



## EL2320 - 2017-12-08

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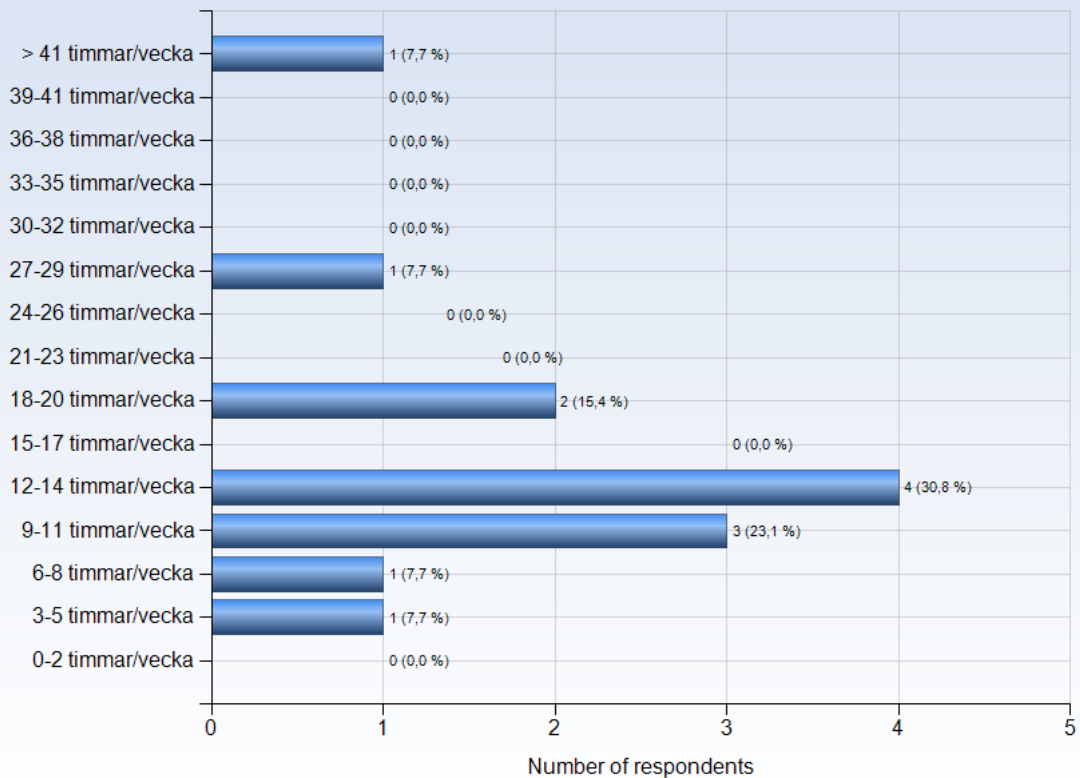
Antal respondenter: 71  
Antal svar: 13  
Svarsfrekvens: 18,31 %

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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)

a lot of the work was done in concentrated periods of time. During some weeks I did not do anything related to the course and other times I spent several days doing things like the project or the labs.

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

The work was mainly loaded into the labs and the project.

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

I spend a lot of time to read the book and other reference in order to understand what teacher mentions in the lecture

Comments (I worked: 27-29 timmar/vecka)

In my opinion, it will be better to slow the pace of this course.

Comments (I worked: > 41 timmar/vecka)

I don't know, so I'll pick >41 just to mess with the statistics. ;)



## 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:

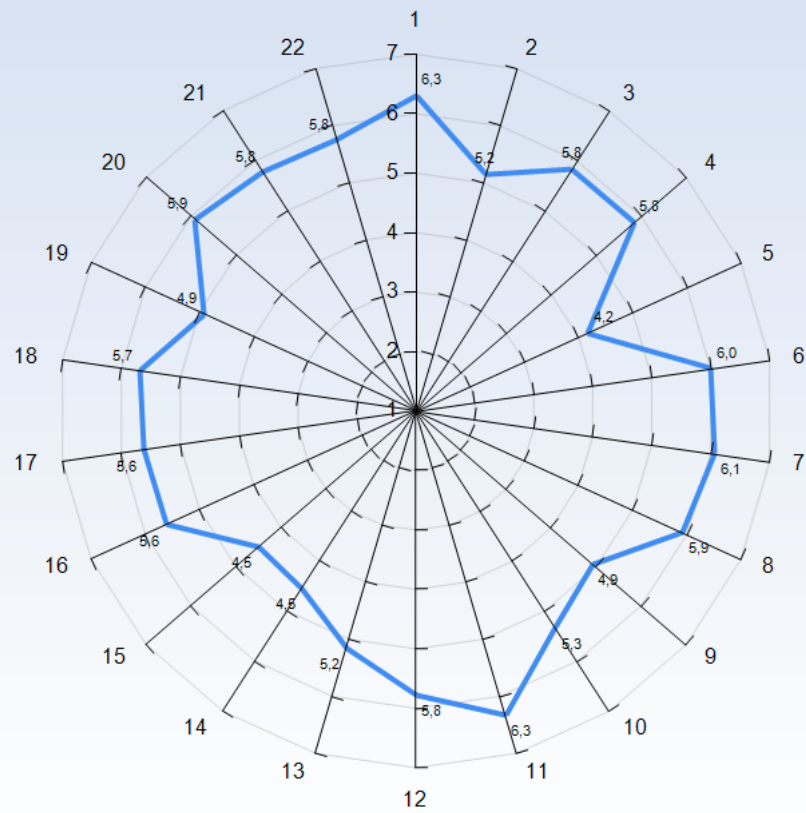
1 = No, I strongly disagree with the statement

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 v3.1.3**

### **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. I understood how the course was organized and what I was expected to do (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 choices*

19. I was able to learn in a way that suited me (m)

20. I had opportunities to choose what to do (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, intriguing or important
- b) We can speculate, try out 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 yet supportive environment
- d) We feel that we are part of a community and believe that other people have faith 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 sufficient background knowledge to manage the present learning situation
- g) We can learn inductively by moving from specific examples and experiences to general principles, rather than the other way around
- h) We are challenged to develop a proper understanding of key concepts and successively create a coherent whole of the content
- i) We believe that the work we are expected to do will help us to reach the intended learning outcomes
- j) We can try, fail, and receive feedback in advance of and separate from any summative judgment of our efforts
- k) We believe that our work will be considered fairly and honestly
- l) We have sufficient time to learn and devote the time necessary to do so



m) We believe that we are in control of our own learning, not manipulated

n) We can work collaboratively 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.

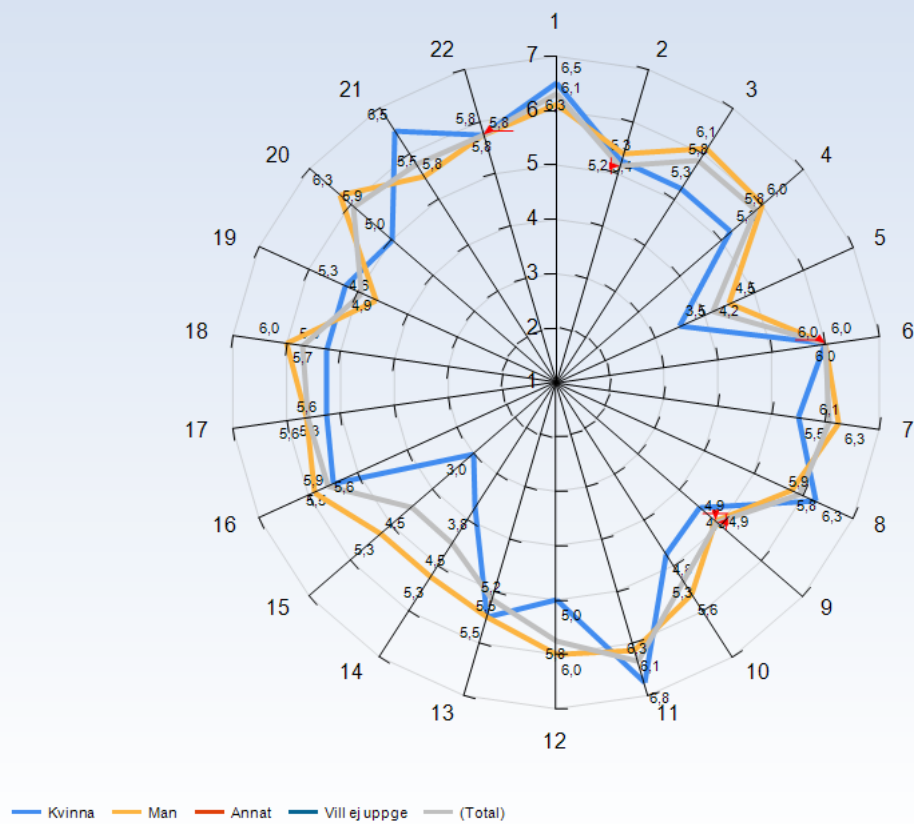
Elmgren, M. & Henriksson, A-S. (2014). *Academic Teaching*, Chapter 3, pp. 57-72. Lund: Studentlitteratur.

