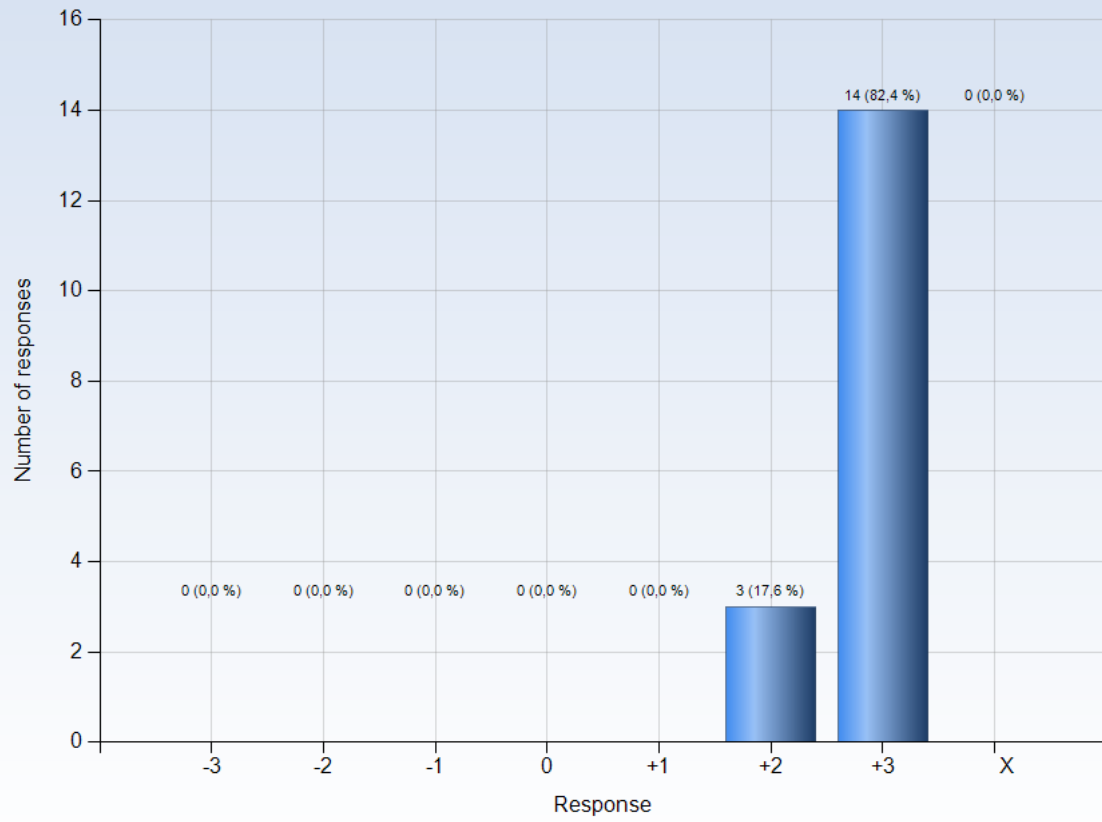


#### Comments

Comments (My response was: +3)

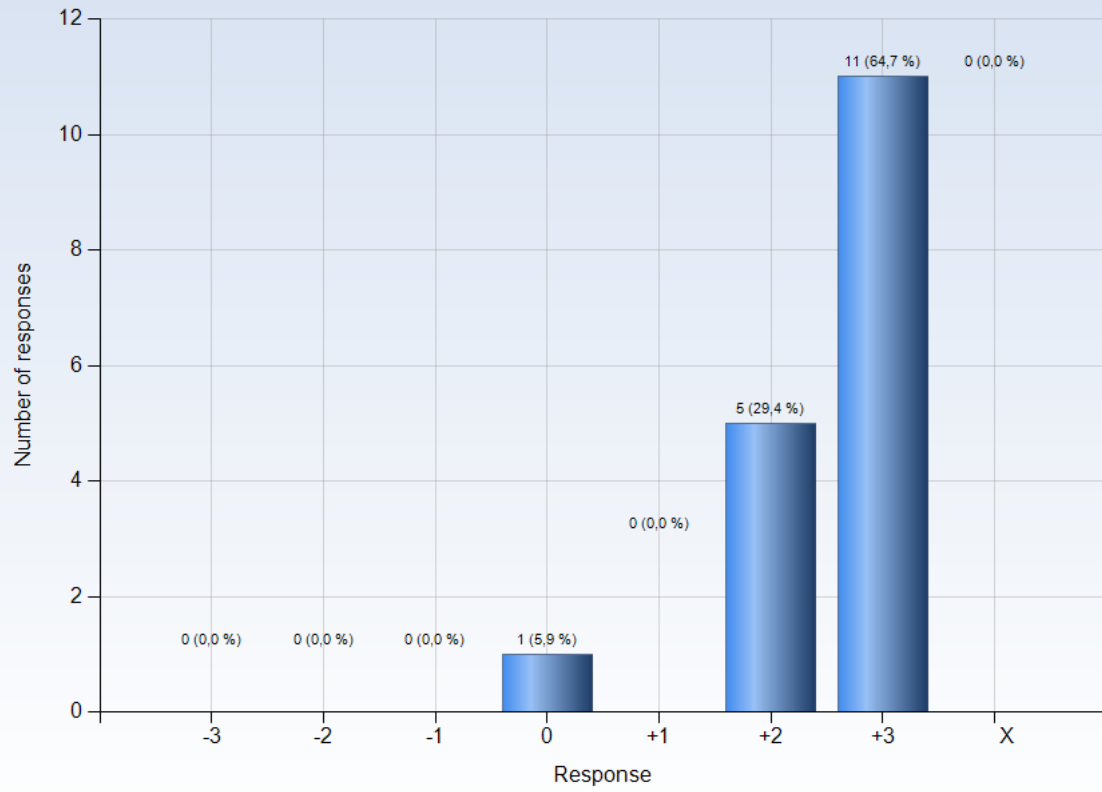
The teacher gave great clarity and support with everything

