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## DH2670 - 2019-12-17

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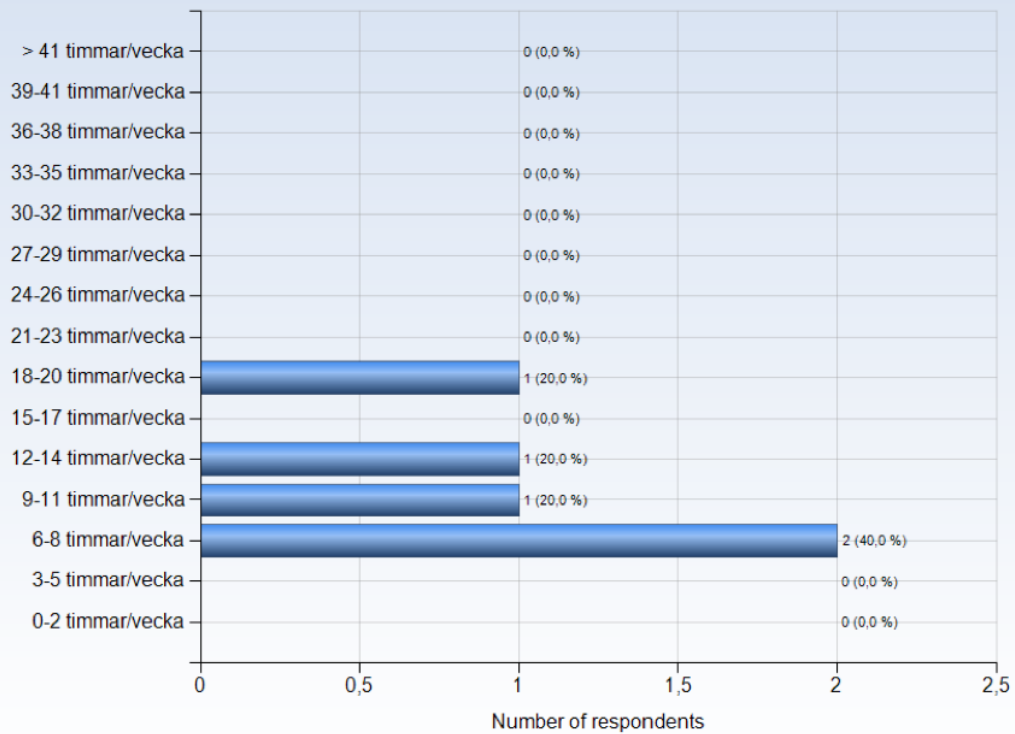
Antal respondenter: 25  
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Svarsfrekvens: 20,00 %

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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: 6-8 timmar/vecka)

Very manageable

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

Workload got a bit heavier during the later stages of the project.

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

It's been a long time that I took this course. I don't remember very well about the details and my perception of it, so instead of "guessing" what my perception of it was, I'm going to comment only on what I can remember.

Comments (I worked: 18-20 timmar/vecka)

I can't remember exactly



## 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:

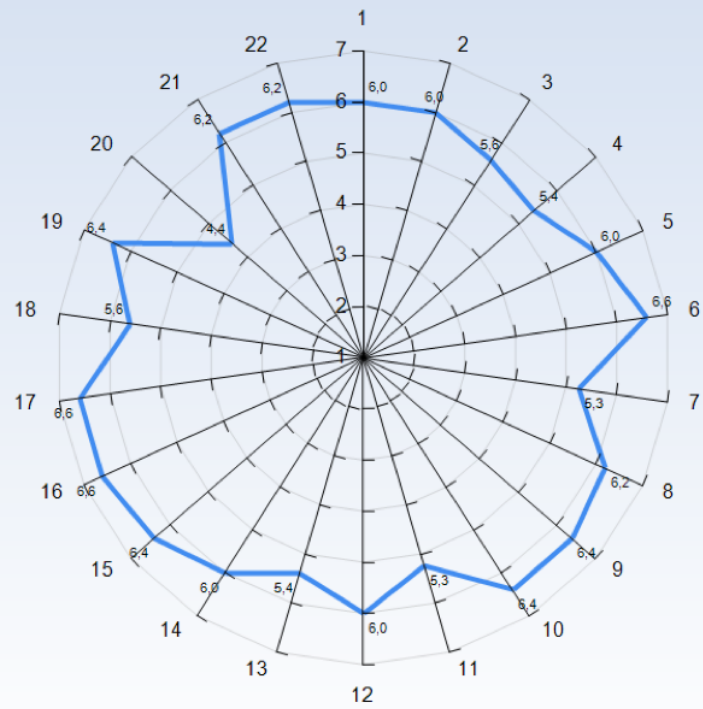
1 = No, I strongly disagree with the statement

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



— Medelvärde



## **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.

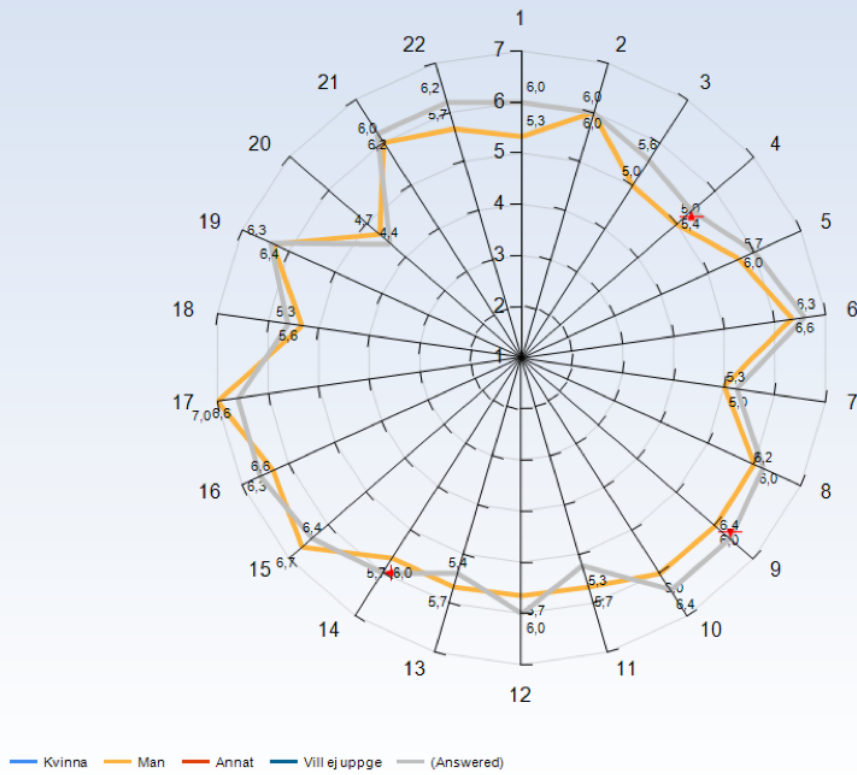
Elmgren, M. & Henriksson, A-S. (2014). *Academic Teaching*, Chapter 3, pp. 57-72. Lund: Studentlitteratur.

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.