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

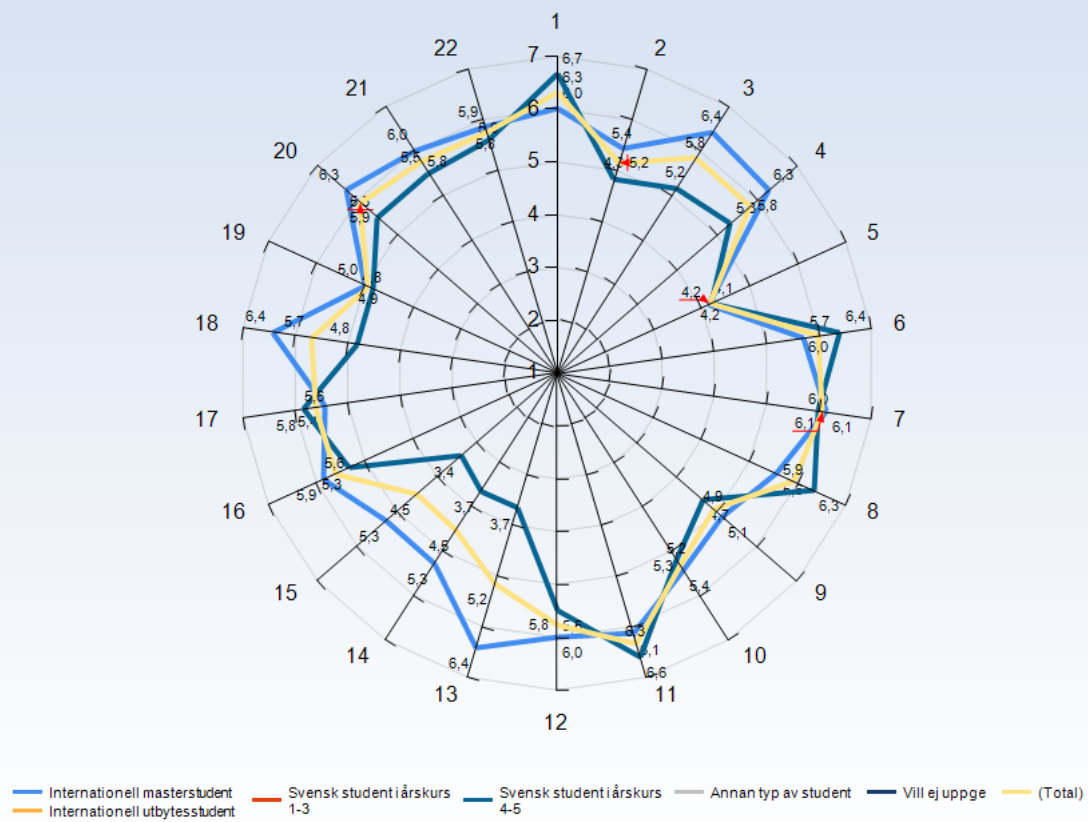


### Comments

Comments (I am: Annat)

I identify as a 1/4" chrome vanadium steel wrench.

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



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: 6-8 timmar/vecka)

The contents and lecturer. I think John presented the material nicely and put a lot of focus on conceptual things as opposed to just equations (he knew when to skip a lot of complicated derivations and when to focus on the math). I also very much enjoyed the project guidelines and tips - it made structuring the project a lot easier and is definitely something I will revisit for future reports! I also think the exam was of the right size and difficulty considering all the other parts of the course.

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

The lectures were very comprehensive. The course (lectures, assignments and tutorials) were well organized.

The subject, the labs and I personally found the lectures to be fun and engaging, albeit the presentation was sometimes a little confusing.

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

labs and project

The balance between theory and application. Especially applied statistics.

The labs are well designed for understanding the key concepts

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

Pretty comprehensive discussions about the topic. Lots of materials available to get further understandings.

KF, EKF and PF are good to know.

What was the best aspect of the course? (I worked: 27-29 timmar/vecka)

KF PF SLAM

I have learned many useful knowledge.

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

John Folkesson is a great lecturer.

### What would you suggest to improve?

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

Perhaps I would like to have seen a little bit more diverse examples of usecases for the methods discussed in the course. Robot localisation was used as the main example throughout most of the lectures.

Some parts of the labs were hard to understand - I feel like I was able to pass the labs by implementing the algorithms as given in the text, but not fully understanding how they really worked. On the other hand, when working on the project at end of the course, I felt a greater understanding of the material.

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

Regarding the project, incorporating one or two project help sessions will be quite helpful for the students.

The lecture slides contained a lot of information and I feel they could be improved on. Although this is a symptom of P2 in general; I feel like the project suffered from going over the Christmas break. In particular in a very international master's course like this one it becomes extra difficult since a lot of people tend to travel home over the break.

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

lectures are hard to follow and I would like practise exercises

The lectures felt a bit messy. I often felt that I lost track of what was being discussed and why it was discussed. The double lectures in the mornings probably didn't help with this.

I'm also a bit skeptical of the extensive code framework for the labs. On one hand it's really nice to have a test suite and a basic structure handed to me, but at the same time I felt like I could go through the labs without really understanding how the different parts connected to each other.

Personal suggestion: set the ddl for the project earlier so that it won't intersect with courses in the next period

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

SLAM topic was untouched for the exam. The exam was relatively too easy compared to the lectures, which makes understandings about those topics too very comprehensive.

I would suggest that notation is clear and same with book. We need some concrete examples to know what KF, EKF and PF algorithms are. It is very helpful if you provide examples like exams' calculation questions. The content of the lecture is too abstract to understand. A lot of equations but few examples.

What would you suggest to improve? (I worked: 27-29 timmar/vecka)

Slow the pace

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

Perhaps not to use Matlab, but instead Python3. Would however be problematic for some students.



### 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)

Begin working with the labs and project in time.

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

Start with the project early. Leave at least a week to write the rapport.

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

focus on labs

Make sure your probability theory is up to date.

Read the book

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

Read the book before attending the lecture really helps a lot to follow.

Probability theory and Matlab programming are highly needed.

What advice would you like to give to future participants? (I worked: 27-29 timmar/vecka)

Spend more time to preview the content.

Otherwise it will be difficult for you to follow.

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

Make sure you understand KF and PF before starting each lab.

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

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

Overall this was a fun course! Would recommend to friends.

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

Thank you for the course and John is a legend.

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

no

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

None

## 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:

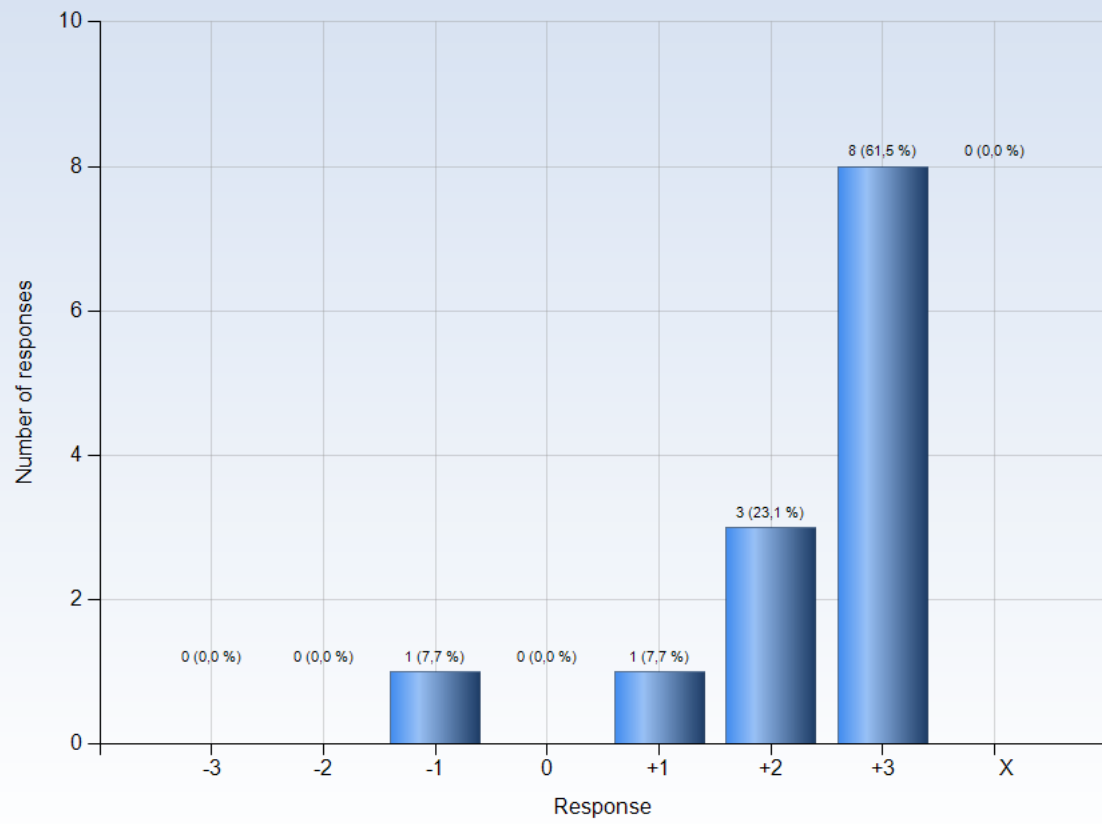
-3 = No, I strongly disagree with the statement

0 = I am neutral to the statement

+3 = Yes, I strongly agree with the statement

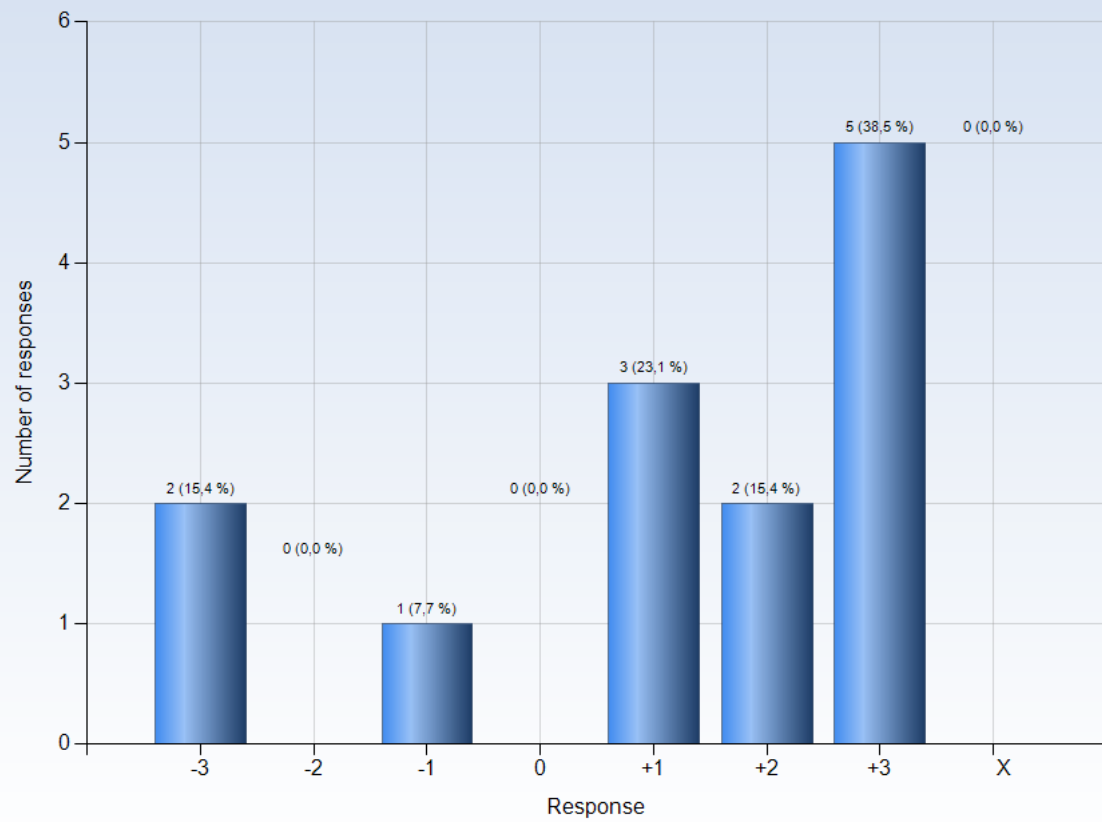
X = I decline to take a position on the statement