### 6. The atmosphere on the course was open and inclusive



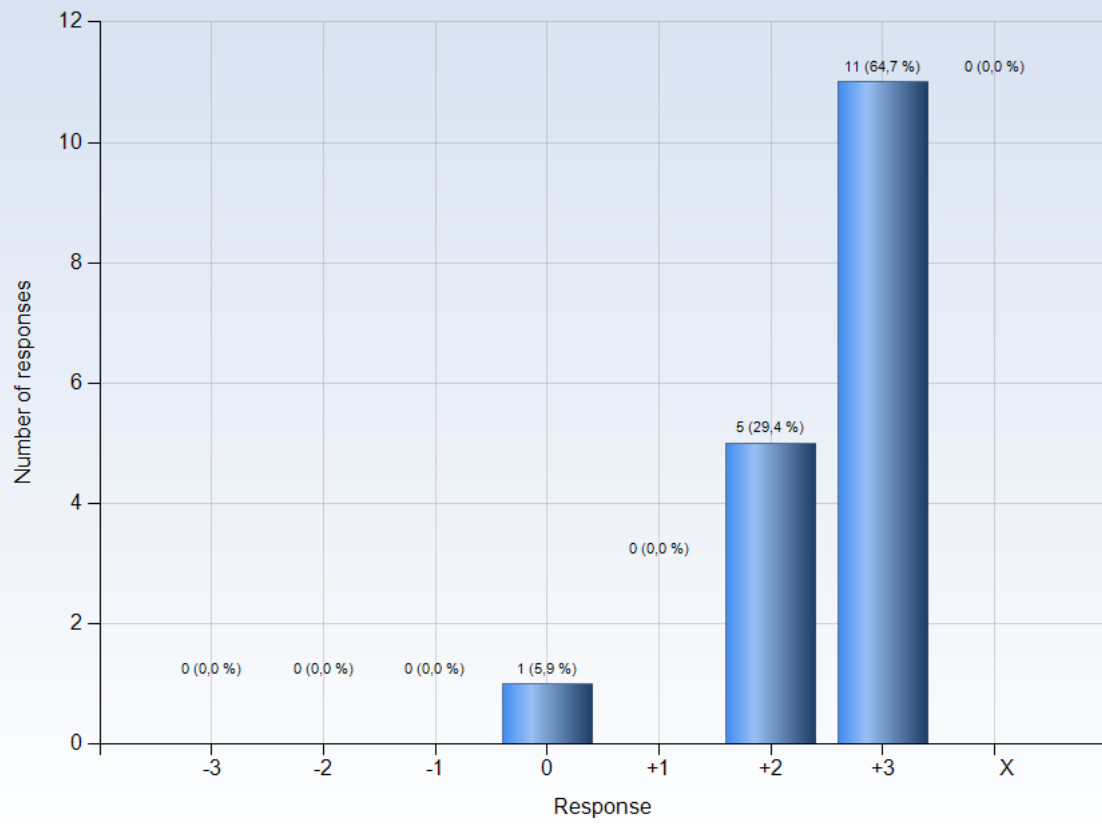
Comments

### 7. The intended learning outcomes helped me to understand what I was expected to achieve



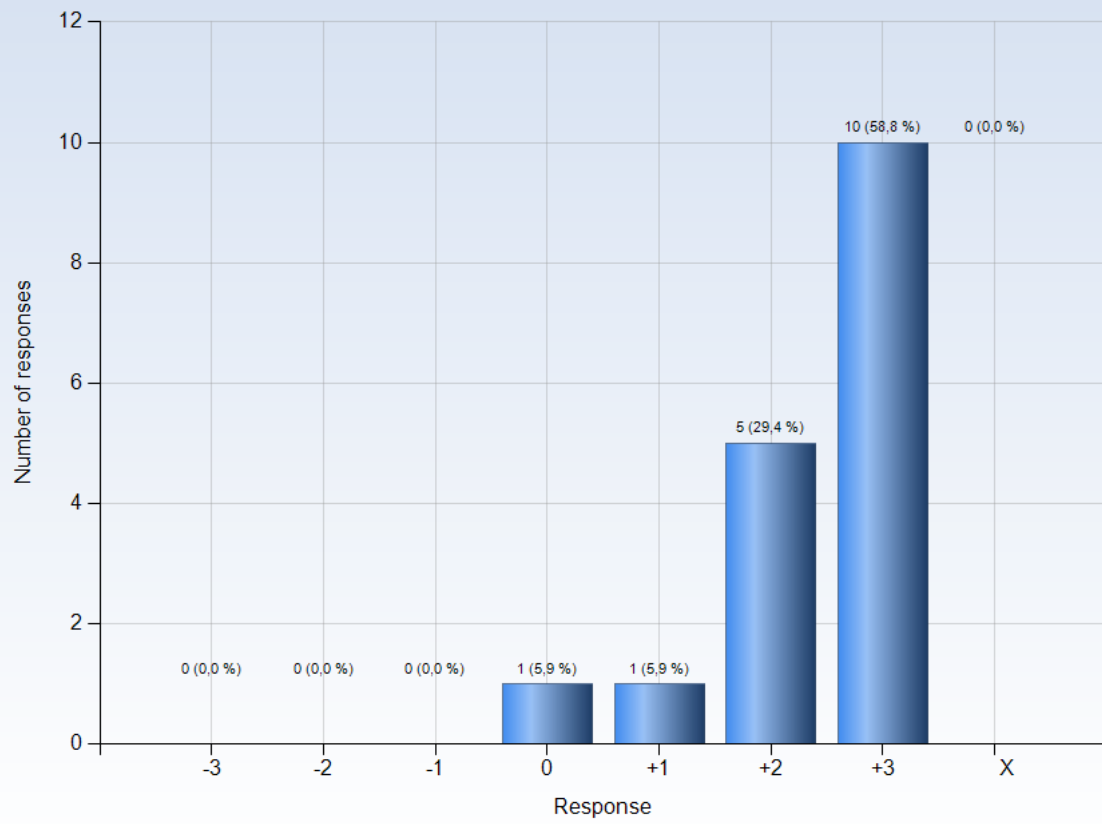
Comments