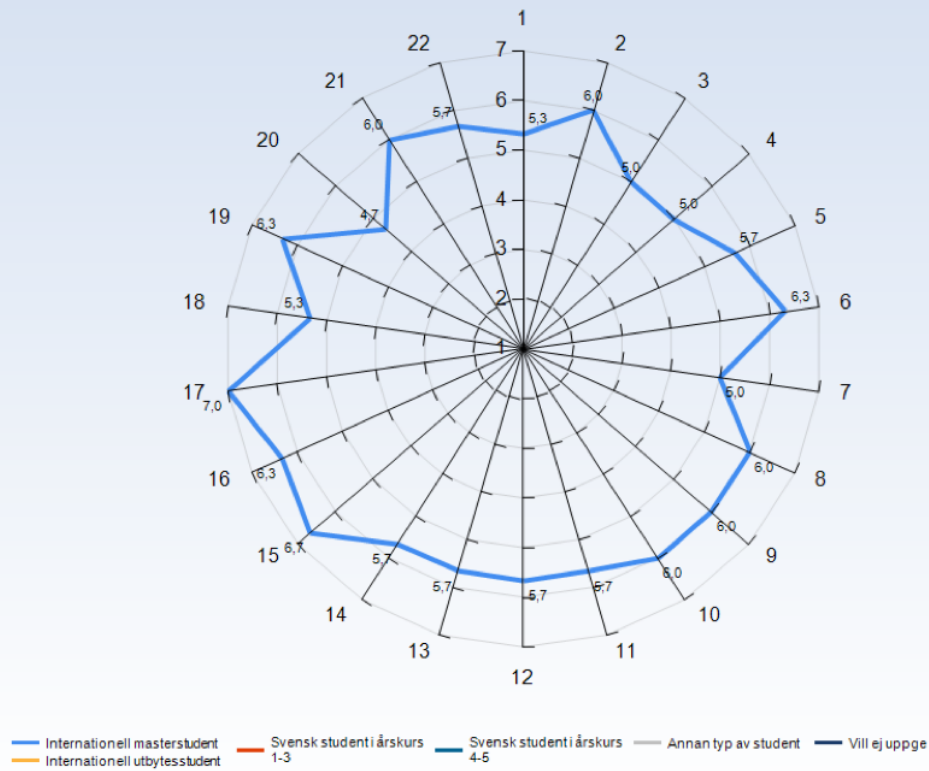


### Average response to LEQ statements - per gender



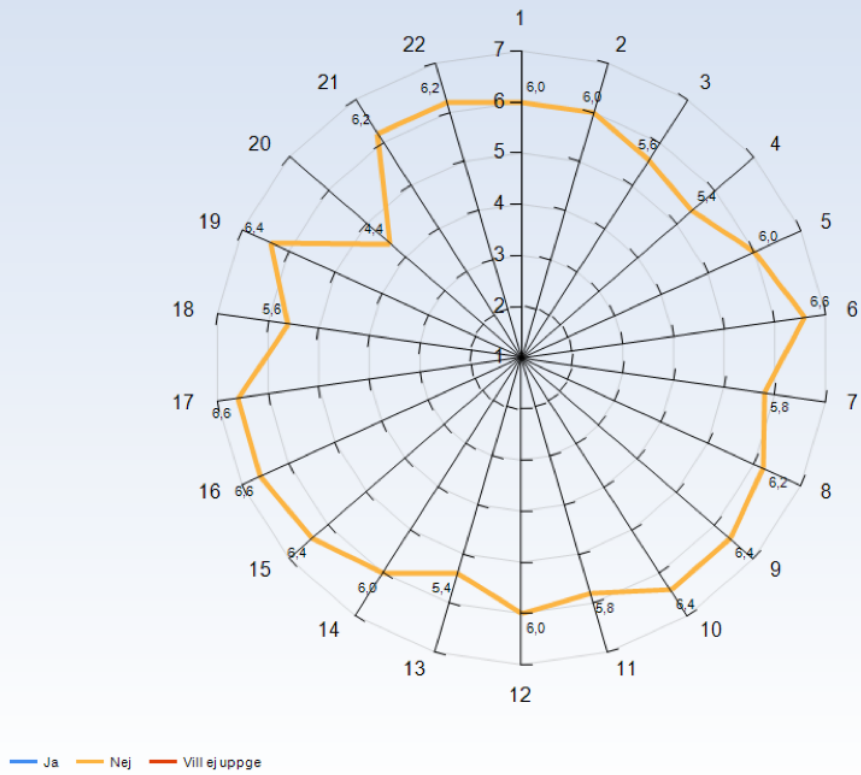
Comments

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



Comments

### Average response to LEQ statements - per disability



#### Comments

Comments (My response was: Nej)

Not sure, I have a hard time reading and spelling but have never been "utredd"



## GENERAL QUESTIONS

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

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

The idea of haptics as an interactive paradigm is introduced well in the course. The visit to KI which showed how haptic technologies are used in the real world, is definitely engaging and informative.

Teacher was kind. Partners were helpful.

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

I really liked the practical parts of the course, with the labs and the project work. I think I learned the most from these. I had a lot of fun programming on Falcon/Omni, I thought the devices were really cool. The topics within the course were fun and interesting, which made me enjoy it a lot. It was also nice that rather than having an exam, where you'll just cram as many facts as possible, you could choose to study whatever parts of the theory you found the most interesting in the literature review. I also appreciated the visit to Karolinska, it was cool to see all the tools they had! Overall a really fun course!

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

I'm not sure I can say this was the best thing on the course, but it was very interesting to watch some guest lectures from the industry to talk about how they were using/researching about haptics.

What was the best aspect of the course? (I worked: 18-20 timmar/vecka)

How organized it was, and how much I learned without being super stressed to the point where I have physical symptoms (with happens in many other courses at kth, because they think you can learn by your own without material or help from them) but in this course, I got help and I could also explore by my self. So I learned SO MUCH!! Seriously this course was one of the best courses I have read at kth, maybe even THE best!!

### What would you suggest to improve?

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

A few of the technologies that students are expected to work with, such as the Falcon, are very outdated and even obsolete. They only serve as an introduction to the topic and should not be used as a main learning outcome or project. Students are therefore not motivated to pursue the course. The course needs to be updated to include more state-of-the-art work, technologies and research. Consider referring to how the same course is updated and structured in other universities and see if it can be improved along similar lines.

No

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

I think it could be nice with even more labs, either with more in-depth knowledge on haptic programming on the Falcons, or with some other haptic devices.

What would you suggest to improve? (I worked: 18-20 timmar/vecka)

Maybe not have an assignment deadline the same day we had studyvisit. I think more would come if it was not the same time. (That studyvisit was soooooooo sooooo soooooo, I loved it)

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

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

The course in its current form might not be very interesting but the topic itself is very interesting and has great potential. Look beyond the available course material and learn more about ongoing research and state-of-the-art technologies.

The device is really fantastic.

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

Start with the literature review as early as possible, it takes longer than you think it will.

What advice would you like to give to future participants? (I worked: 18-20 timmar/vecka)

Read the material, interesting fact, go to lectures and definitely go to the studyvisit

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

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

Consider exploring and adding modules relating to electronics and textiles, etc. Tools such as Arduinos with vibrator modules, conductive textiles, interactive paint, etc can and should be considered from a haptic perspective and included in the course, allowing students to develop their own ideas.

No.

Is there anything else you would like to add? (I worked: 18-20 timmar/vecka)

This is the best course at kth.



## SPECIFIC QUESTIONS

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## RESPONSE DATA

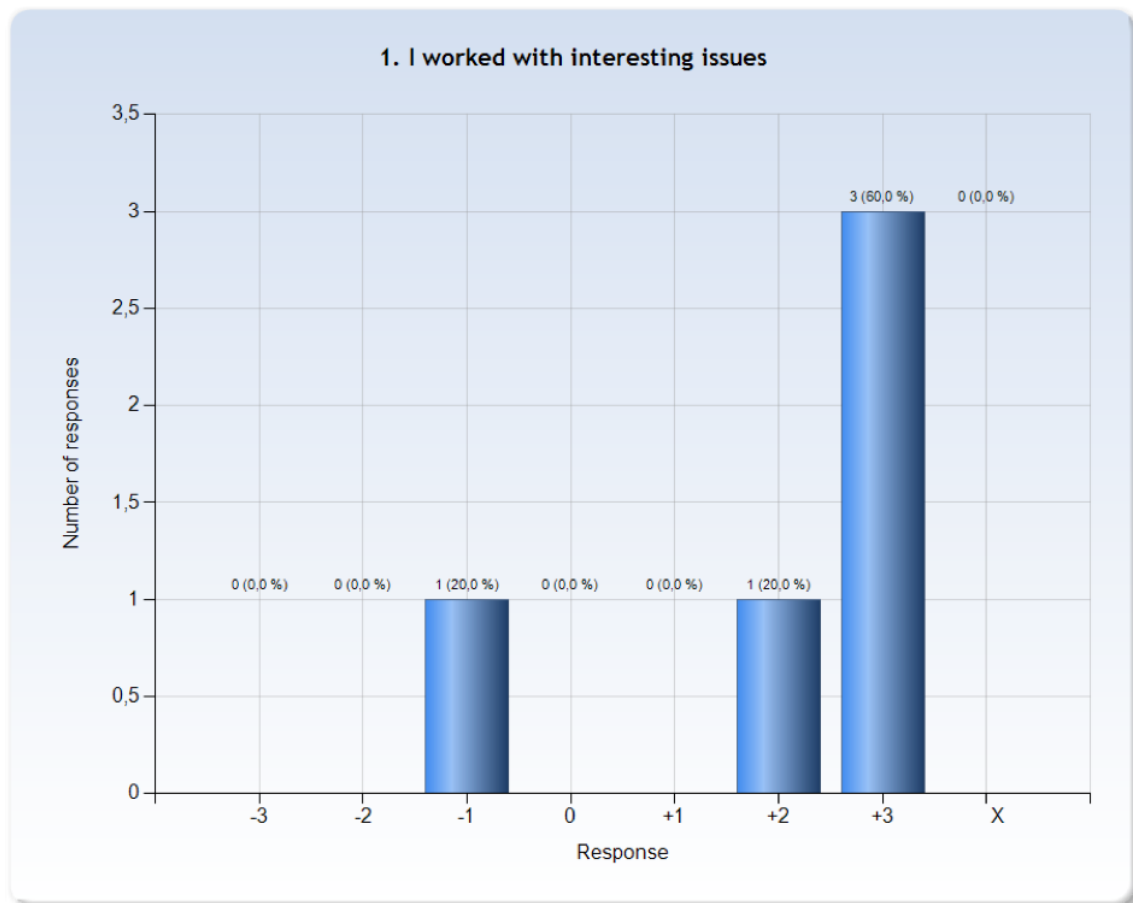
The diagrams below show the detailed response to the LEQ statements. The response scale is defined by:

-3 = No, I strongly disagree with the statement

0 = I am neutral to the statement

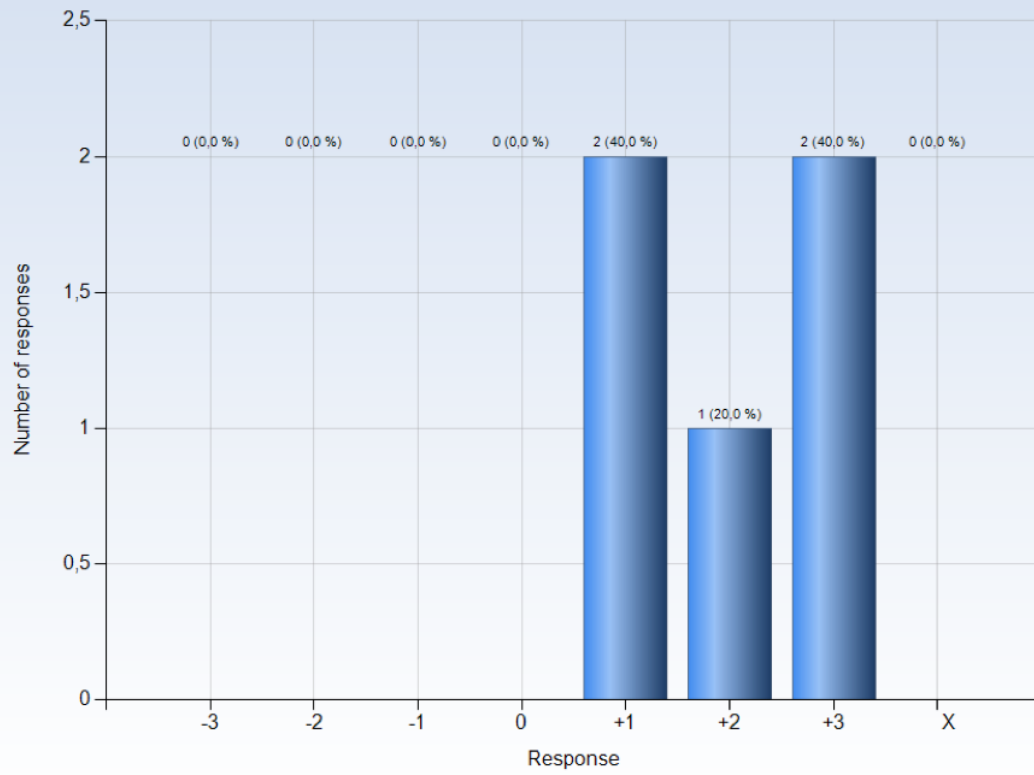
+3 = Yes, I strongly agree with the statement

X = I decline to take a position on the statement



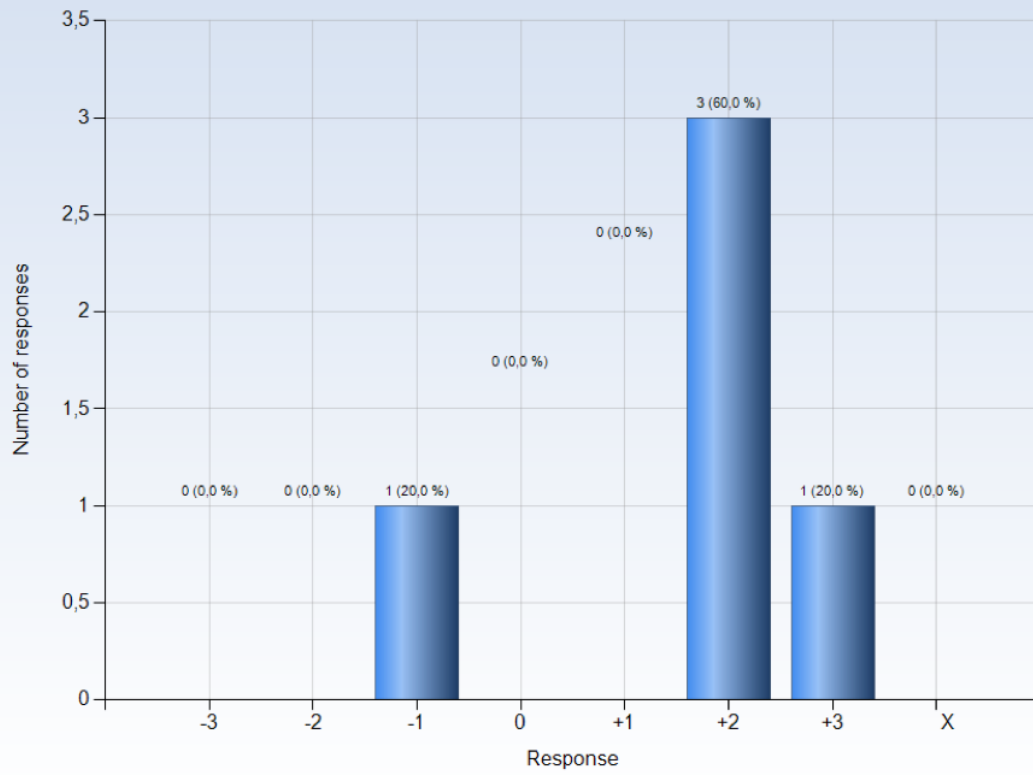
Comments

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



Comments

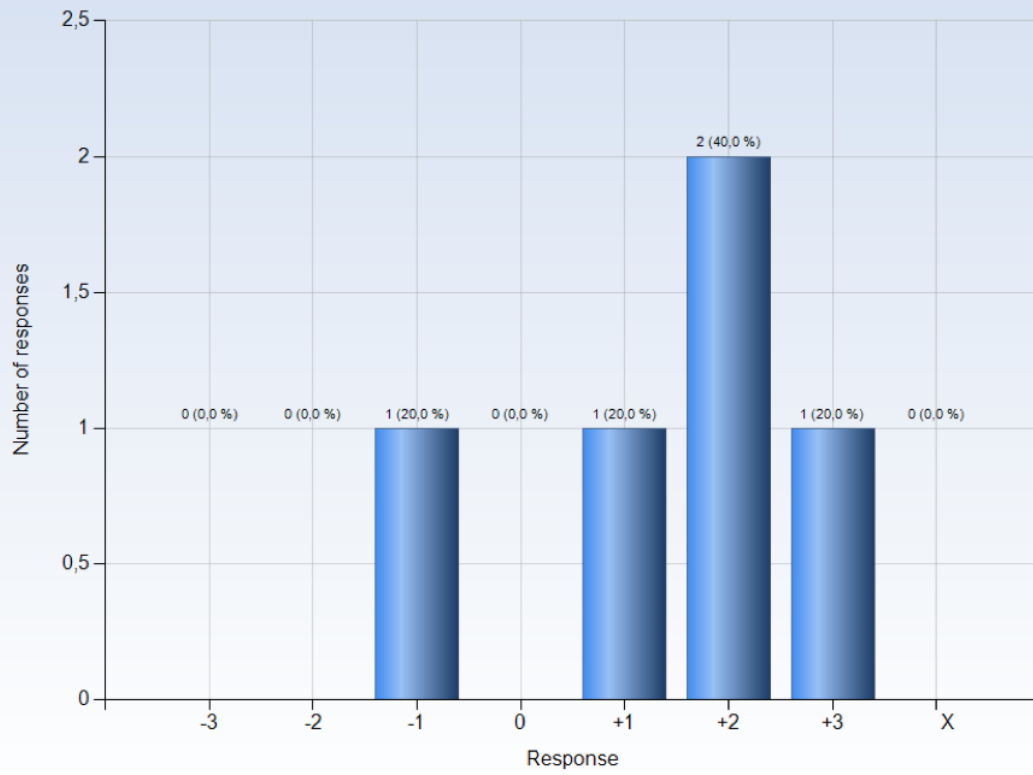
### 3. I was able to learn by trying out my own ideas