### 1. I worked with interesting issues



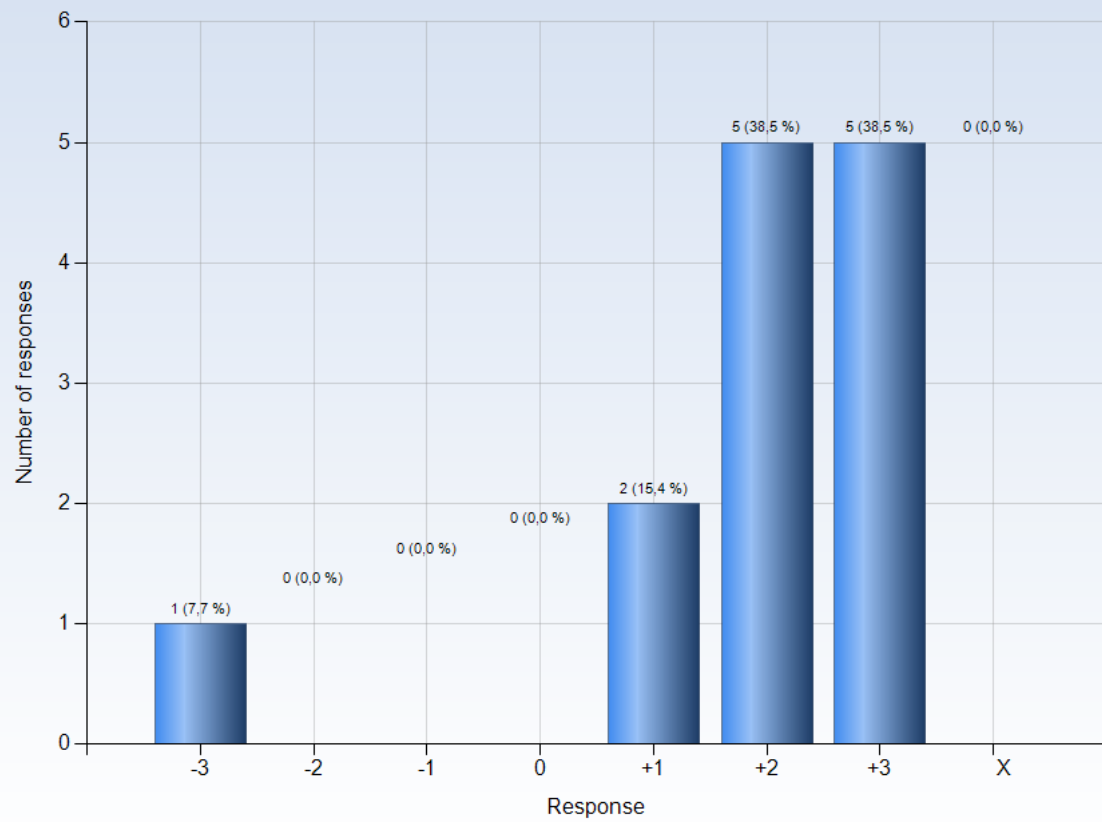
Comments

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



Comments

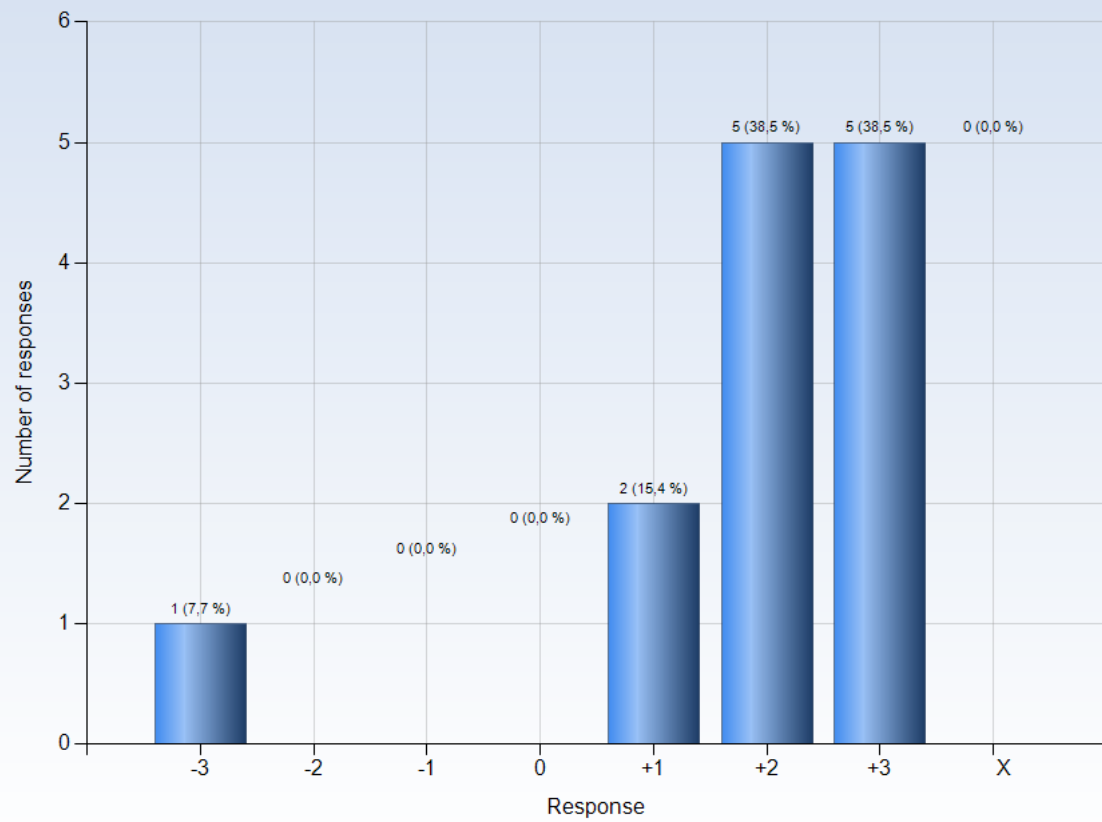
### 3. I was able to learn by trying out my own ideas