### 8. The course was organized in a way that supported my learning



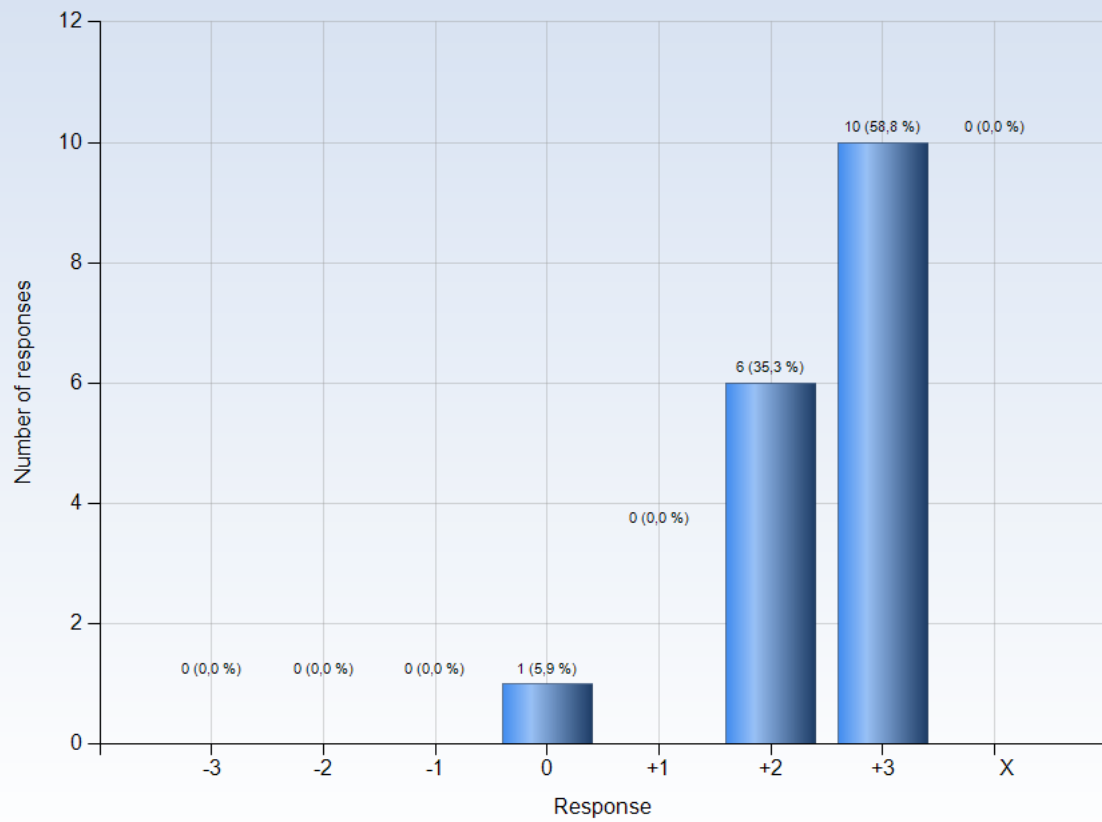
Comments

### 9. I understood what the teachers were talking about



Comments

10. I was able to learn from concrete examples that I could relate to



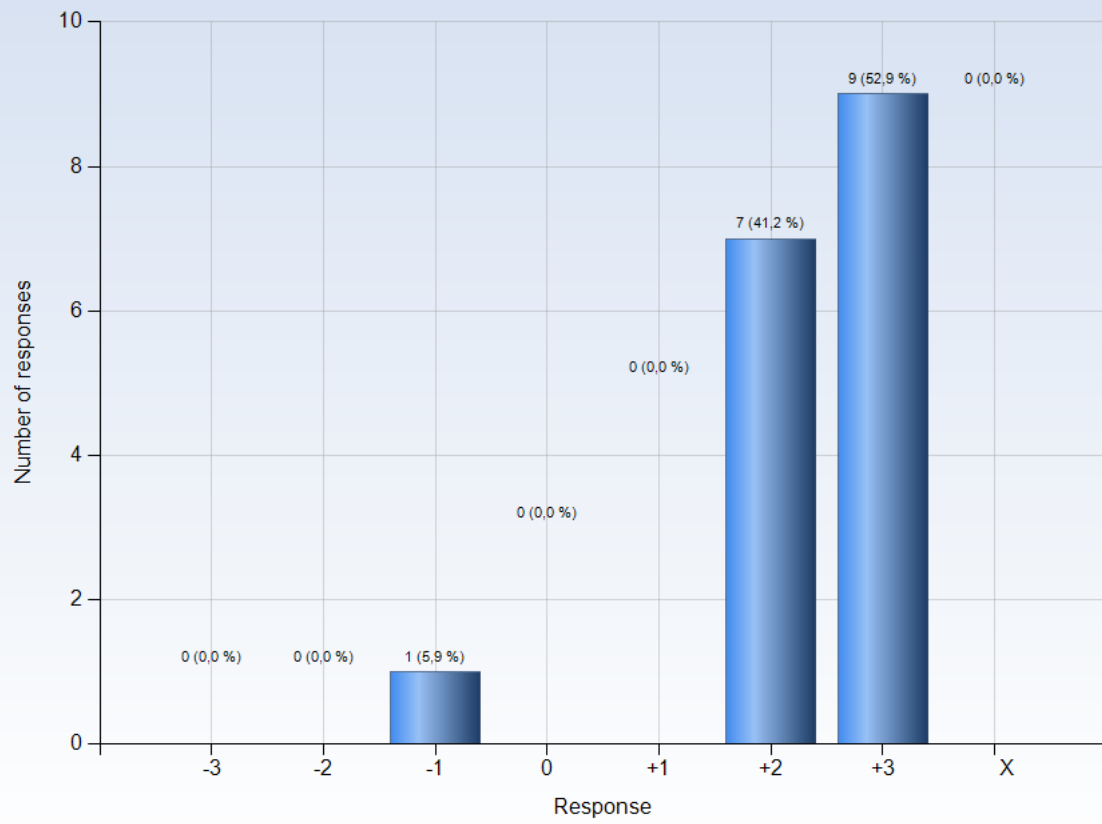
Comments

Comments (My response was: +3)