Comments

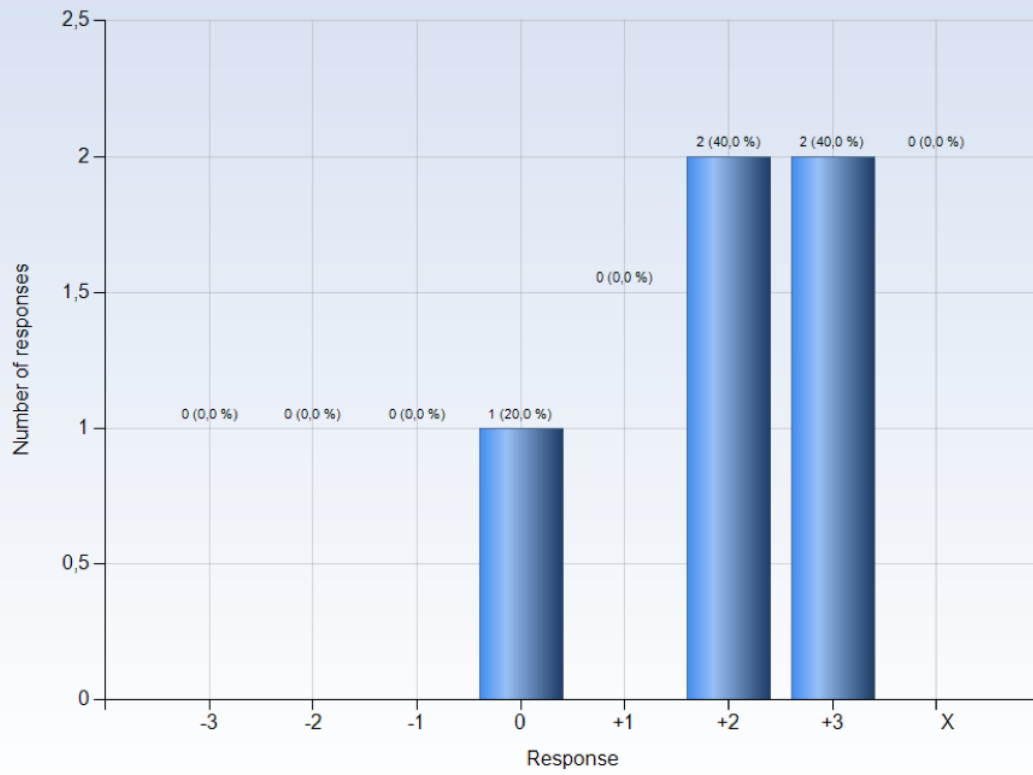


#### 4. The course was challenging in a stimulating way



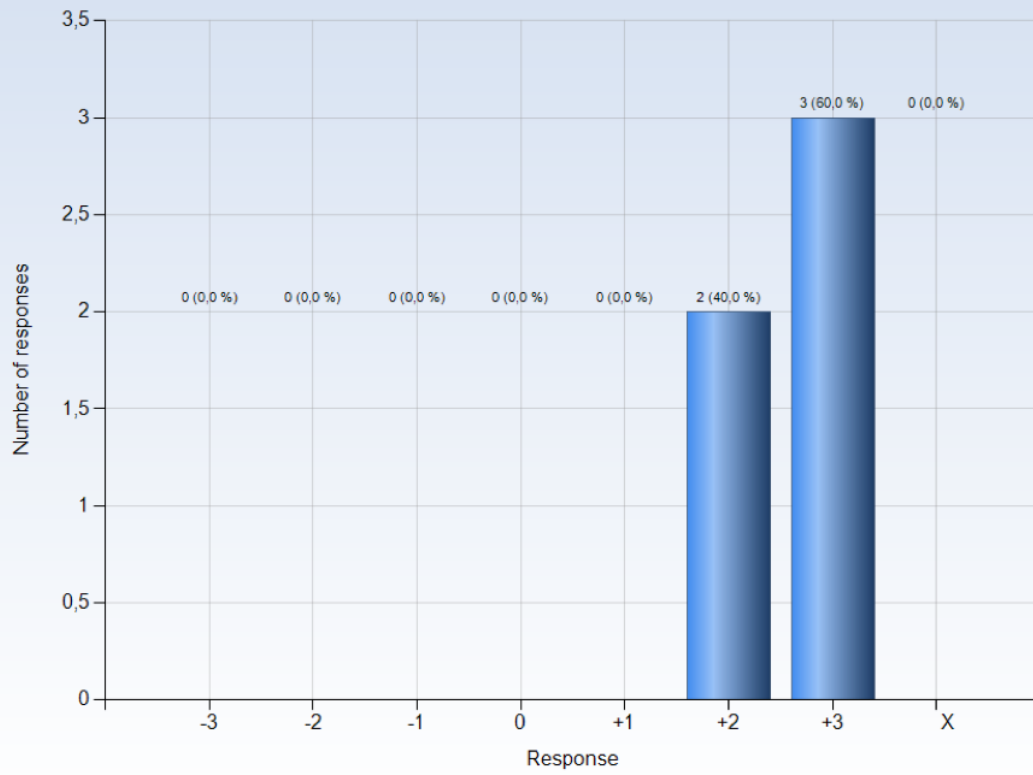
Comments

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



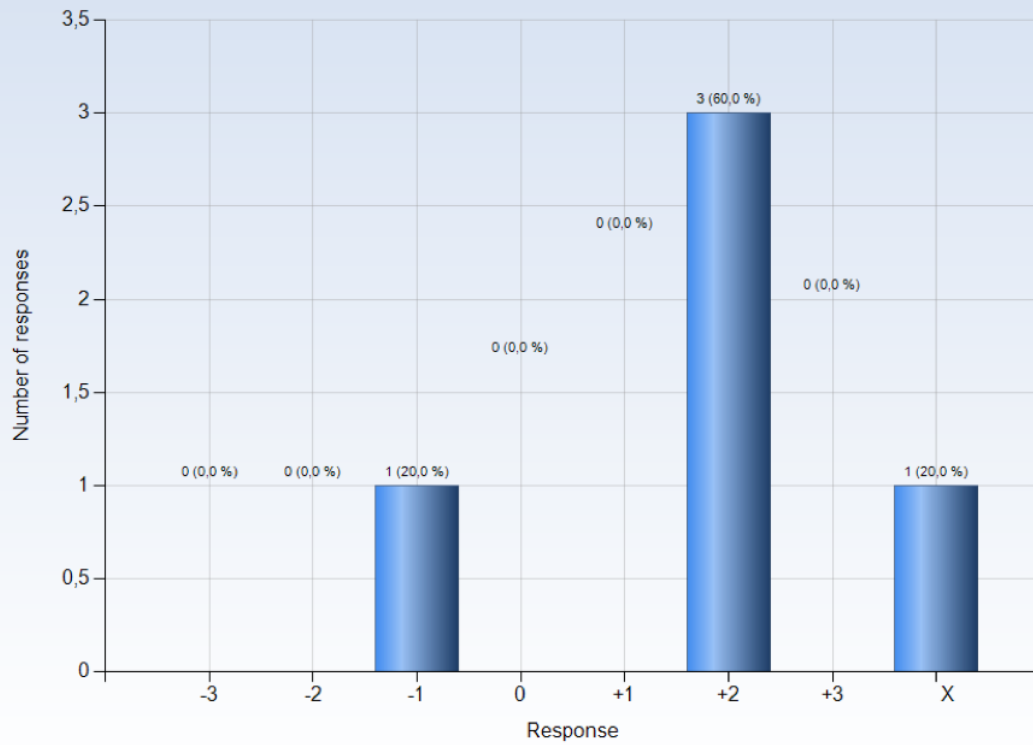
Comments

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



Comments

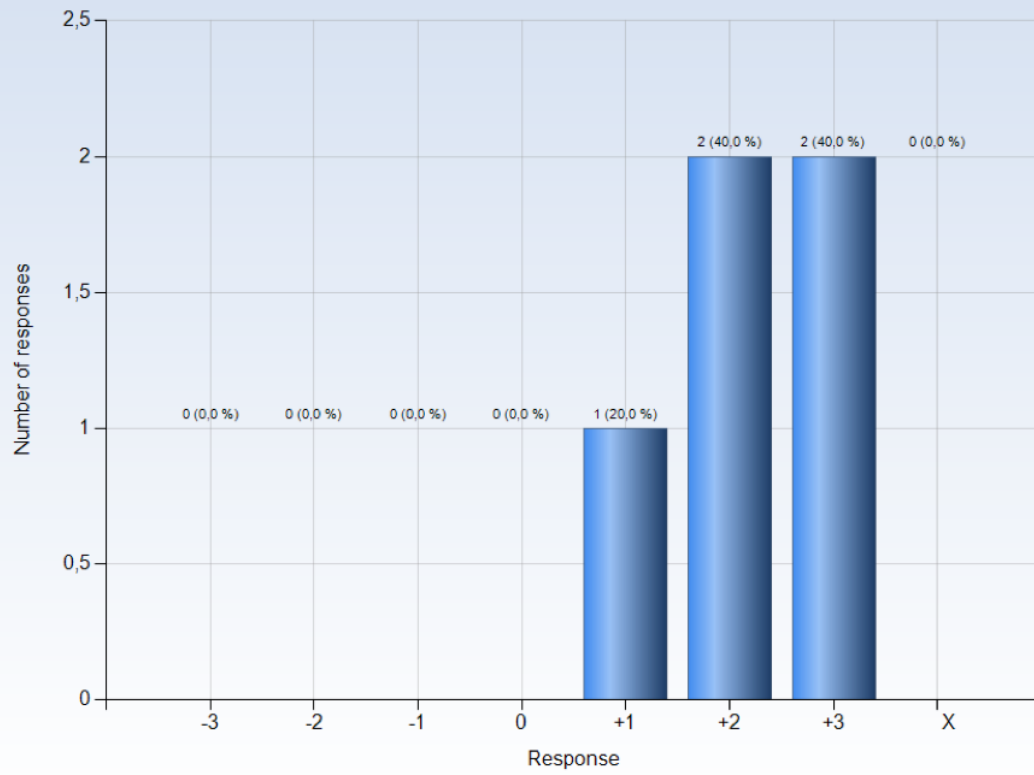
### 7. The intended learning outcomes helped me to understand what I was expected to achieve