Comments

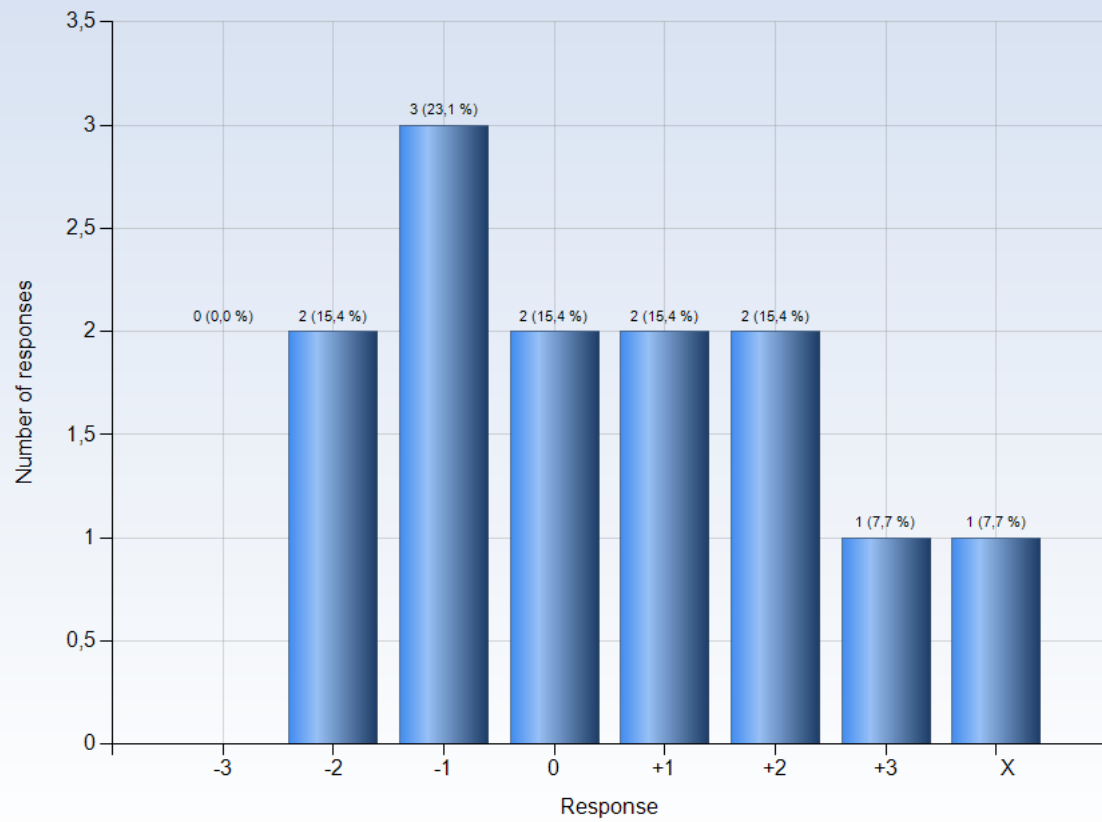


#### 4. The course was challenging in a stimulating way



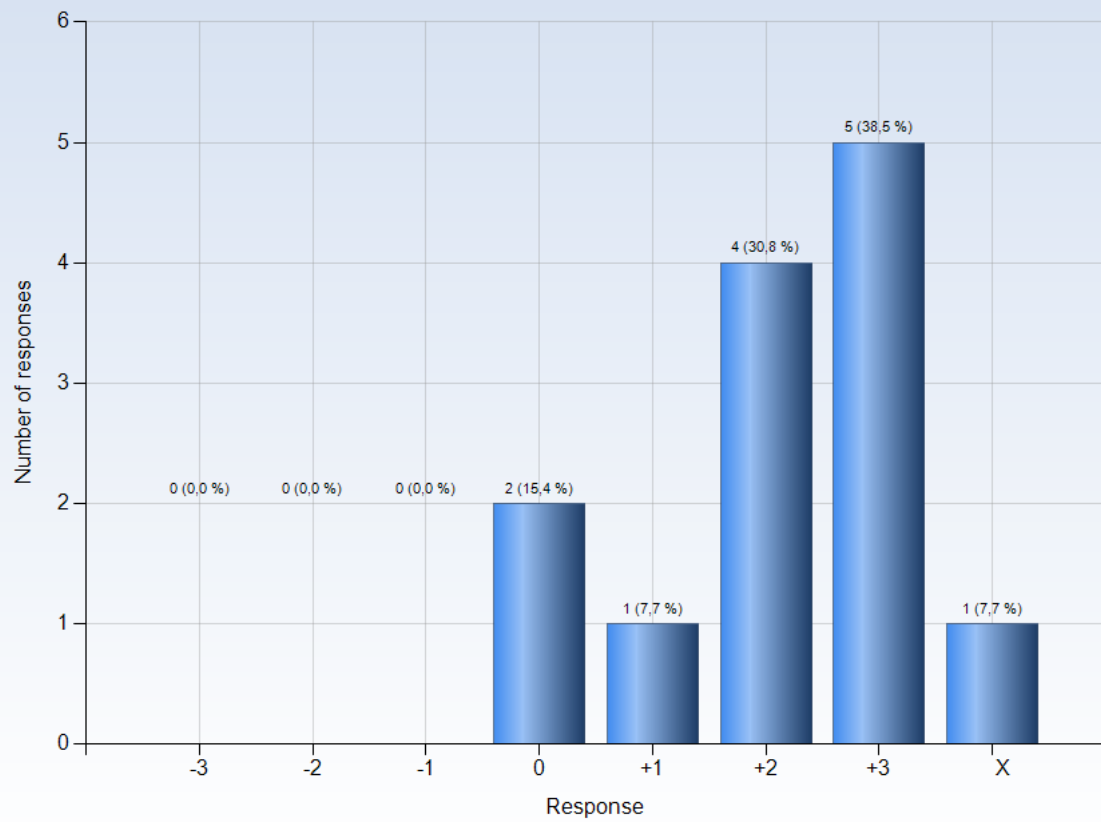
Comments

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



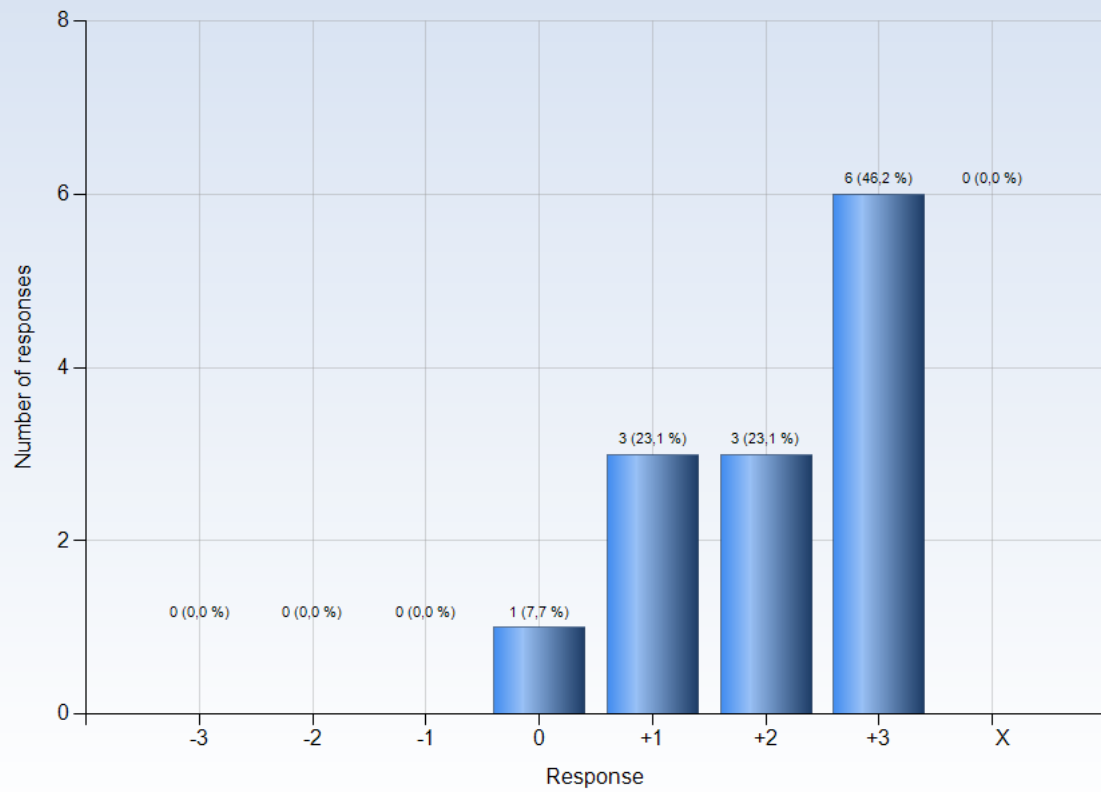
Comments

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



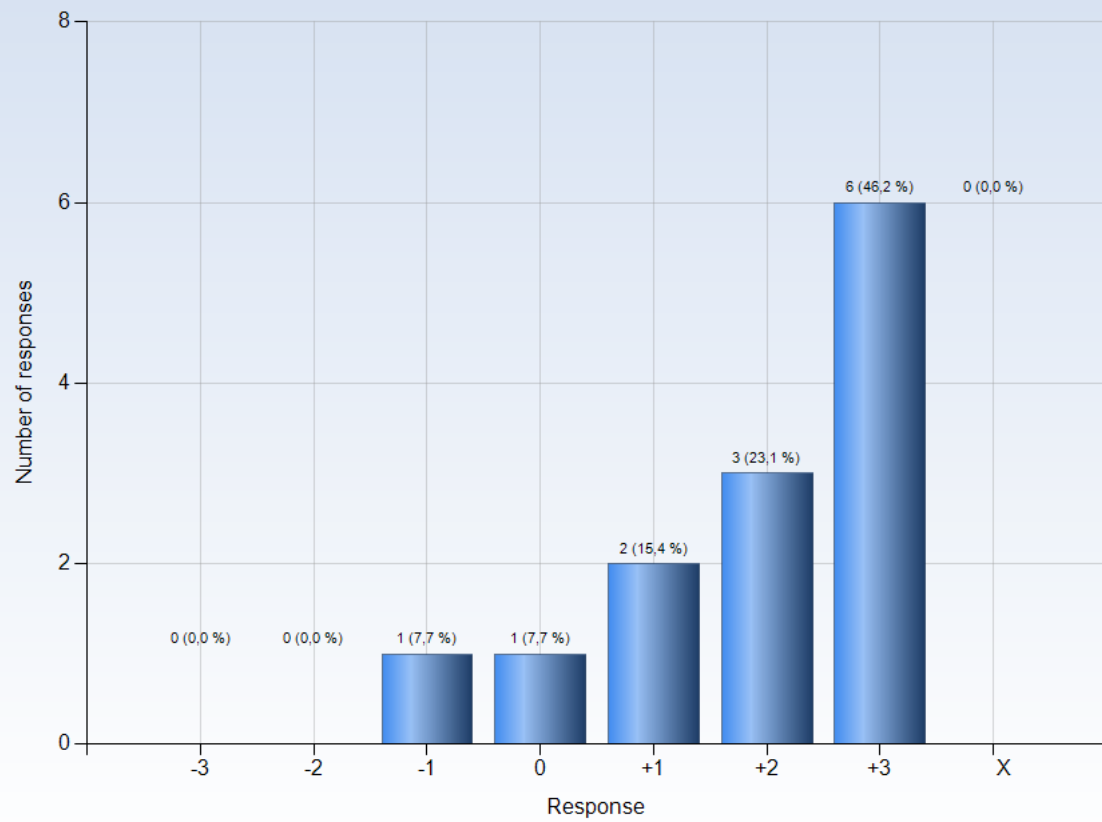
Comments

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



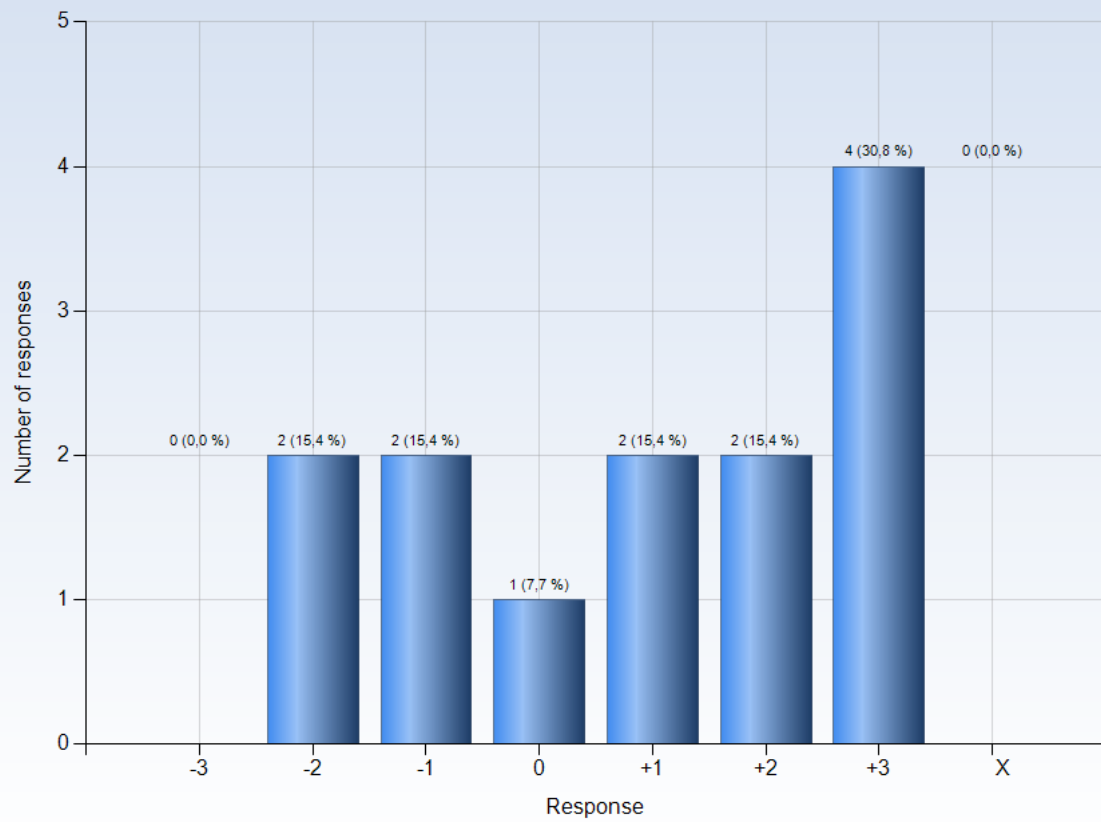
Comments

