

Report - FSF3847 - 2023-01-14

Respondents: 1
Answer Count: 1
Answer Frequency: 100.00%

Please note that there is only one respondent to this form: the person that performs the course analysis.

Course analysis carried out by (name, e-mail):

Anders Forsgren, andersf@kth.se

DESCRIPTION OF THE COURSE EVALUATION PROCESS

Describe the course evaluation process. Describe how all students have been given the possibility to give their opinions on the course. Describe how aspects regarding gender, and disabled students are investigated.

An LEQ questionnaire was sent to the students after completion of the course. The questionnaire was sent a bit late, three months after last moment in the course.

DESCRIPTION OF MEETINGS WITH STUDENTS

Describe which meetings that has been arranged with students during the course and after its completion. (The outcomes of these meetings should be reported under 7, below.)

The questionnaire was the only way of obtaining feedback.

COURSE DESIGN

Briefly describe the course design (learning activities, examinations) and any changes that have been implemented since the last course offering.

The intent of the course is to give students who are not specialized in optimization a training in both theory and methods as well as applications of convex optimization. The lectures cover theory, methods and applications. The instructors coming from different departments contribute with their different research expertise and perspectives. The students hand in homework assignments, which cover theory as well as own implementation of an optimization method. In addition, they read and present a research paper.

THE STUDENTS' WORKLOAD

Does the students' workload correspond to the expected level (40 hours/1.5 credits)? If there is a significant deviation from the expected, what can be the reason?

The workload appears reasonable.

THE STUDENTS' RESULTS

How well have the students succeeded on the course? If there are significant differences compared to previous course offerings, what can be the reason?

The students overall performed well. We had 34 students completing the course out of approximately 40 starting the course. This is in line with previous course offerings, slightly less students this time compared to the previous course offering in 2019.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

Most students appreciate the setup of the course. In particular, the blending of theory, methods and applications.

SUMMARY OF STUDENTS' OPINIONS

Summarize the outcome of the questionnaire, as well as opinions emerging at meetings with students.

The overall impression of the questionnaire is positive.

OVERALL IMPRESSION

Summarize the teachers' overall impressions of the course offering in relation to students' results and their evaluation of the course, as well as in relation to the changes implemented since last course offering.

The course was taught via Zoom, due to the covid situation. The setup of the course was not particularly adapted to the Zoom situation, and the lack of direct interaction between instructors and students is a weakness. It was reassuring to see that most students appreciated the setup.

ANALYSIS

Is it possible to identify stronger and weaker areas in the learning environment based on the information you have gathered during the evaluation and analysis process? What can the reason for these be? Are there significant difference in experience between:

- students identifying as female and male?
- international and national students?
- students with or without disabilities?

There is quite a variety in the answers, which is to be expected as we have students with quite a diverse background.

PRIORITIZED COURSE DEVELOPMENT

What aspects of the course should be developed primarily? How can these aspects be developed in short and long term?

Lectures may be improved. There is always a balance between how much material to put in a lecture and how deep to cover the material. In particular, with a Zoom environment, it is more difficult to appreciate how the lecture is appreciated by the students, and it is difficult not to lose some quality.

OTHER INFORMATION

Is there anything else you would like to add?