#### Comments

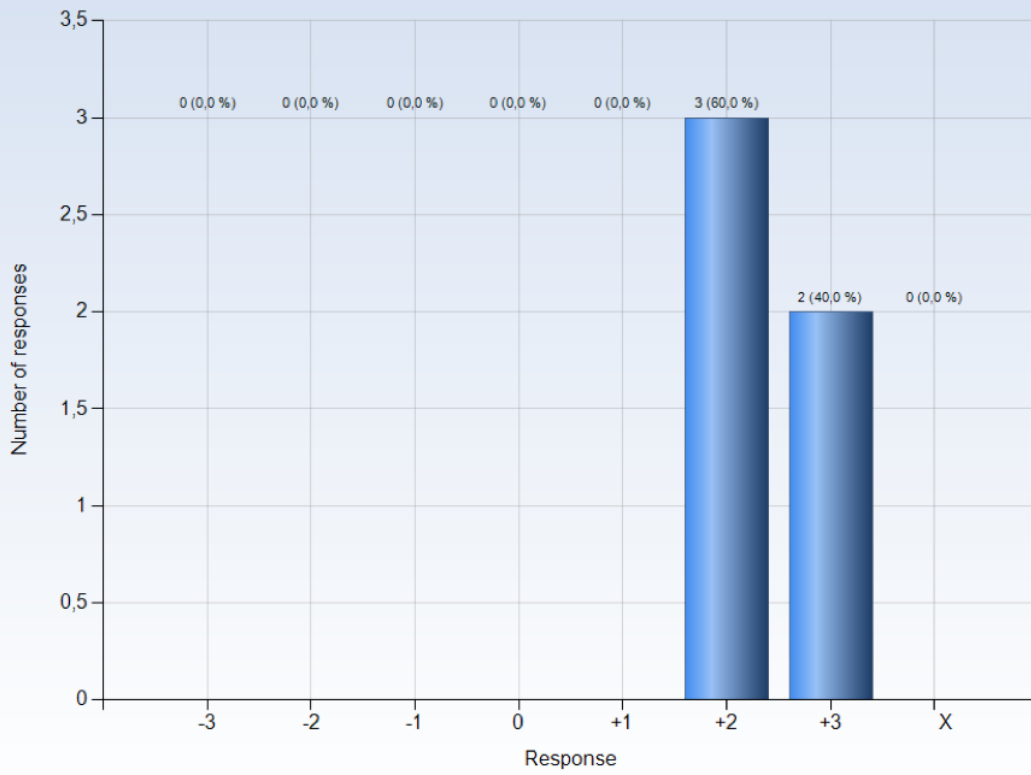
Comments (My response was: X )  
Don't understand question

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



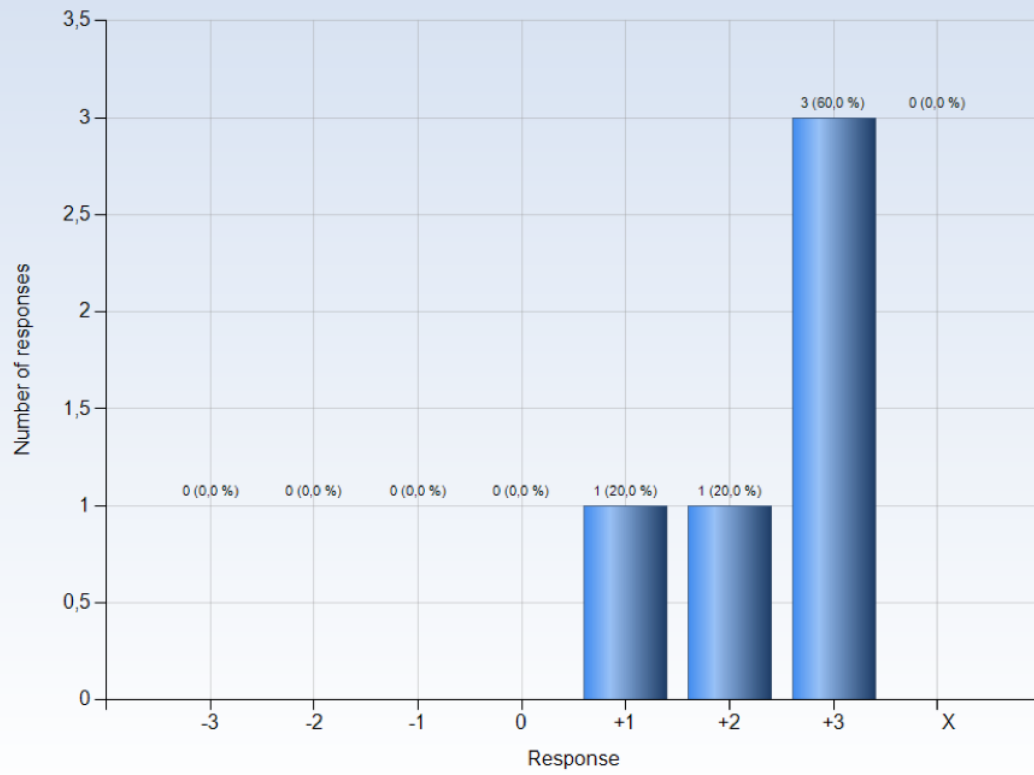
Comments

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



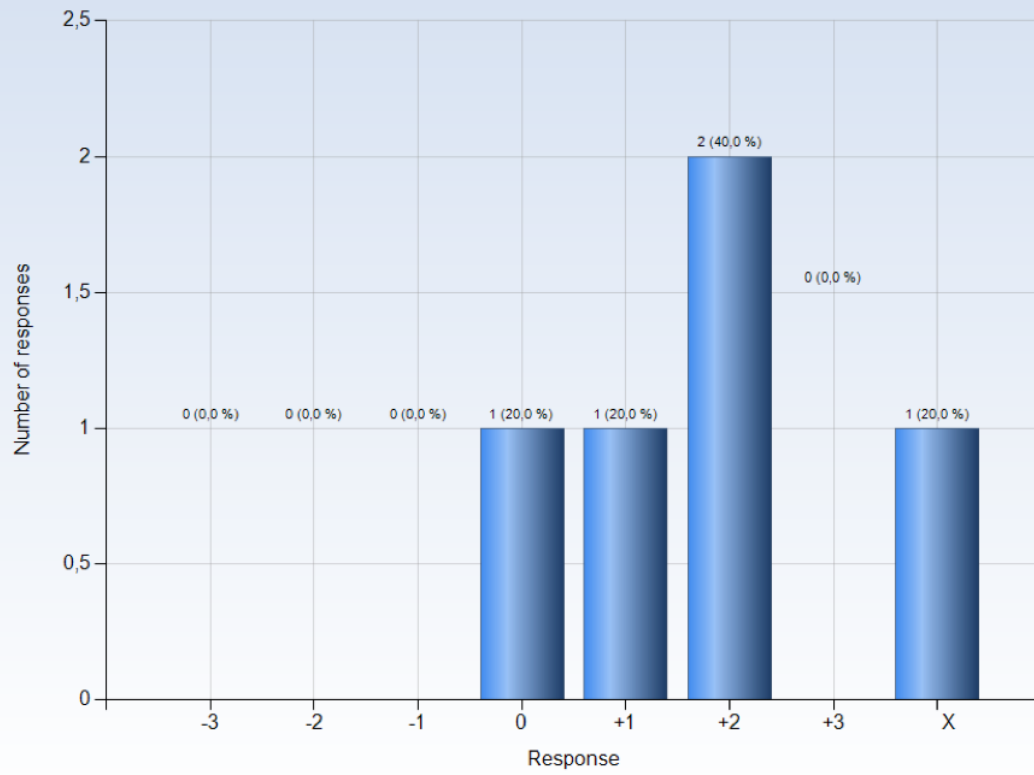
Comments

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



Comments

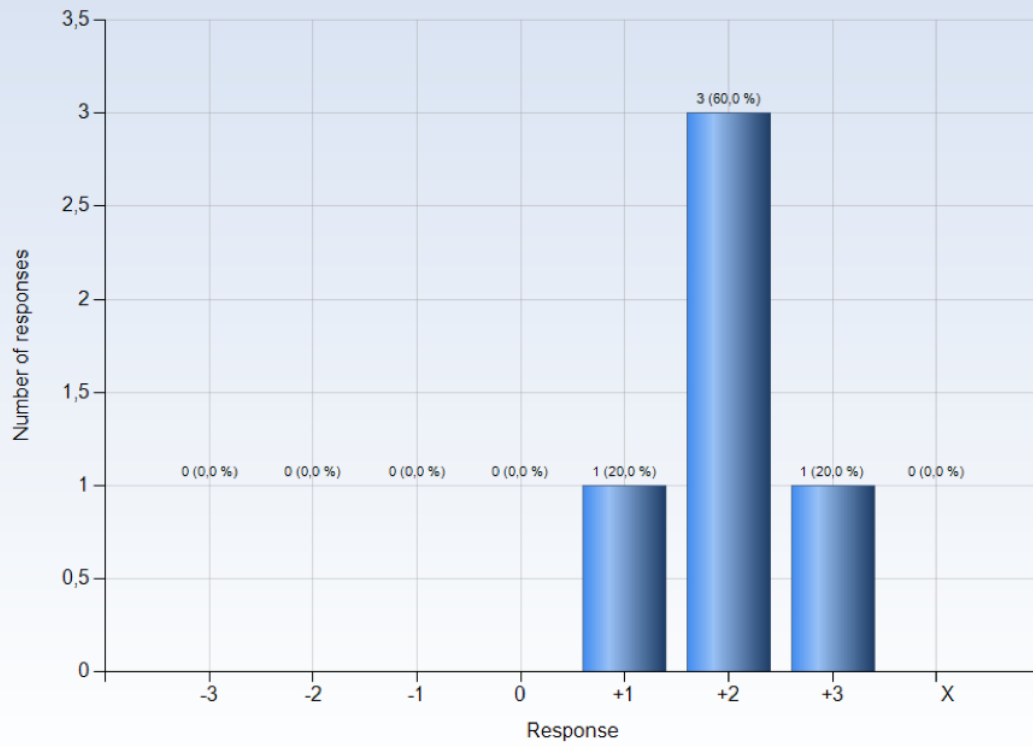
### 11. Understanding of key concepts had high priority