guest lectures were very interesting as well as the project set-up



### 11. Understanding of key concepts had high priority

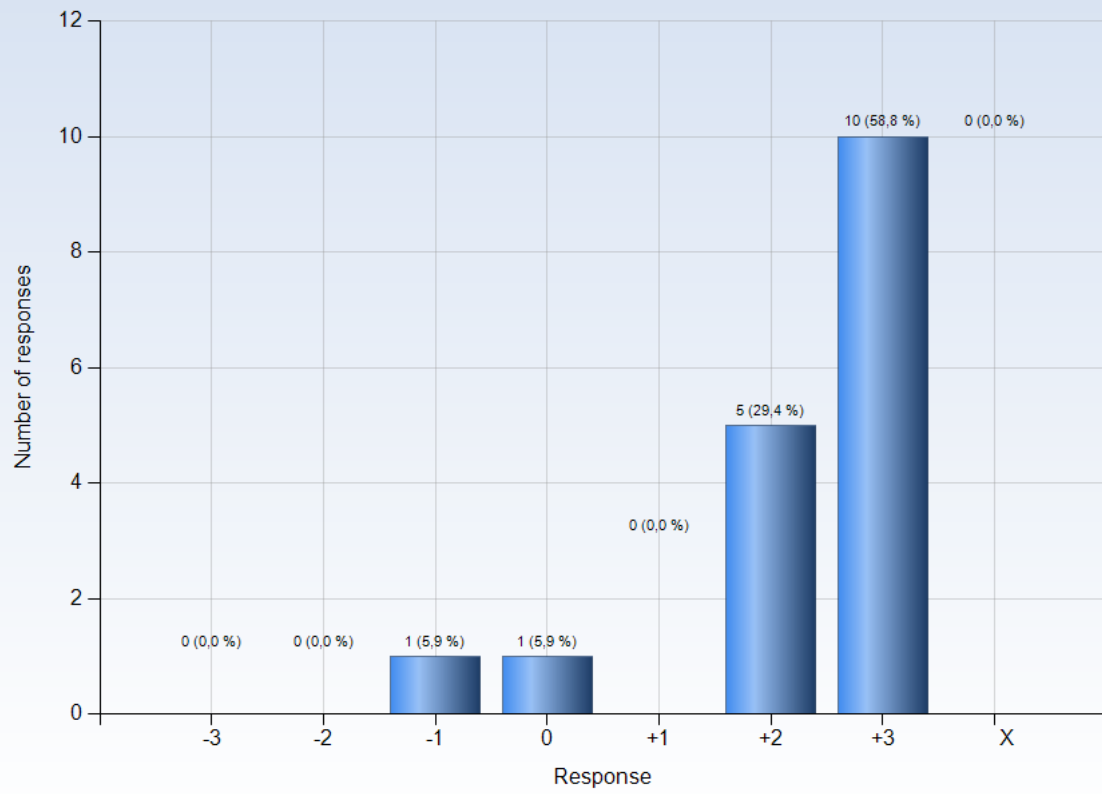


#### Comments

Comments (My response was: +3)

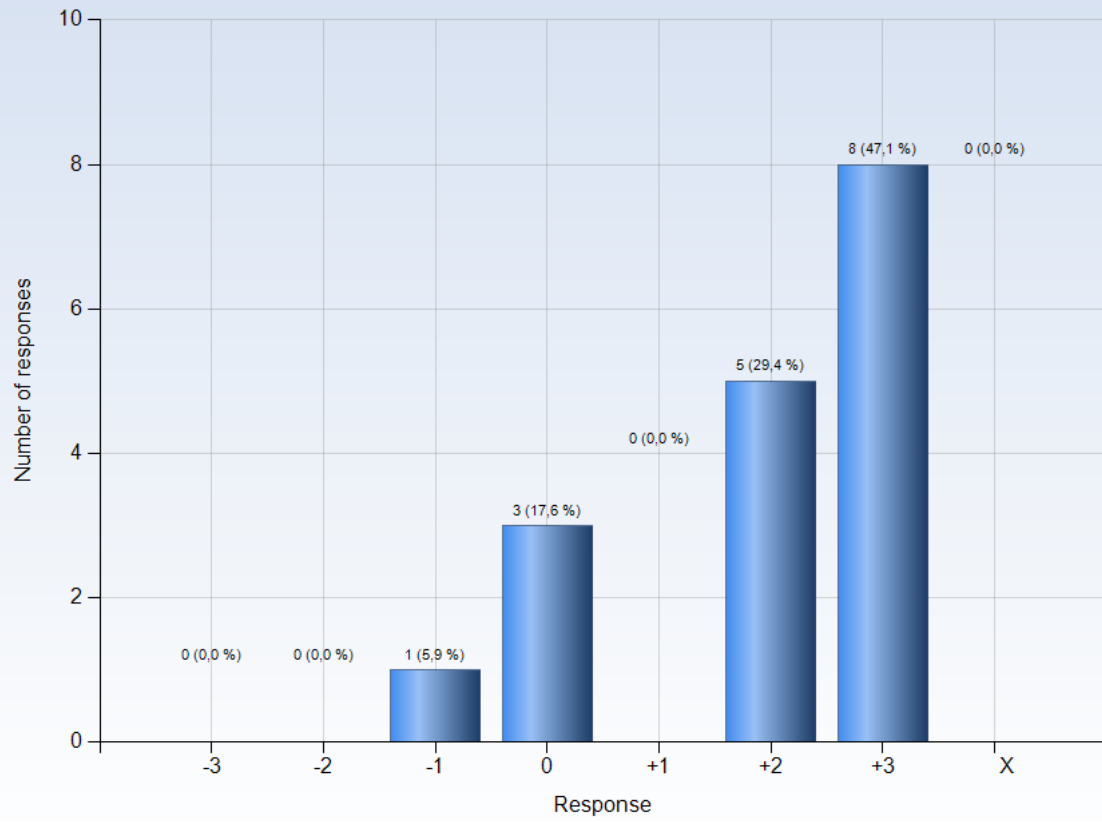
lectures first seemed to be too superficial, but project helped anchoring knowledge