8. I understood how the course was organized and what I was expected to do



Comments

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

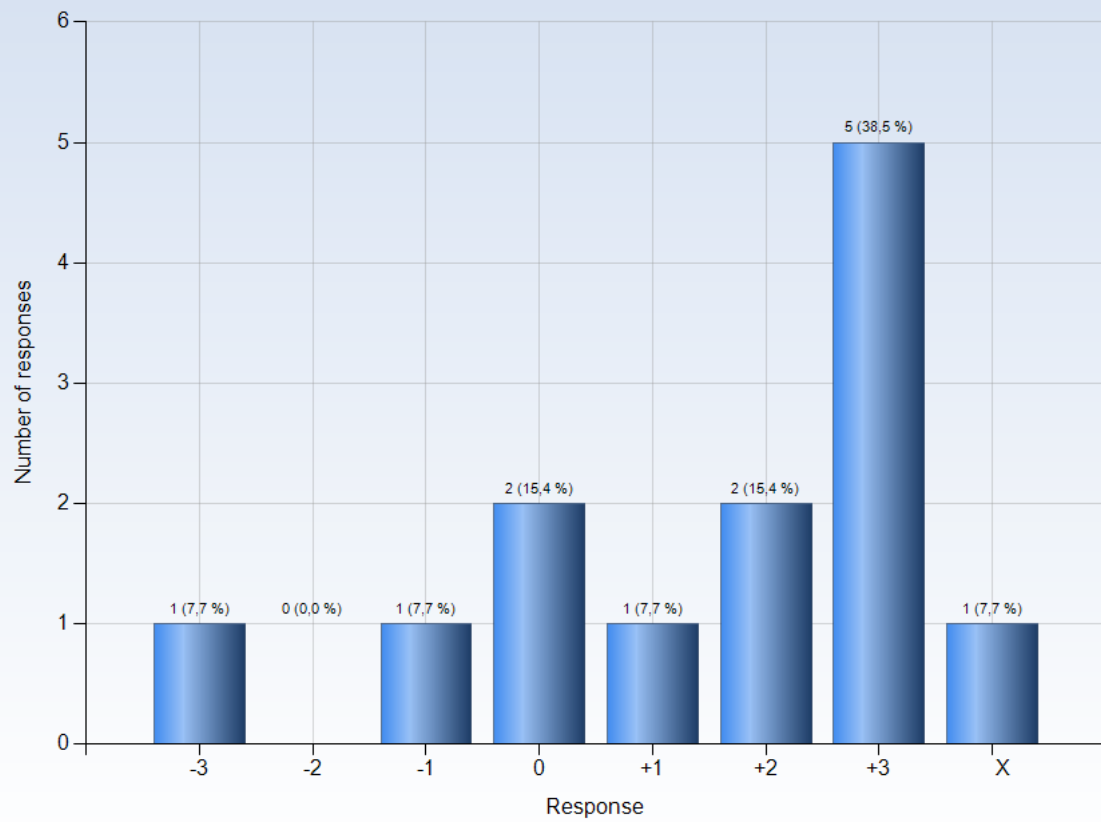


#### Comments

Comments (My response was: -2)

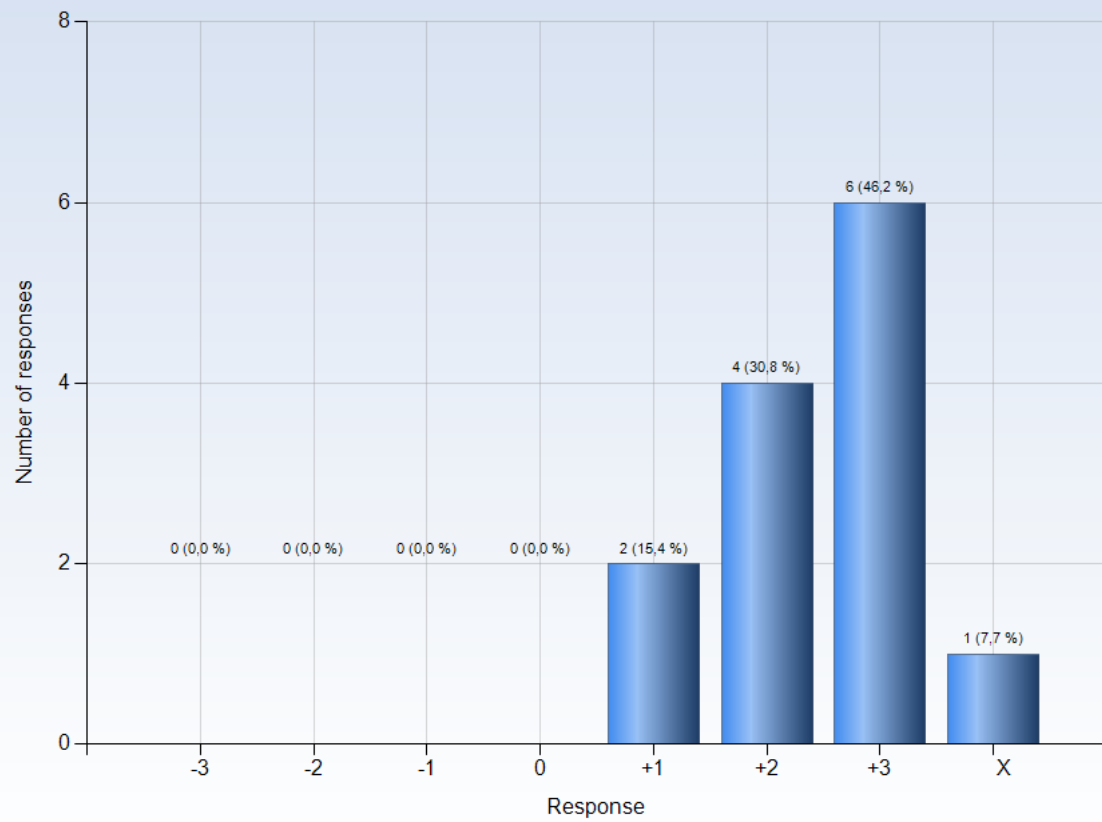
the lectures were hard to follow. but the book was good.

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



Comments

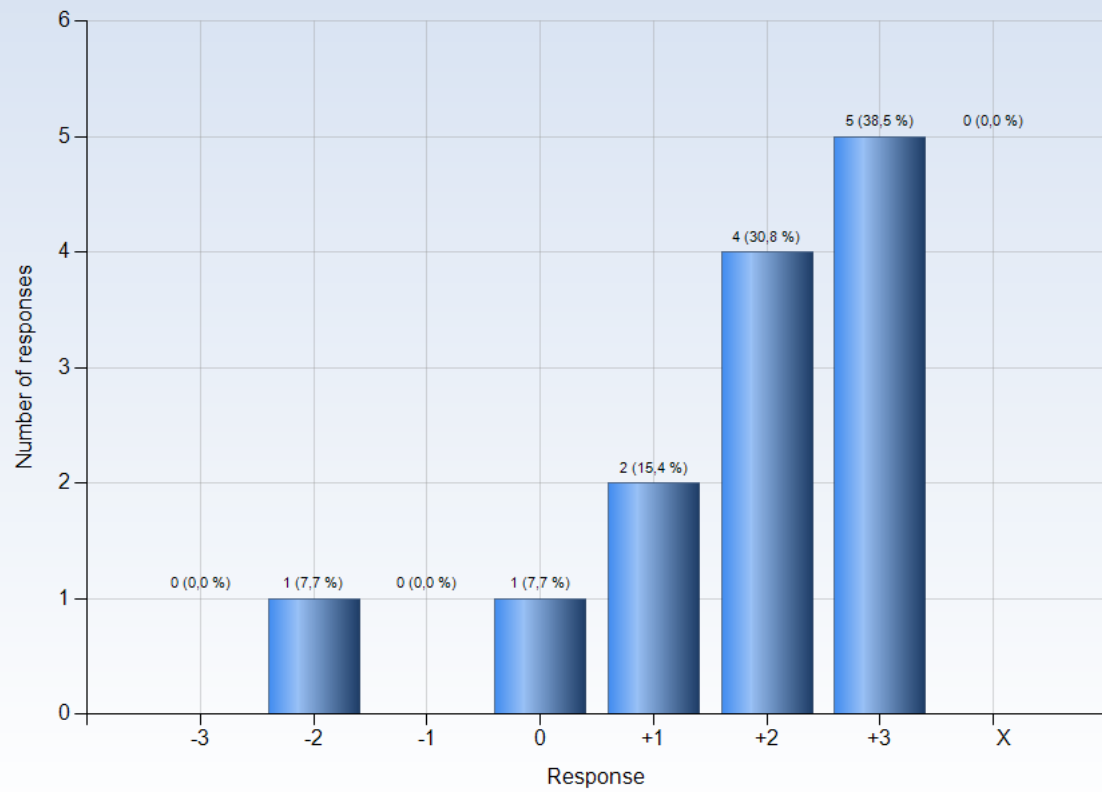
### 11. Understanding of key concepts had high priority