Comments

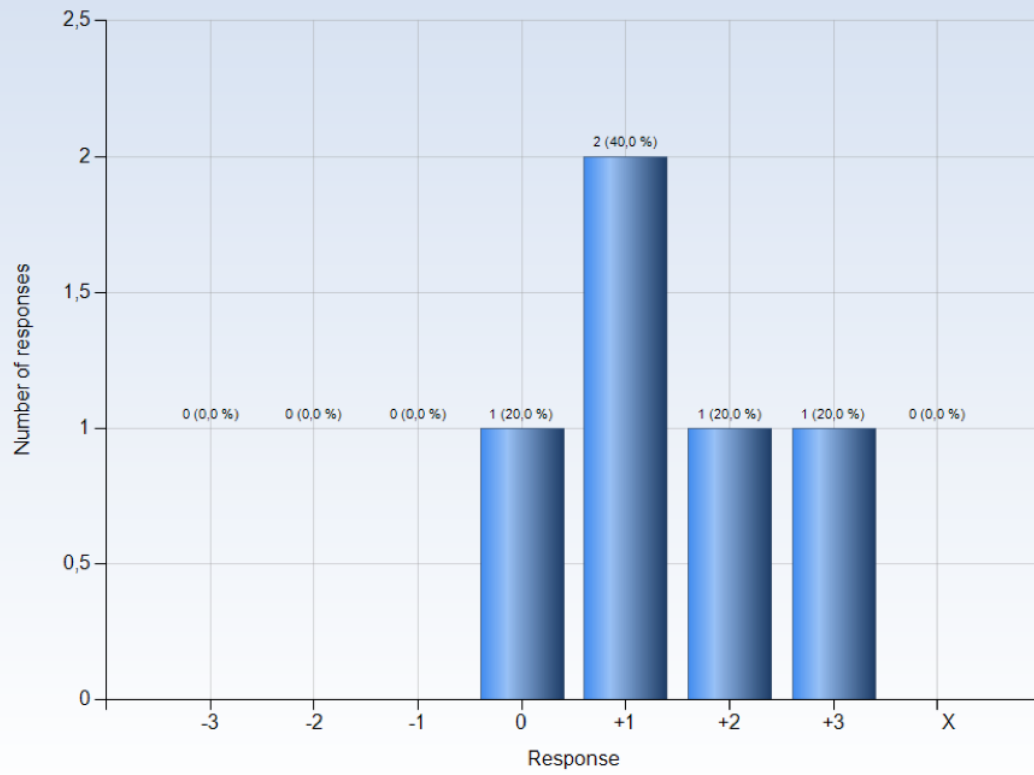


12. The course activities helped me to achieve the intended learning outcomes efficiently



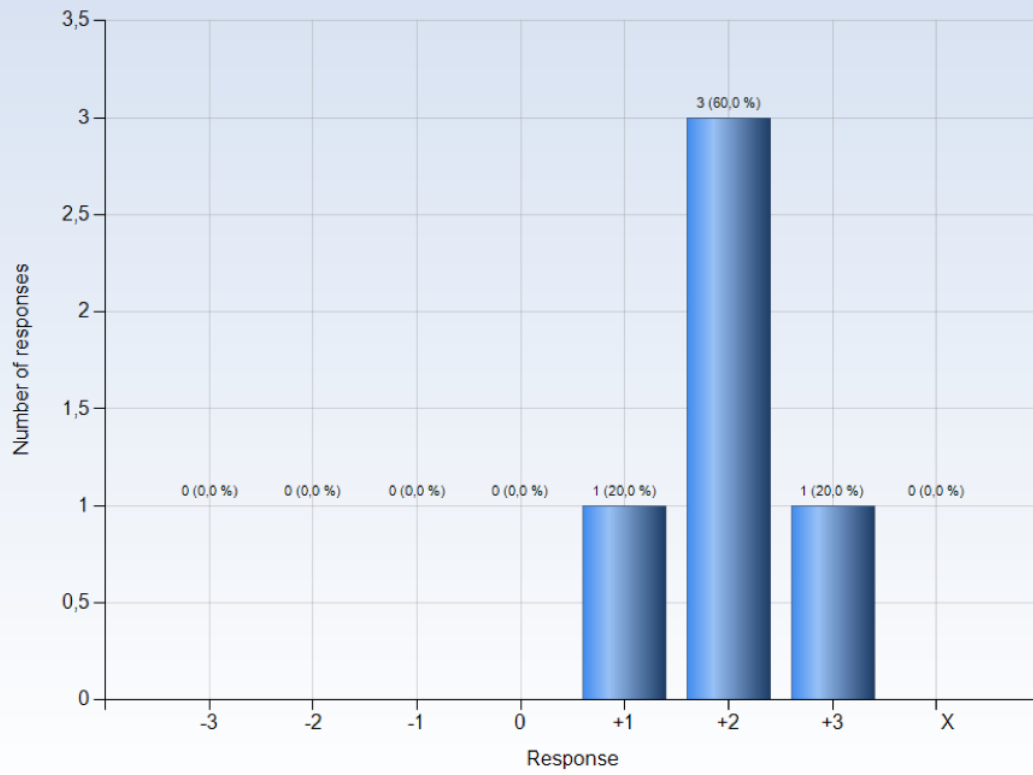
Comments

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



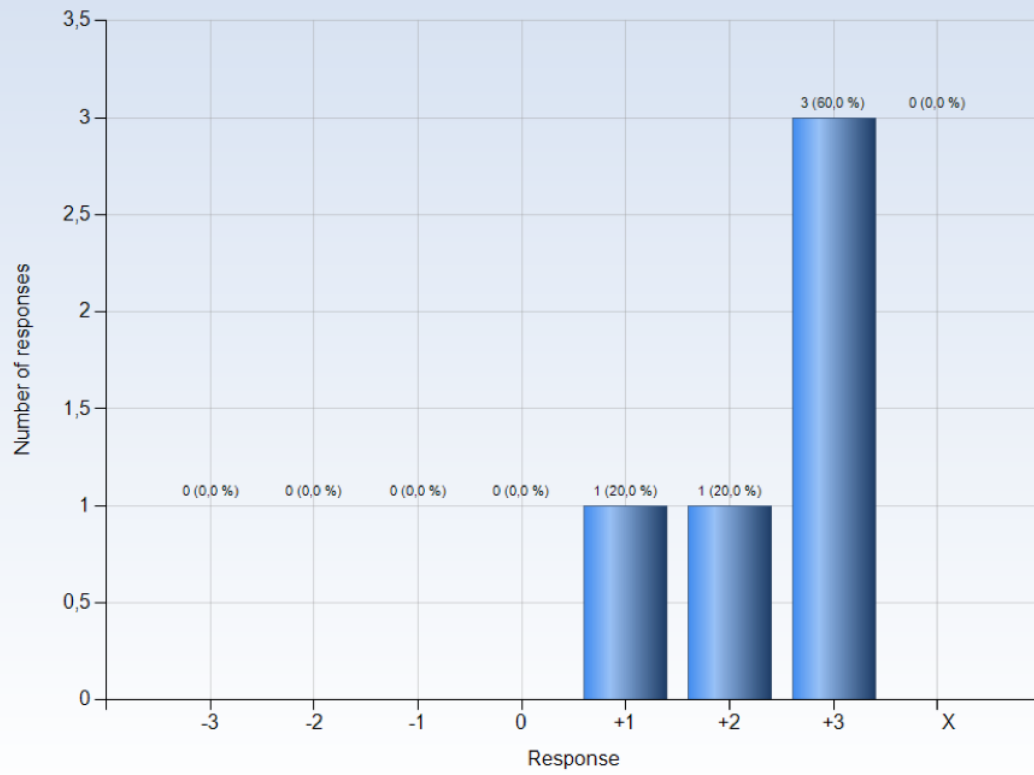
Comments

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



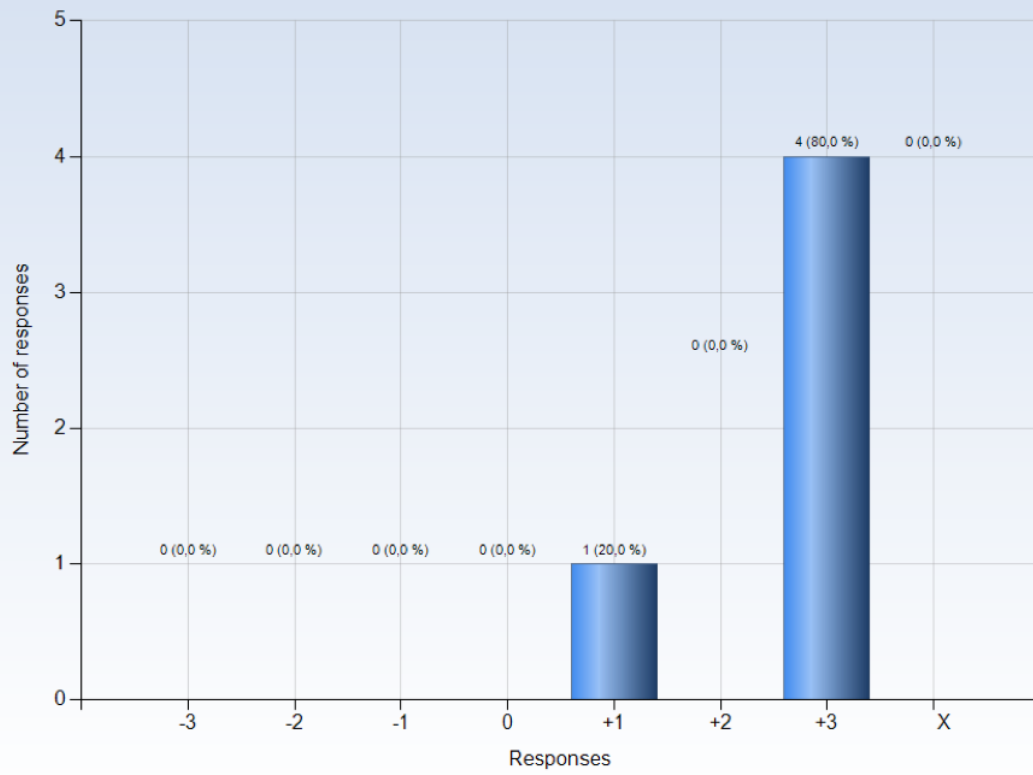