## 12. The course activities helped me to achieve the intended learning outcomes efficiently



Comments

### 13. I understood what I was expected to learn in order to obtain a certain grade

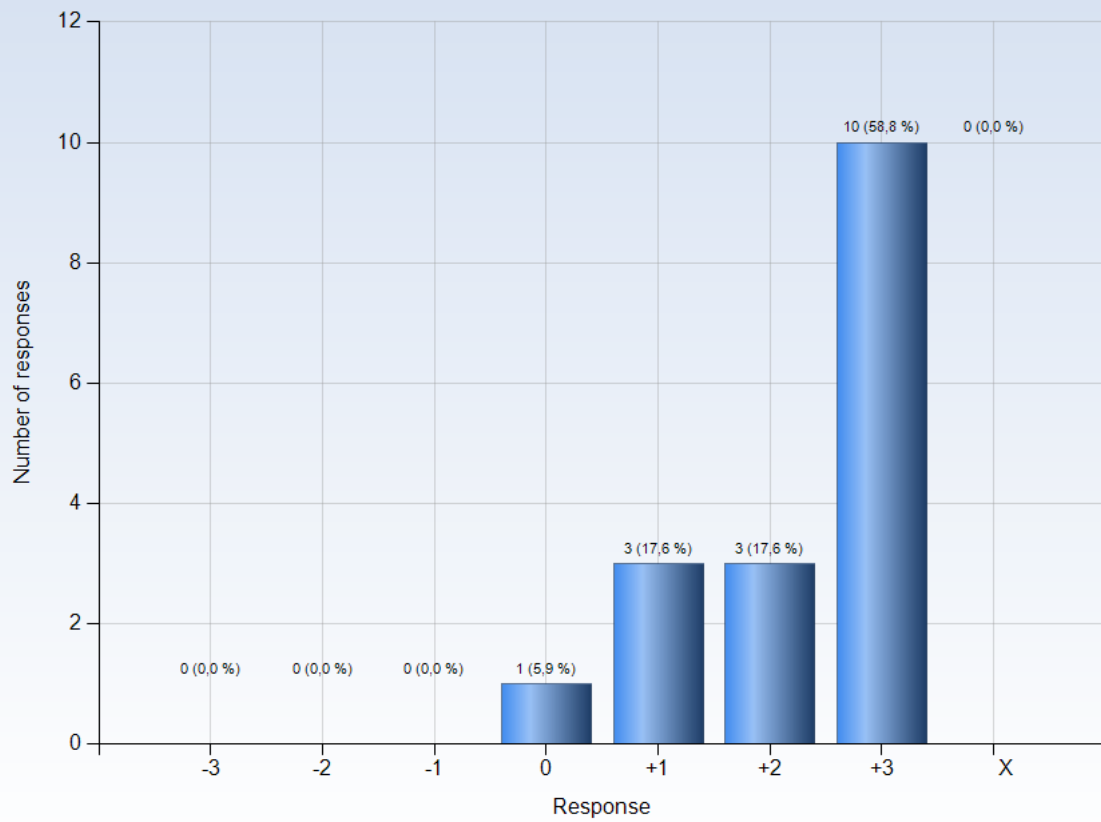


#### Comments

Comments (My response was: 0)

no clear overview of what is expected for certain grades

### 14. I received regular feedback that helped me to see my progress

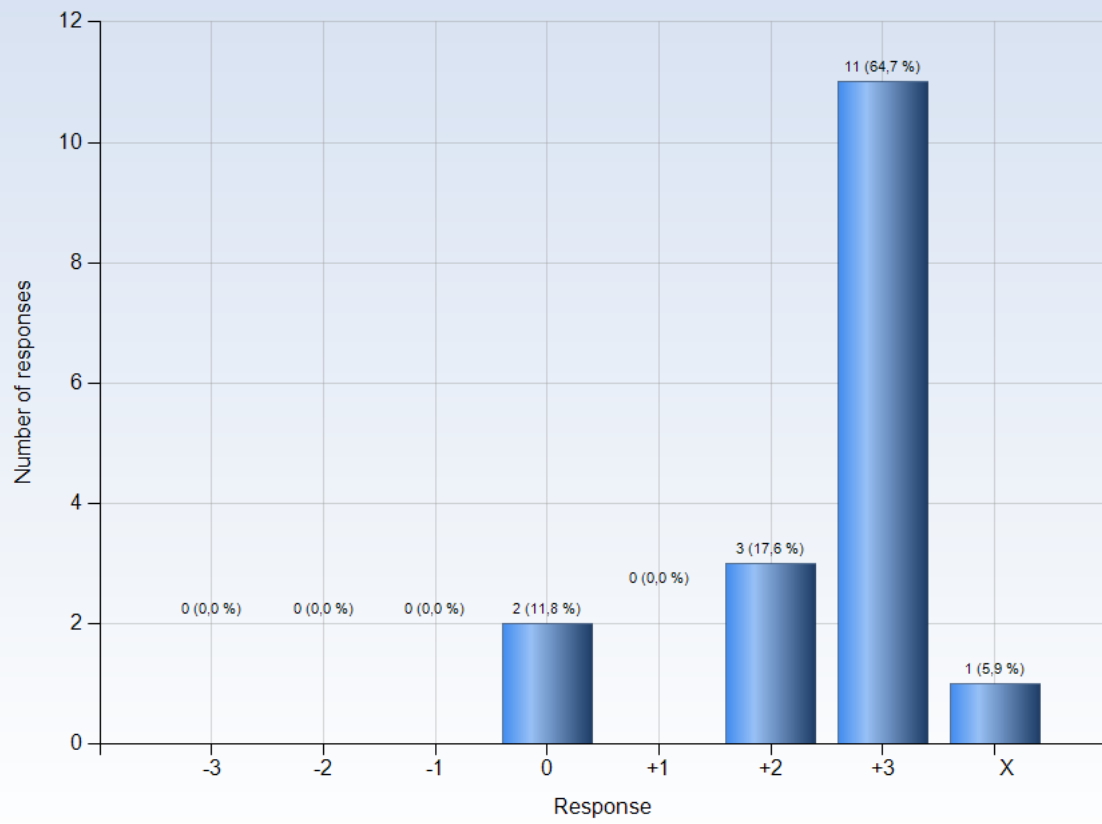


#### Comments

Comments (My response was: +3)

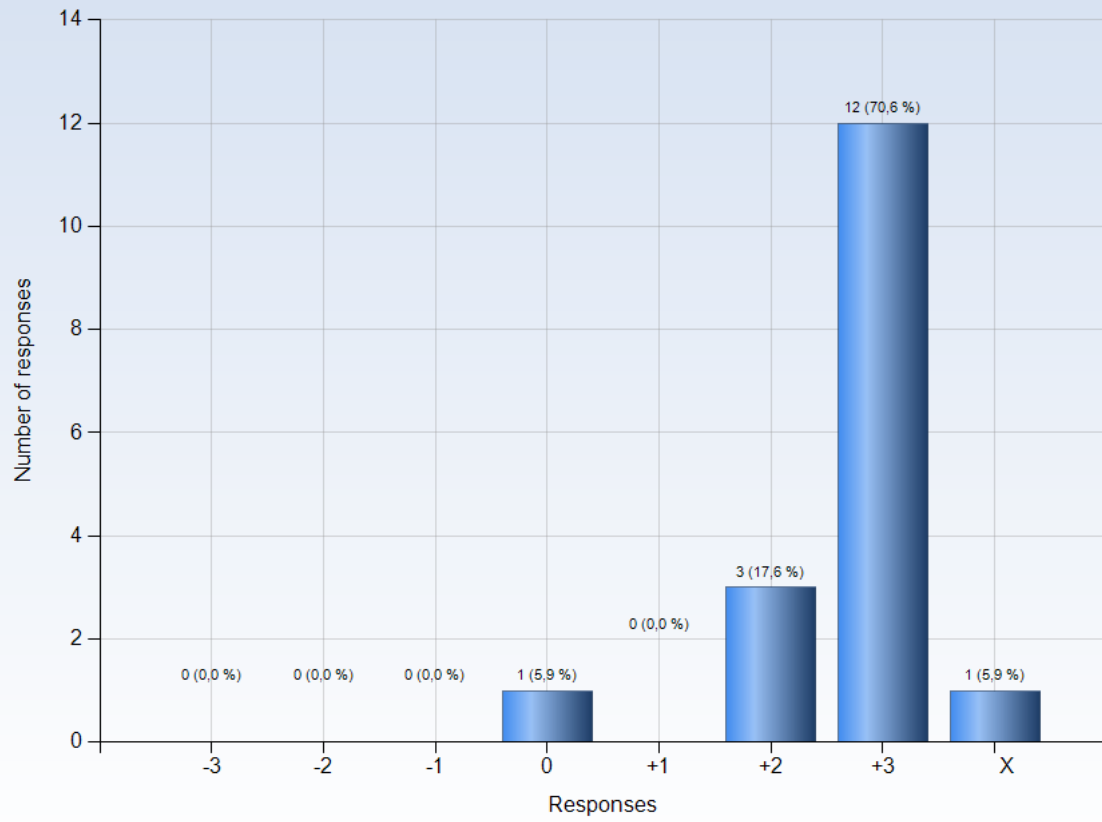
Per regularly joined the group meetings and helped us by asking interesting questions