Comments

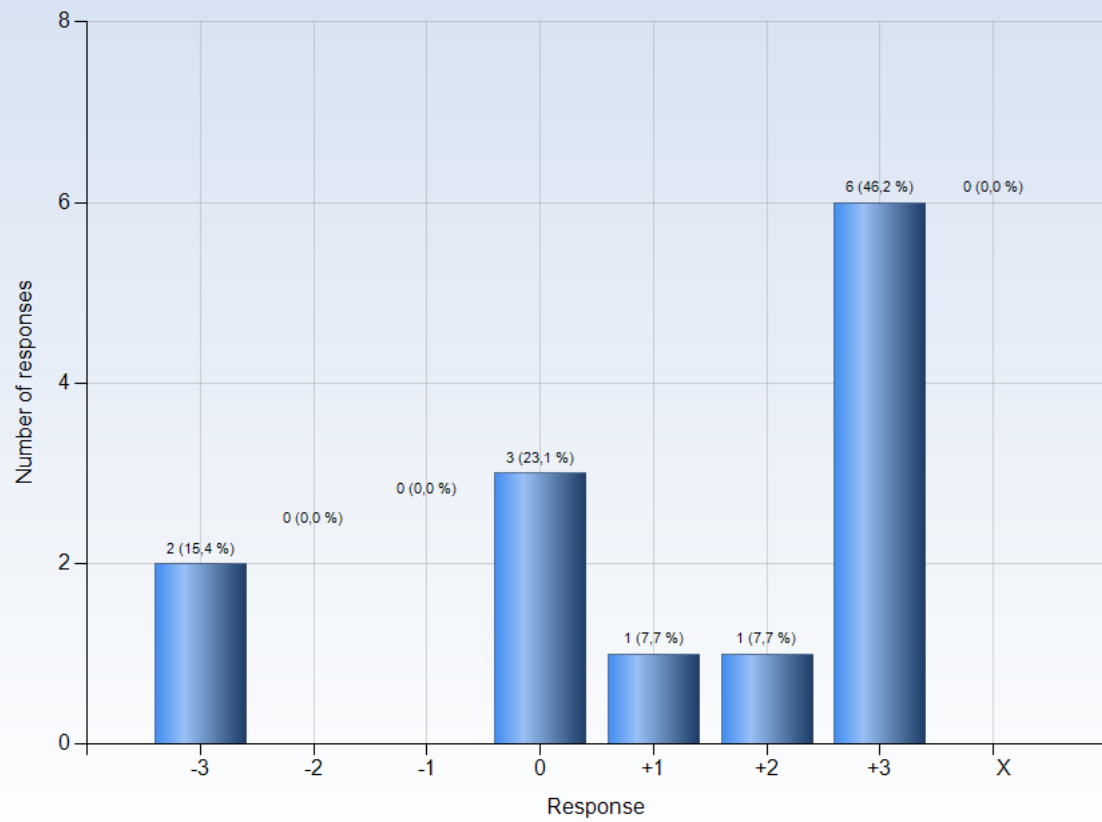


12. The course activities helped me to achieve the intended learning outcomes efficiently



Comments

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

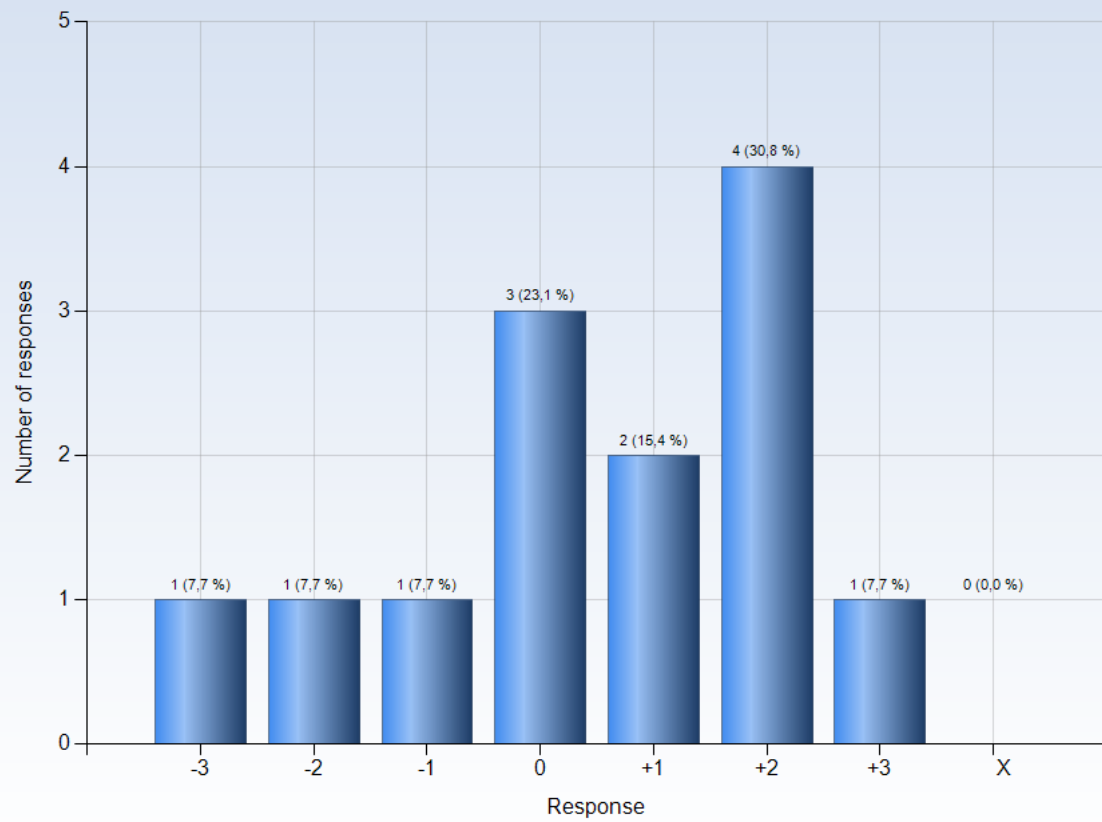


#### Comments

Comments (My response was: 0)

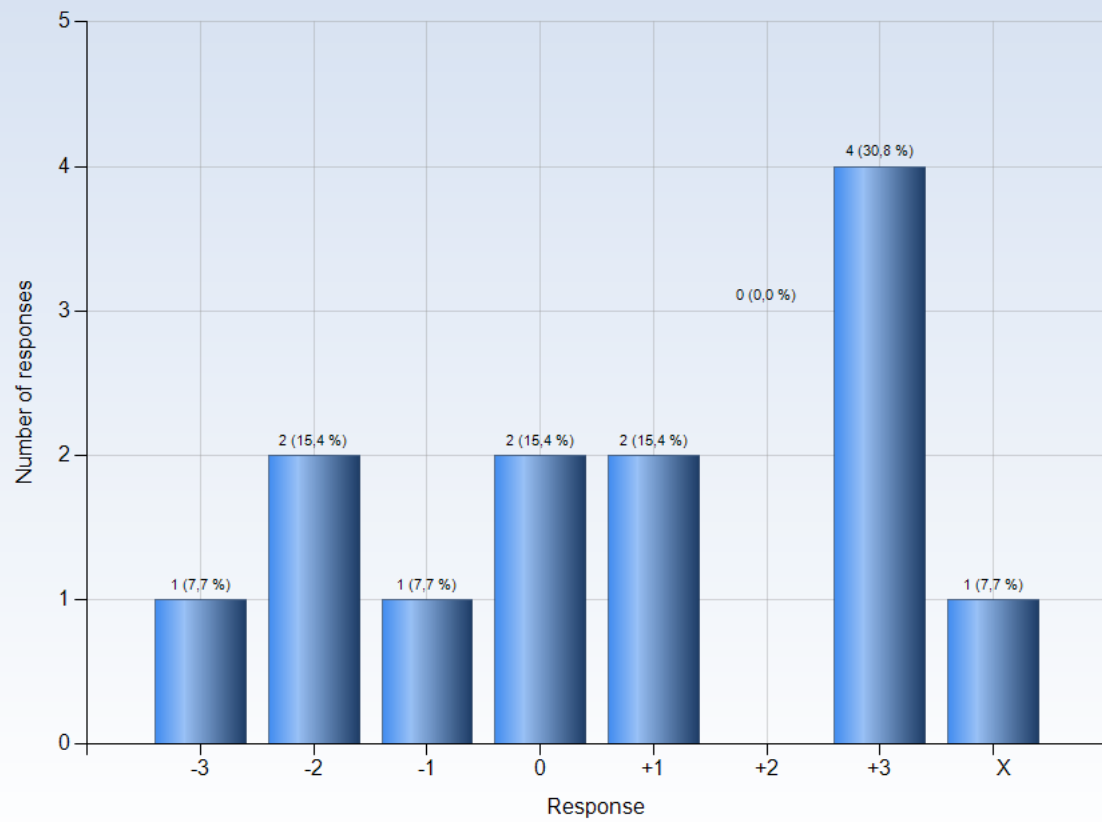
Not quite clear how to get higher grades on the project.