Comments

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



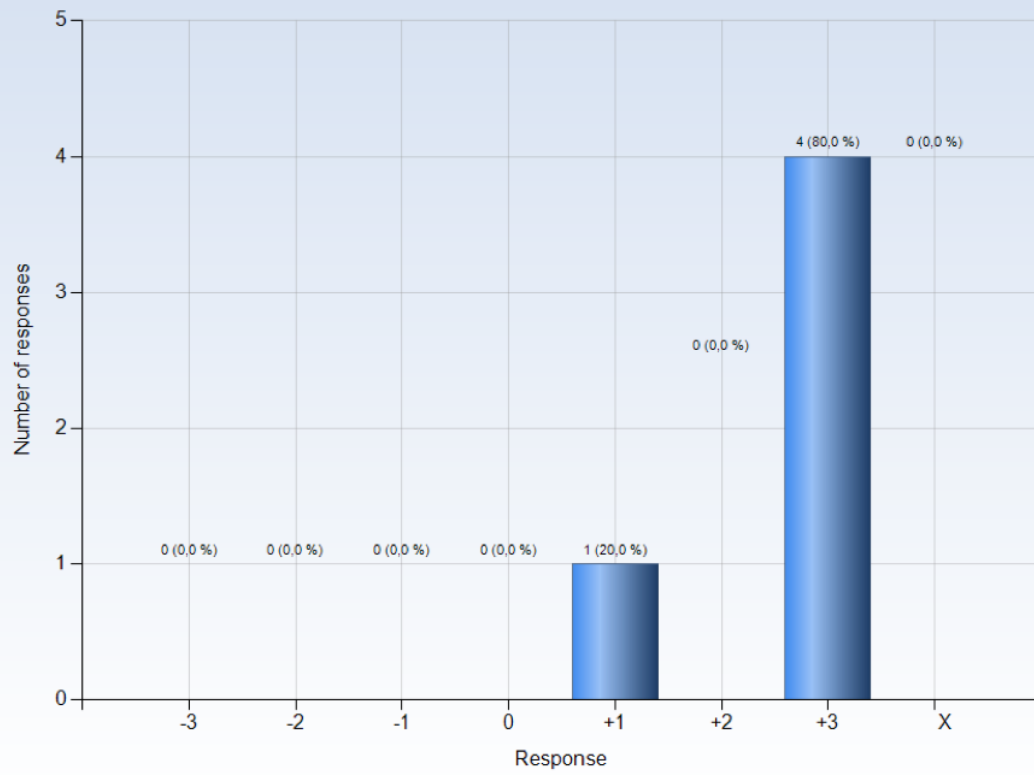
Comments

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



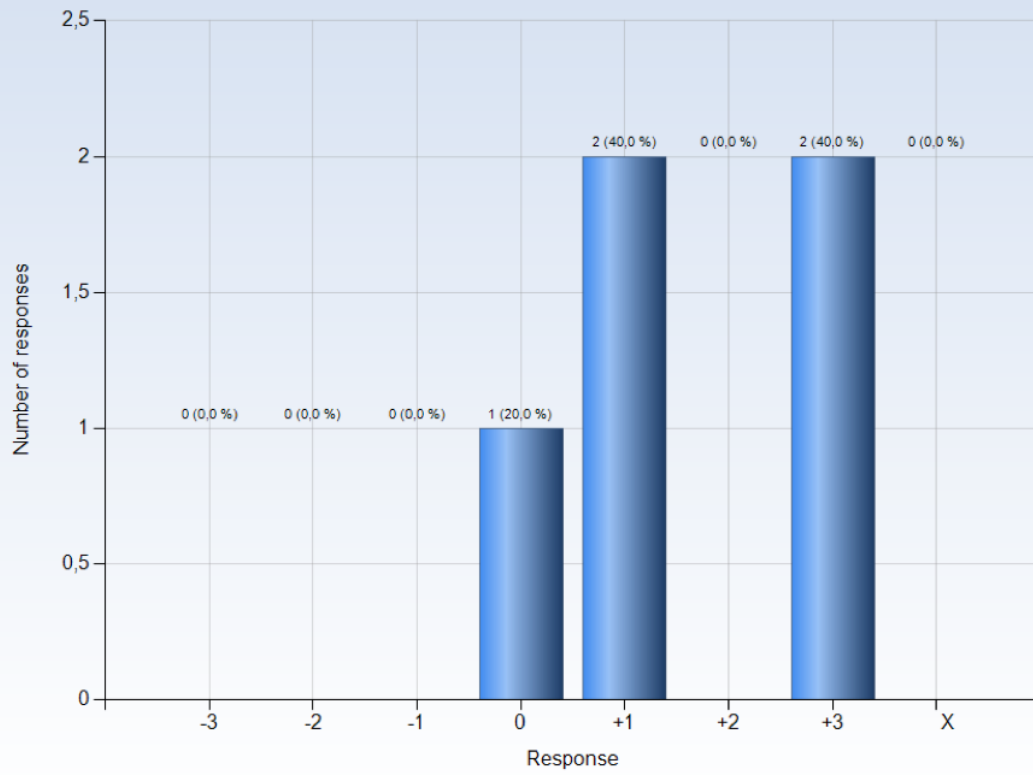
Comments

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



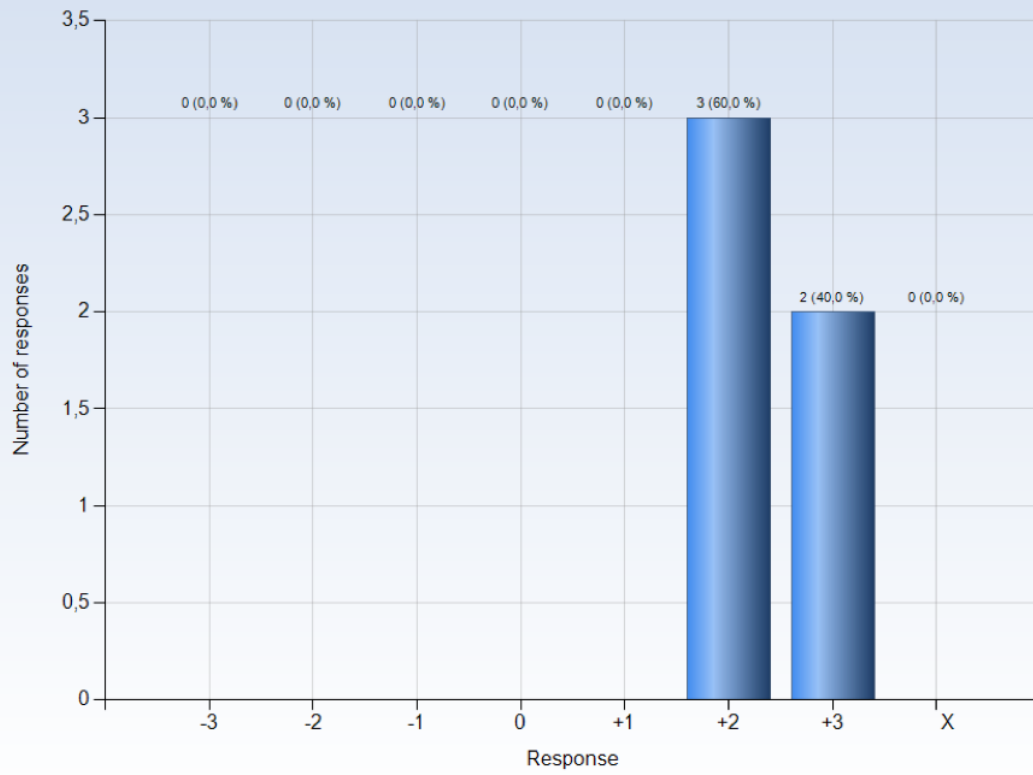
Comments

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



Comments