### 15. I could practice and receive feedback without being graded



Comments

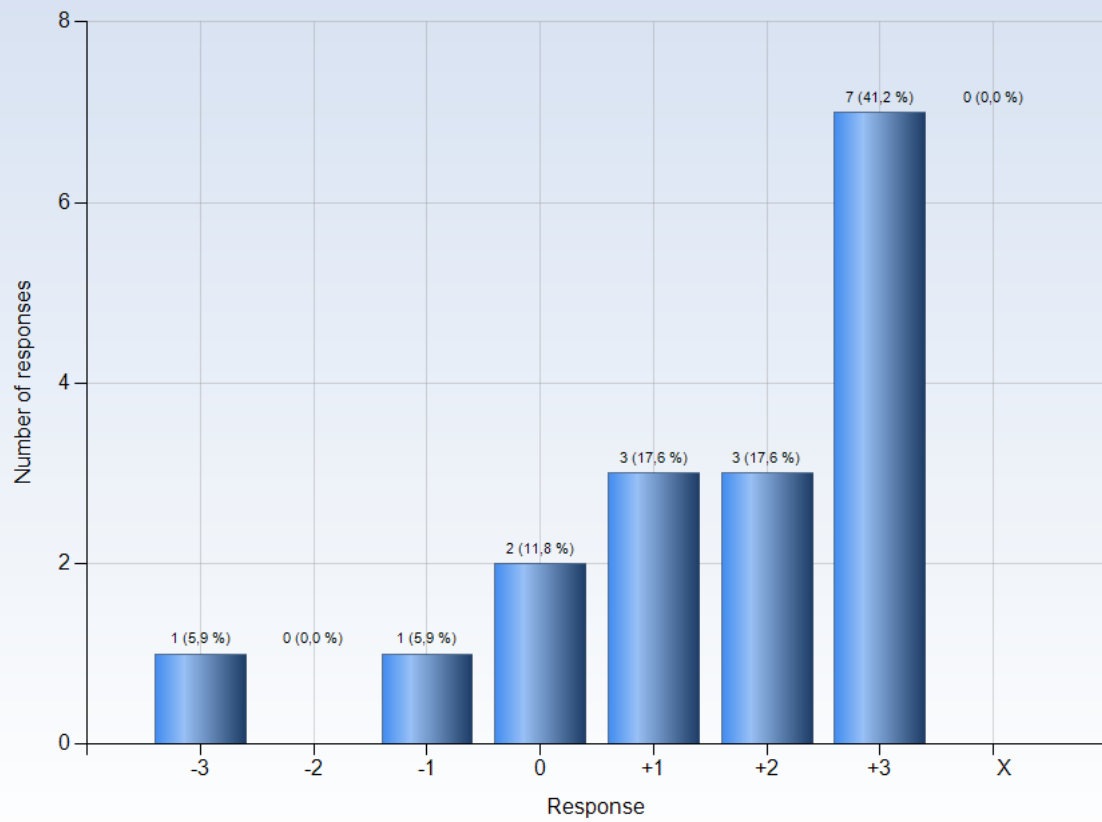
### 16. The assessment on the course was fair and honest



#### Comments

Comments (My response was: X )  
don't know yet

### 17. My background knowledge was sufficient to follow the course

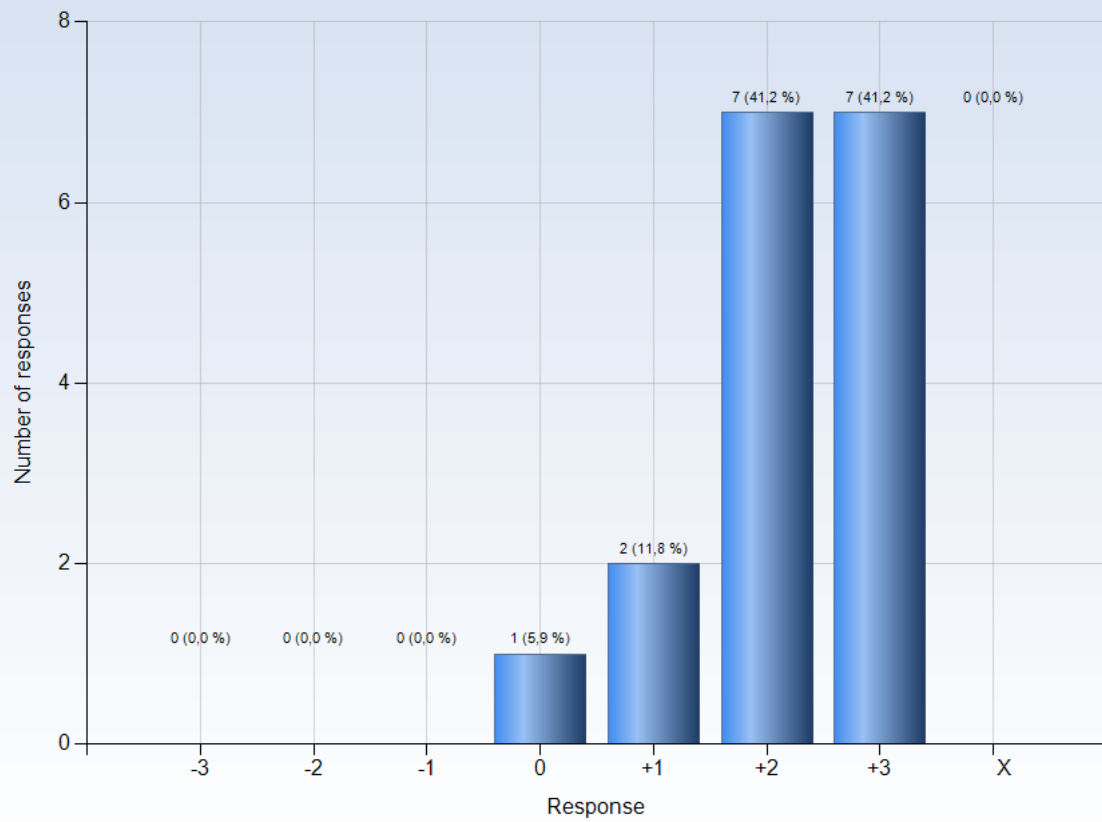


#### Comments

Comments (My response was: +1)