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



Comments

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

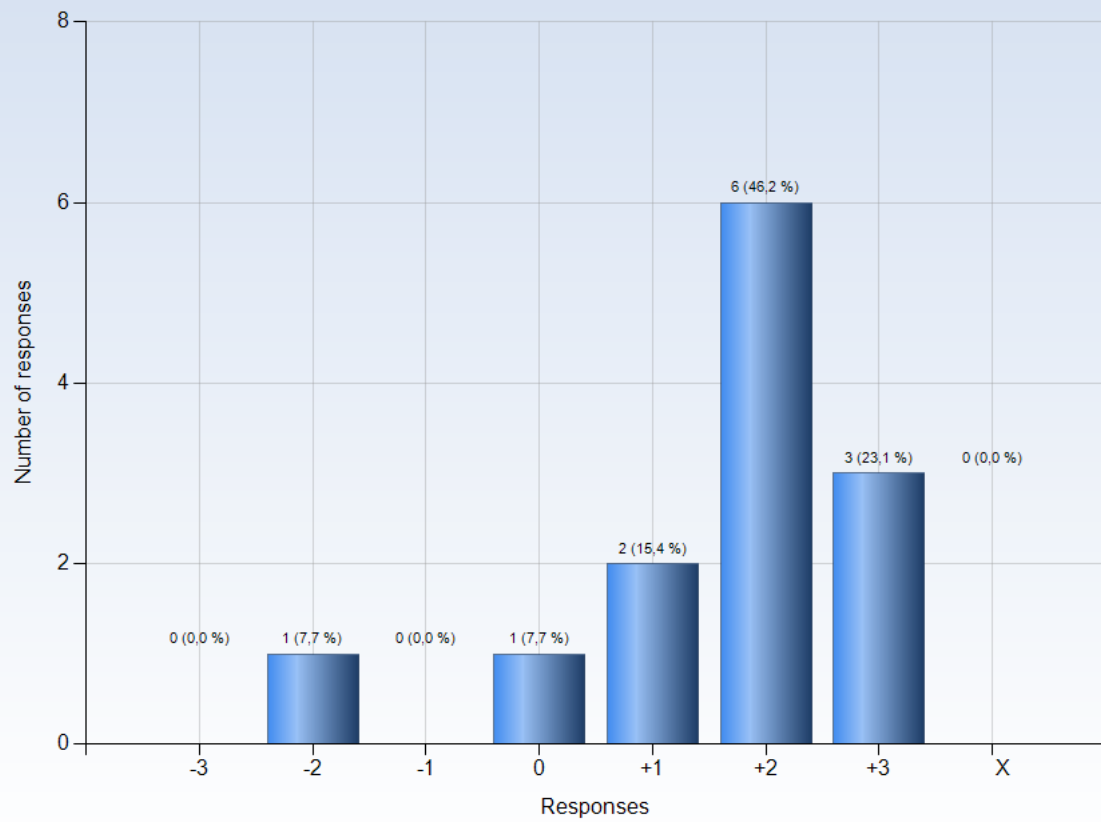


#### Comments

Comments (My response was: -2)

I would had liked a compendium with practise exercises

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

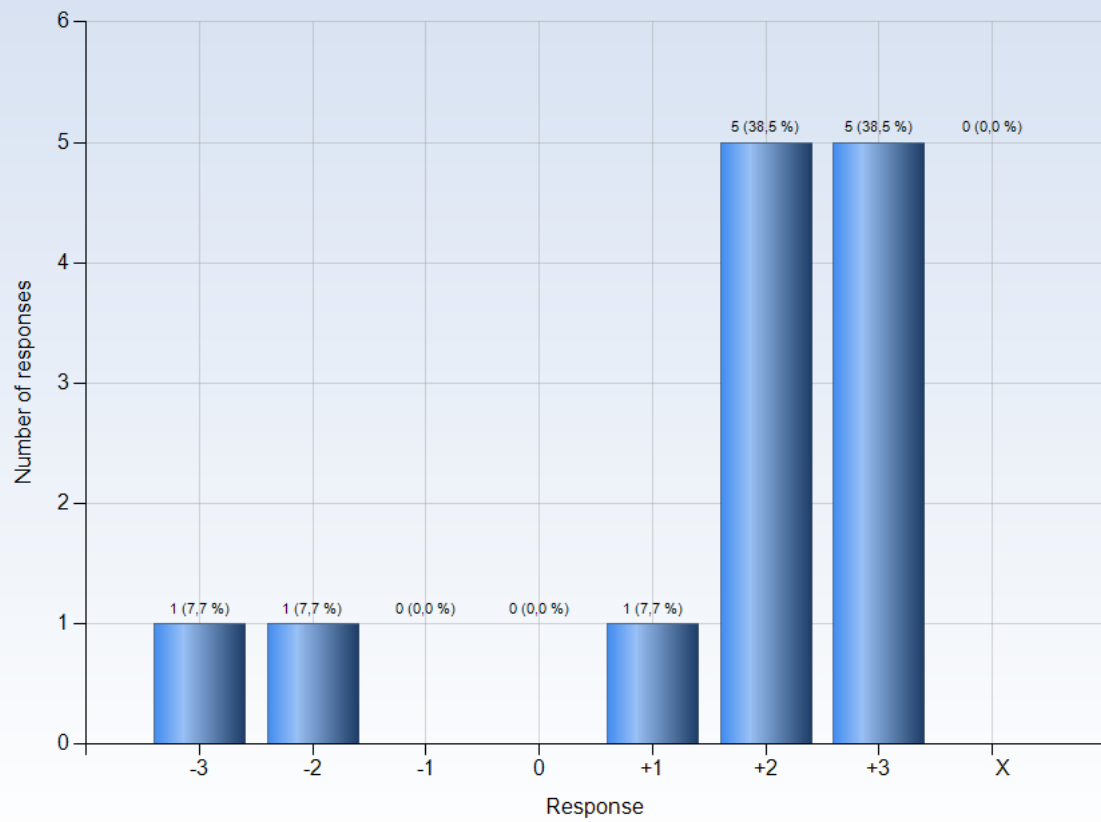


#### Comments

Comments (My response was: +1)

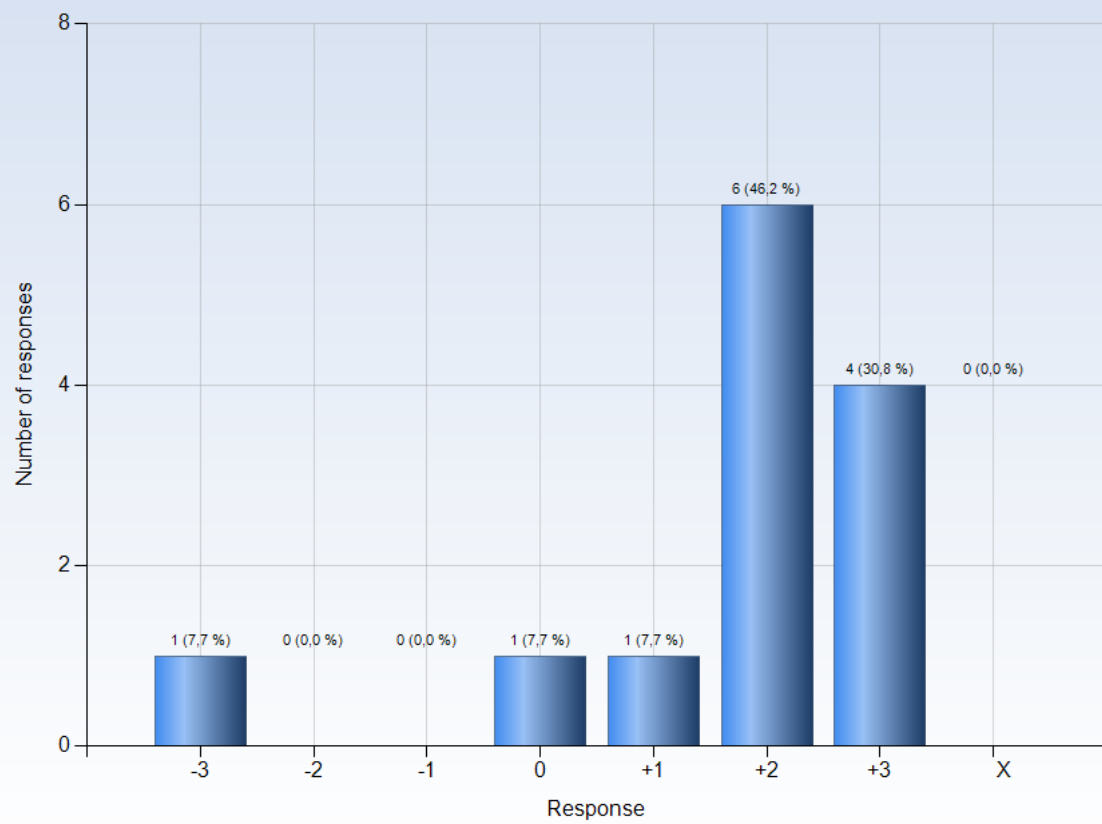
The exam was too easy compared to the lectures