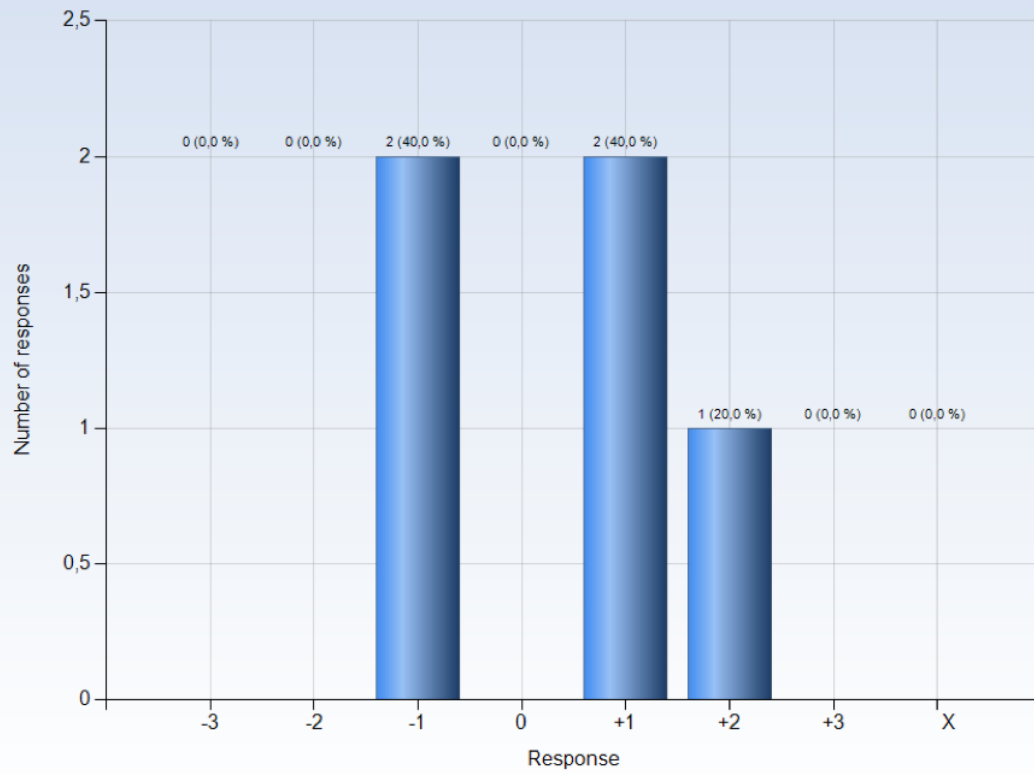
### 19. The course activities enabled me to learn in different ways



Comments

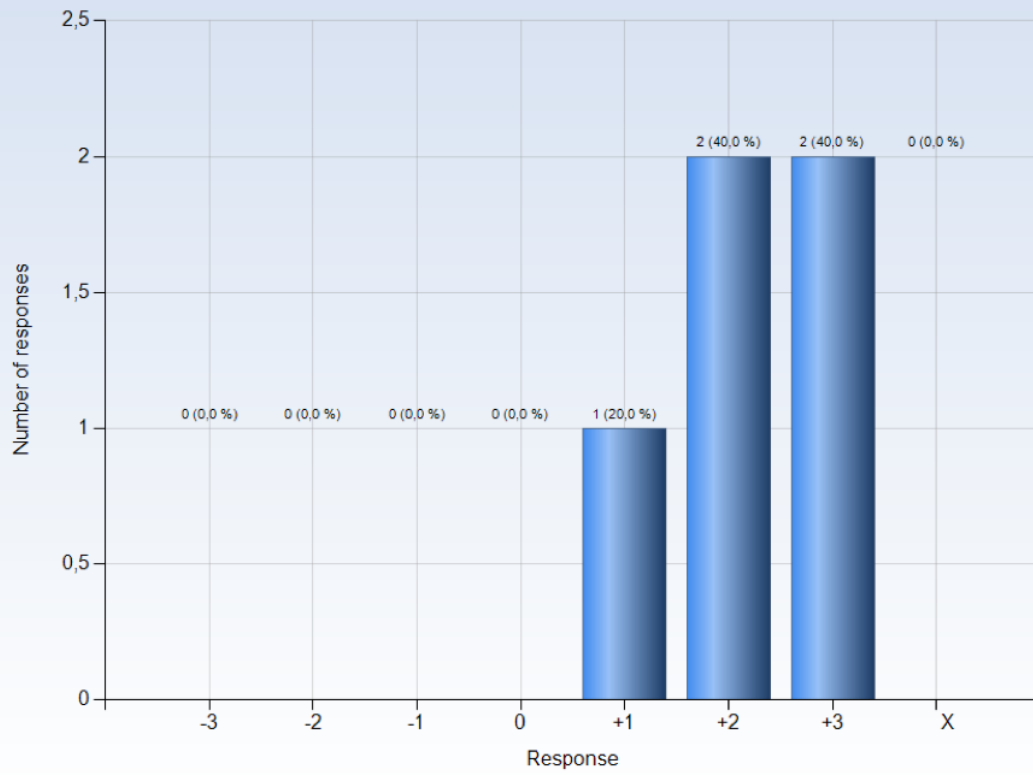


### 20. I had opportunities to influence the course activities



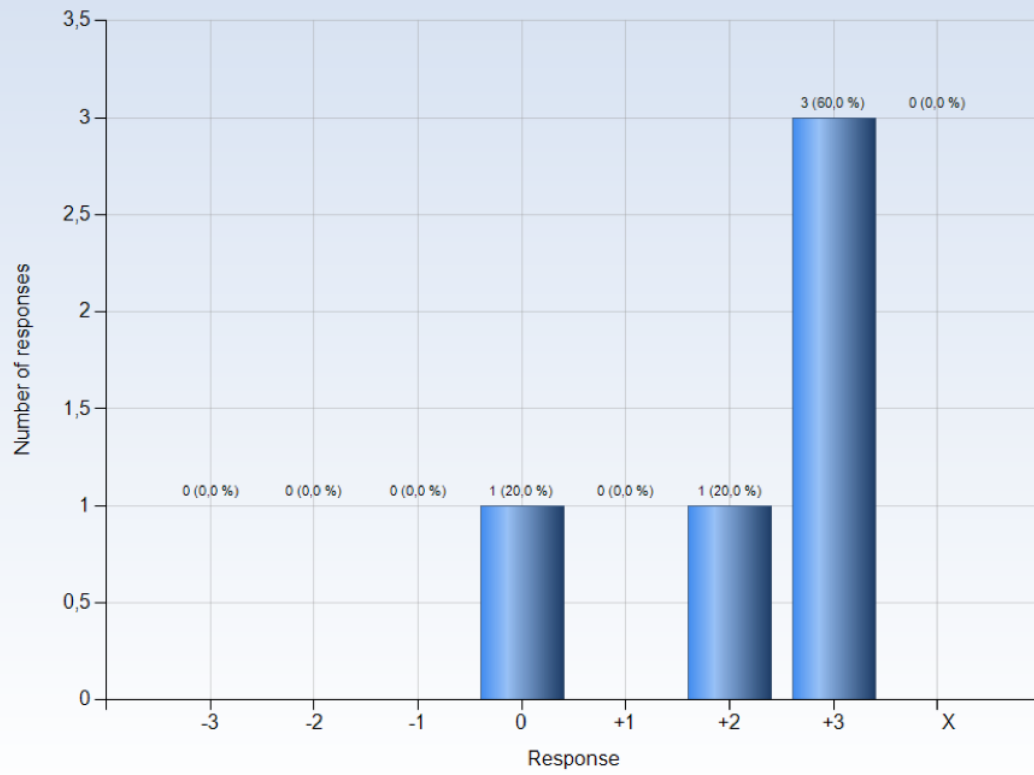
Comments

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



Comments

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



Comments