Seeing as my background is not in production I had to do some additional work to understand some concepts which were not crystal clear to me, but this was not a big issue

### 18. I regularly spent time to reflect on what I learned



#### Comments

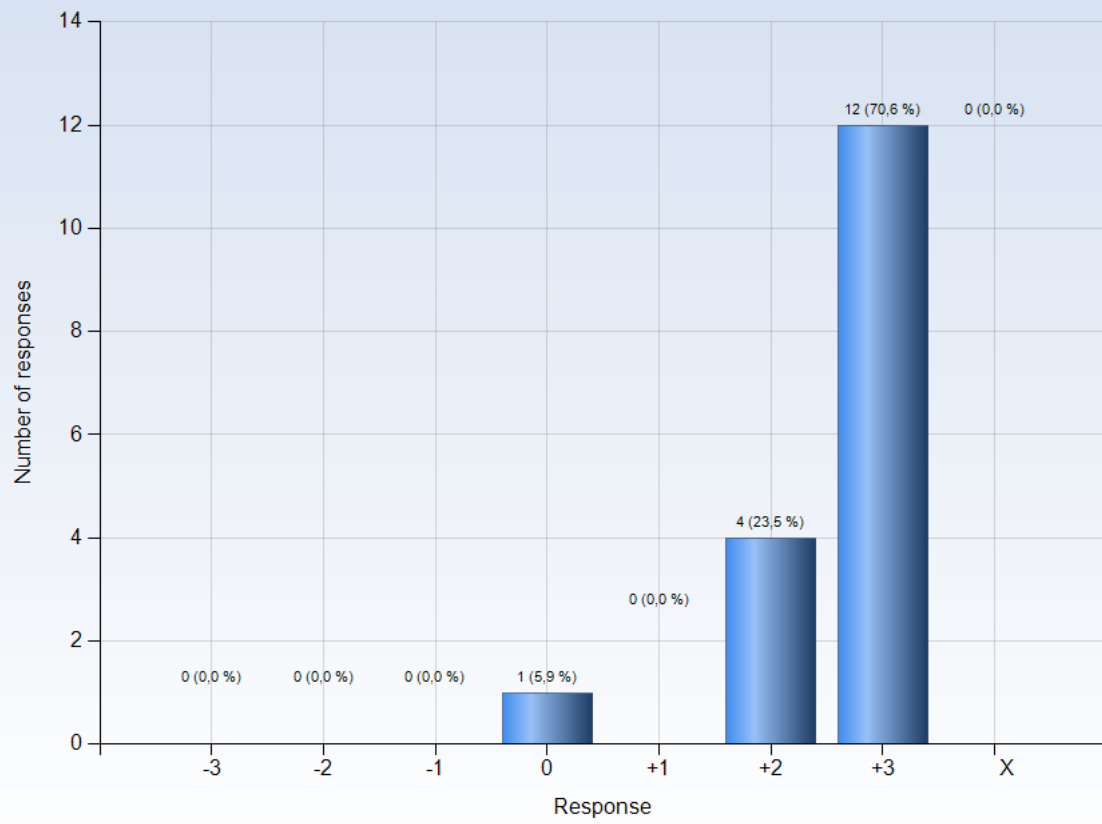
Comments (My response was: +3)

during reflection assignments but also when checking the progress of our project

To reflect on what you have heard after the guest lectures really helps you with seeing what you understand what you don't