17. My background knowledge was sufficient to follow the course



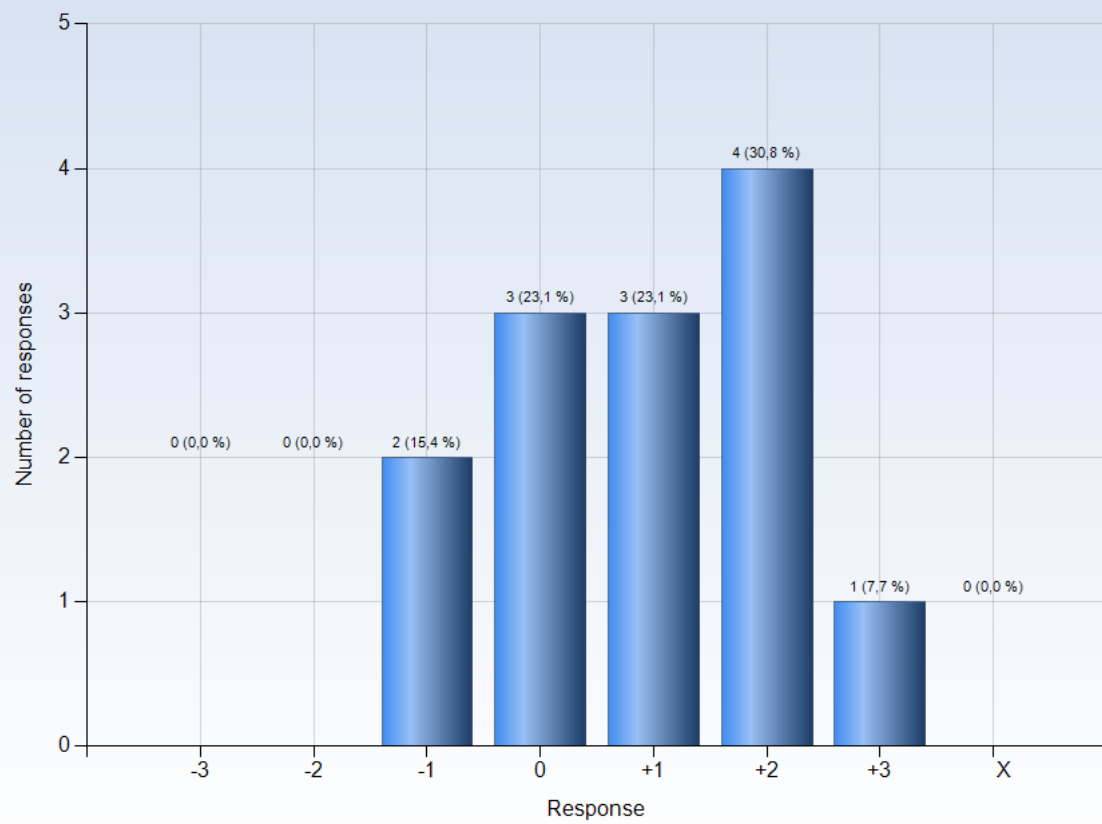
Comments

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



Comments

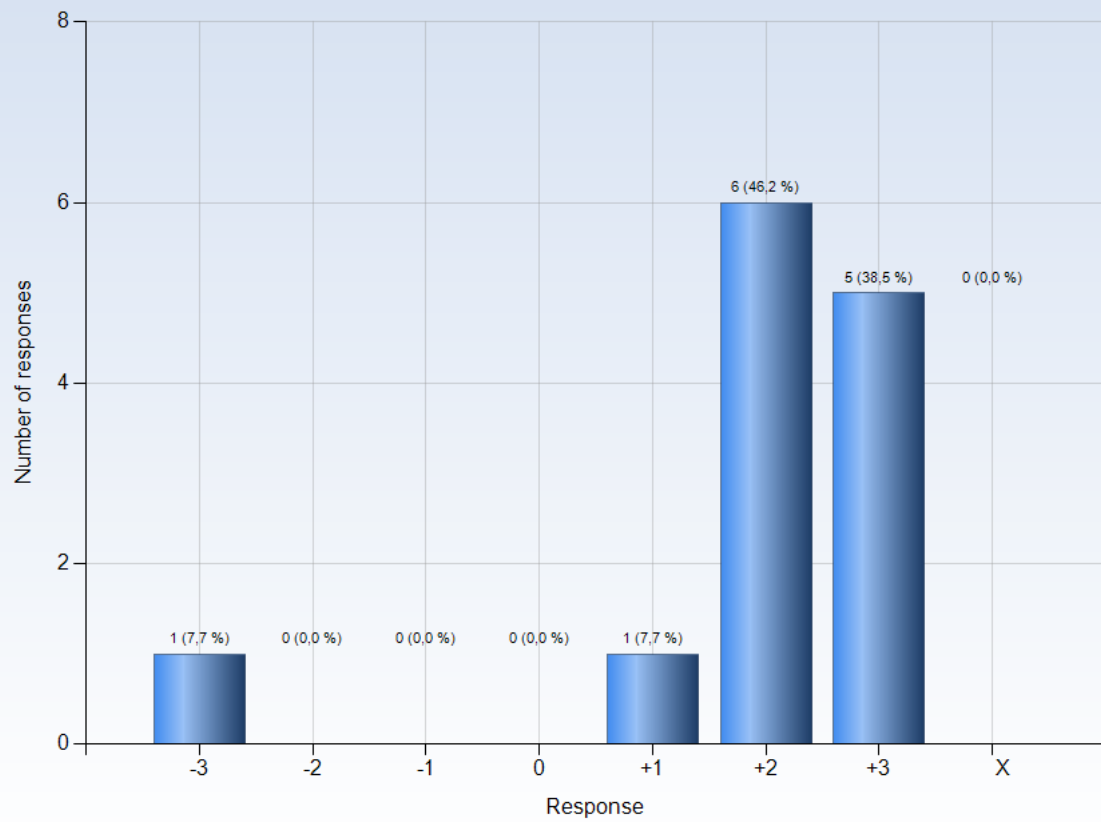
19. I was able to learn in a way that suited me



Comments



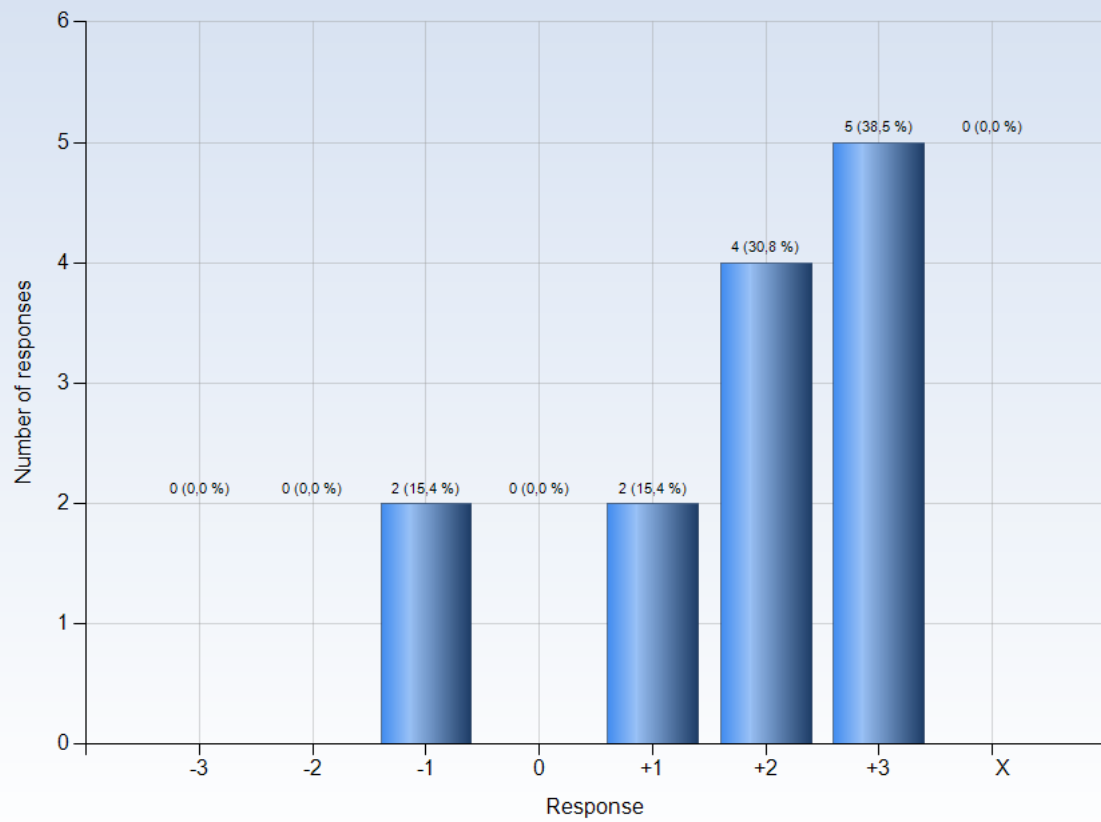
## 20. I had opportunities to choose what to do



### Comments

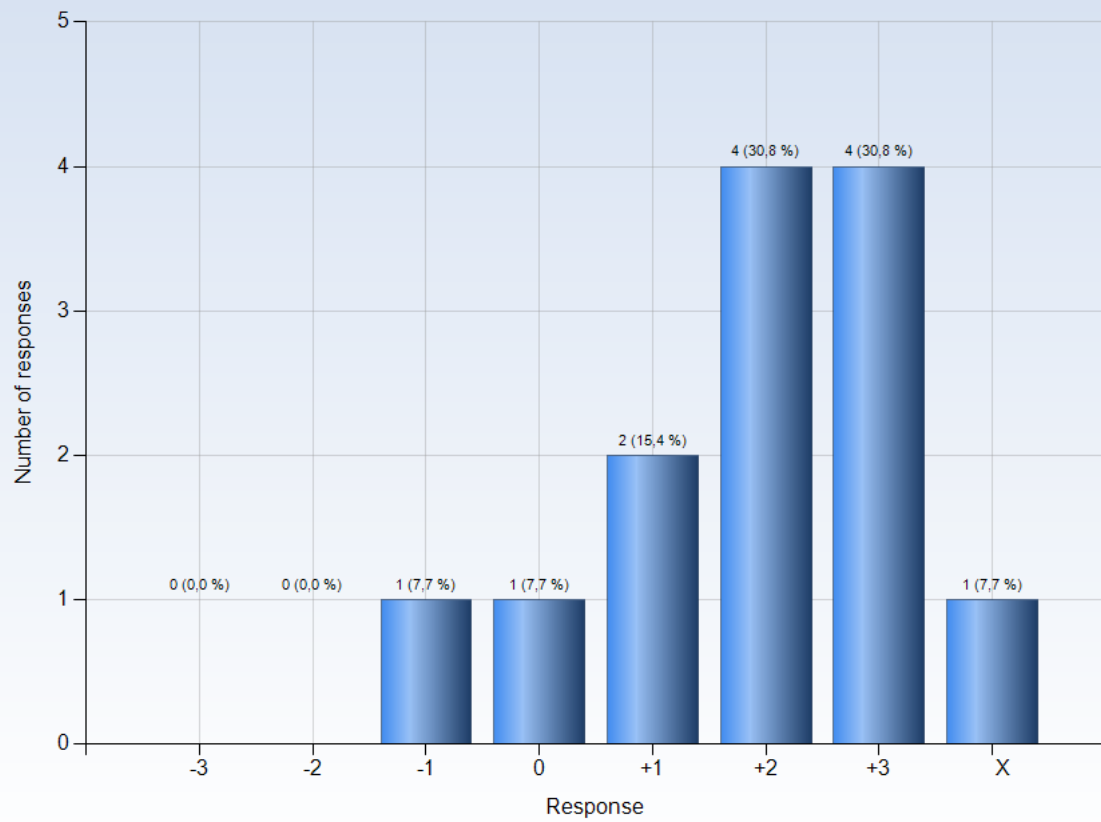
Comments (My response was: +3)  
in the project

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

Comments (My response was: +3)

I could always ask questions on email and got quick responses