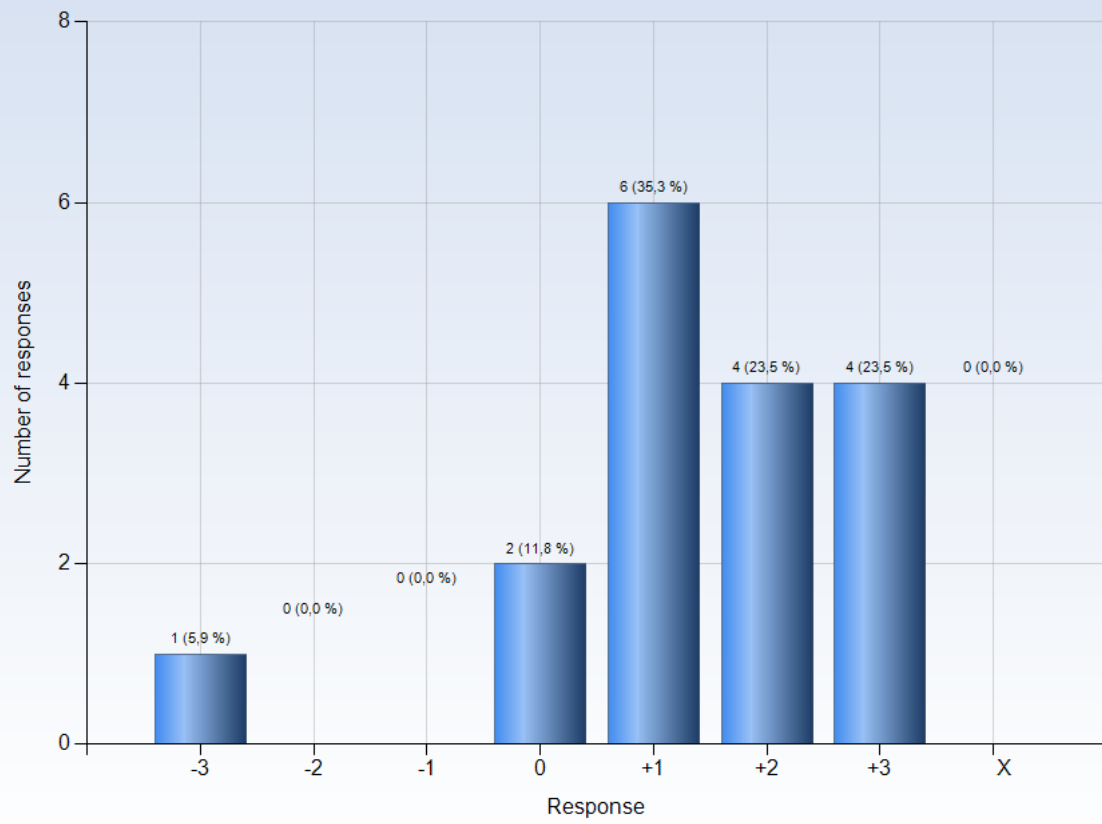


### 19. The course activities enabled me to learn in different ways



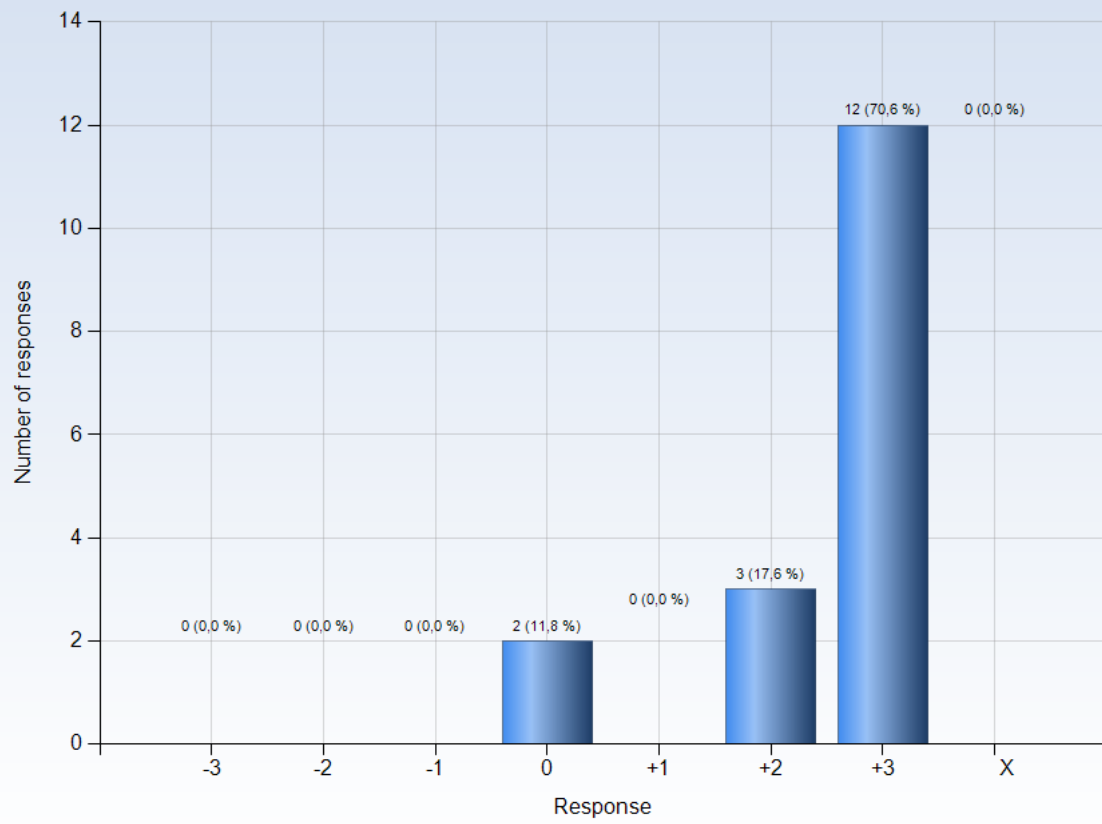
Comments

### 20. I had opportunities to influence the course activities



Comments

### 21. I was able to learn by collaborating and discussing with others

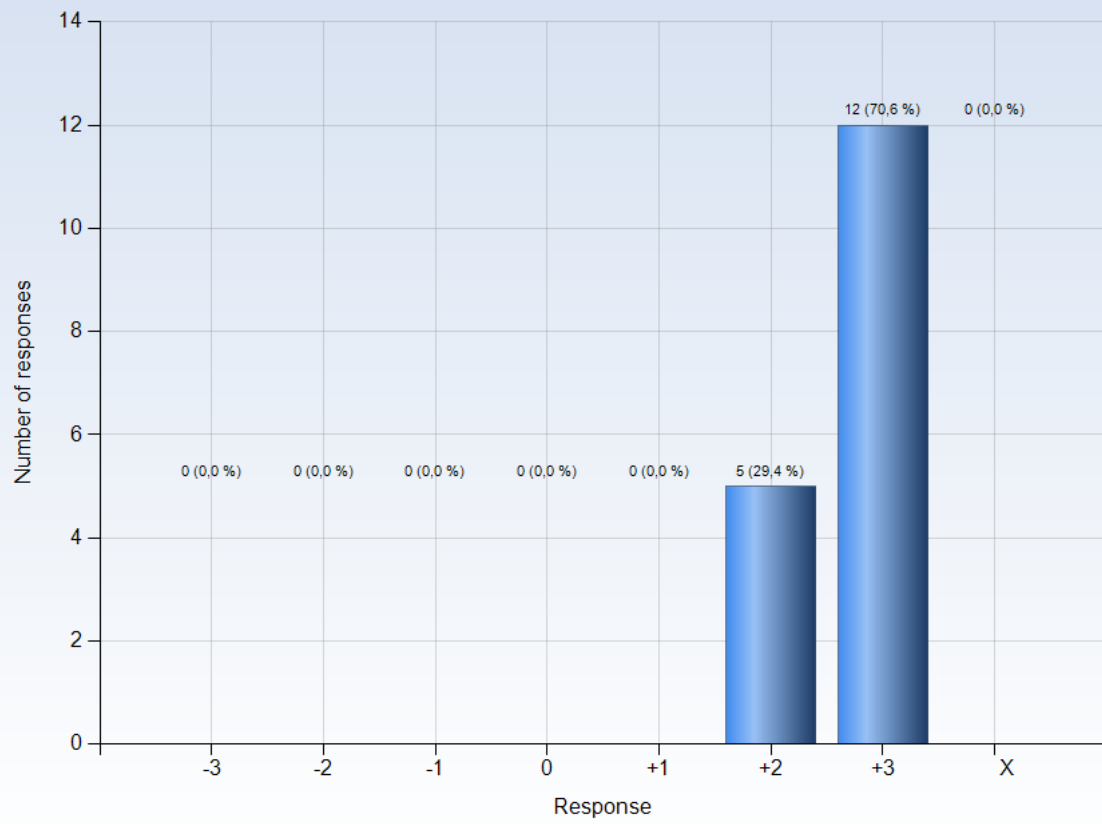


#### Comments

Comments (My response was: +3)

A lot of interesting discussions in the project work

### 22. I was able to get support if I needed it



#### Comments

Comments (My response was: +3)

Per was very supportive

Per, you are very helpful. Very appreciated by the students