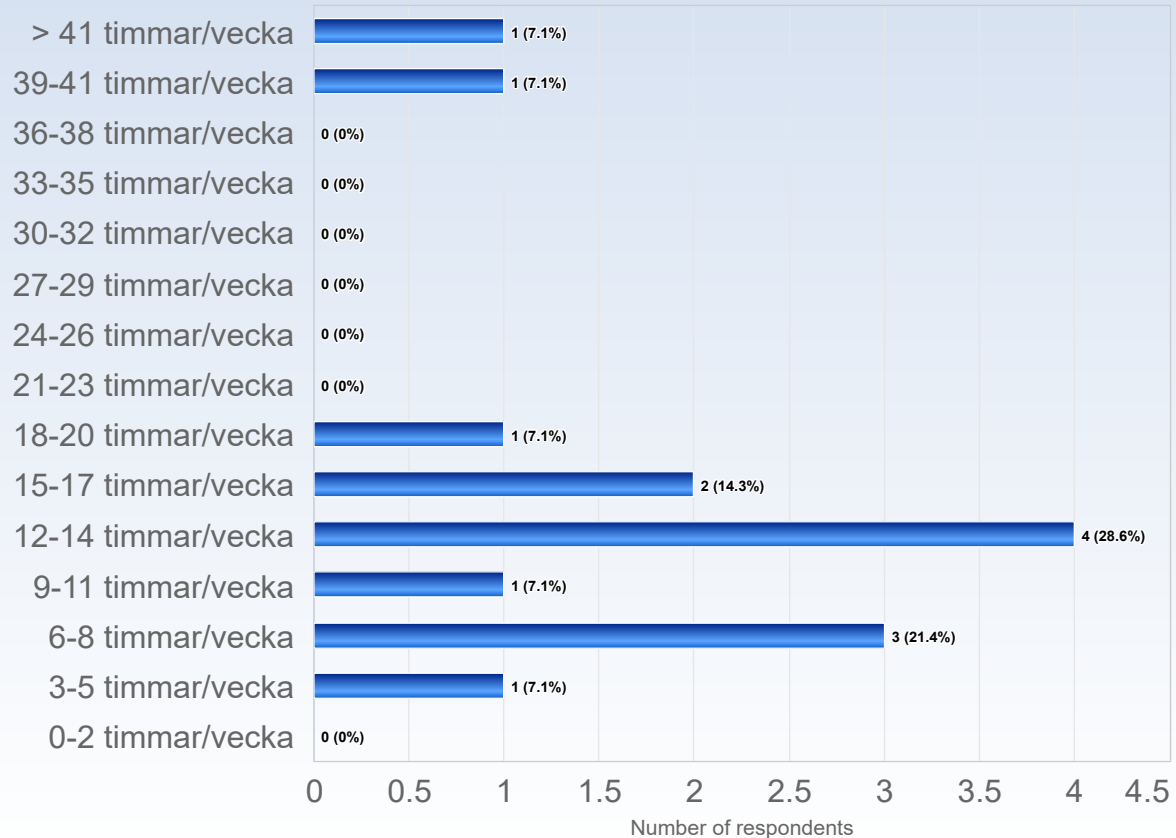
In my opinion, it is very important that a course is designed by the instructors, taking into account feedback from students. The instructors have a purpose of the course design, which is to give knowledge within the subject. Coursework is a very important part of the PhD studies, as a complement to the students' research projects.

FSF3847 - 2021-07-02

Antal respondenter: 44
Antal svar: 14
Svarsfrekvens: 31,82 %

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)

The workload is fair.

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

Not intensive except the final assignment

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

This survey comes so long after completion of the course, so I don't remember...

It was a rather intense course though also rather short. So all in all it seems a reasonable effort.

Reasonable work load, demanding but not overwhelming

Comments (I worked: 15-17 timmar/vecka)

The course runs for a relatively short amount of time (one month and a half approximately) and consequently the schedule is quite intense.

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

Somewhat hard to quantify in number of hours, but the work load was "lagom"! The amount of time required to do homework was reasonable .

LEARNING EXPERIENCE

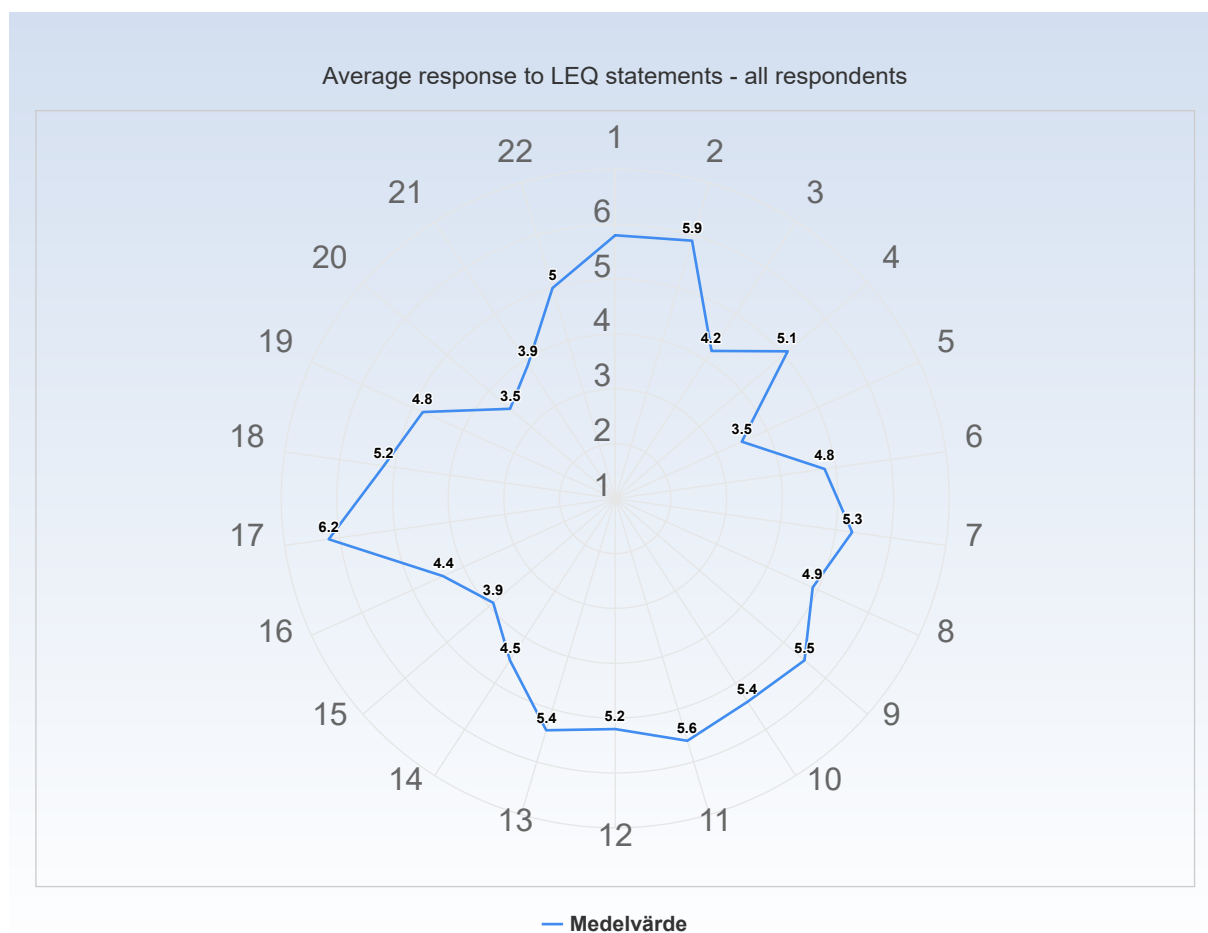
The polar diagrams below show the average response to the LEQ statements for different groups of respondents (only valid responses are included). The scale that is used in the diagrams is defined by:

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.



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.

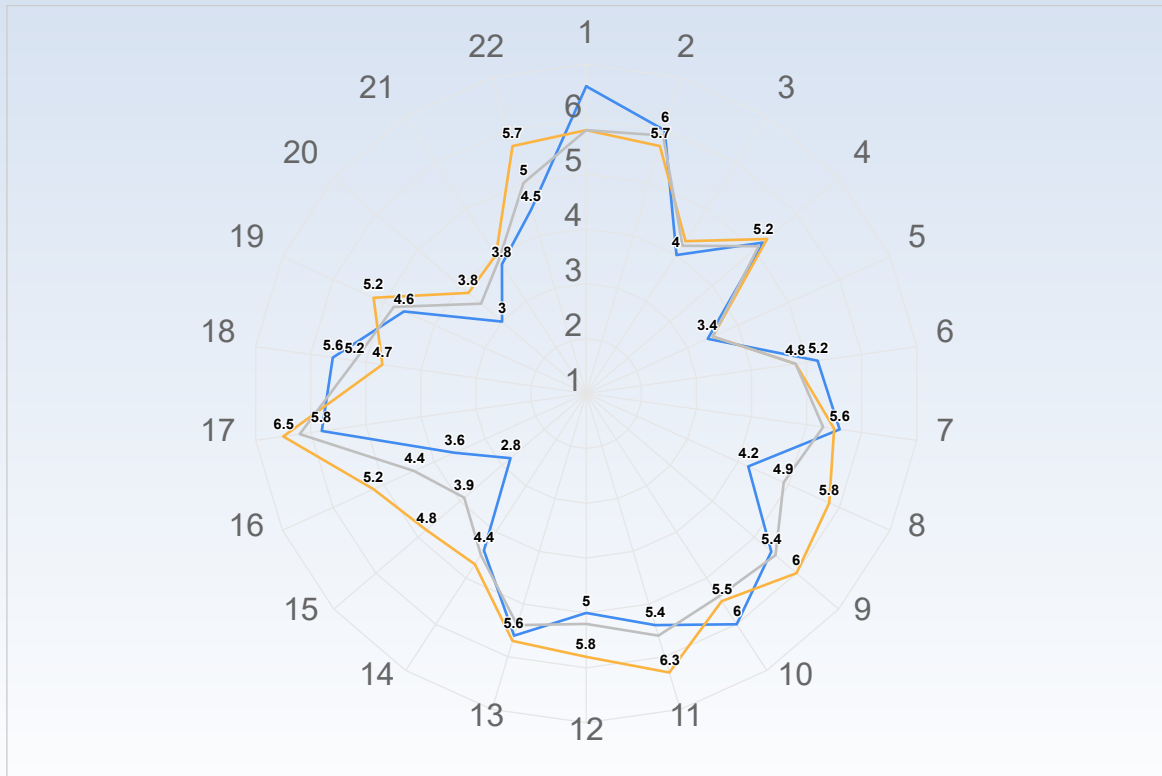
Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

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

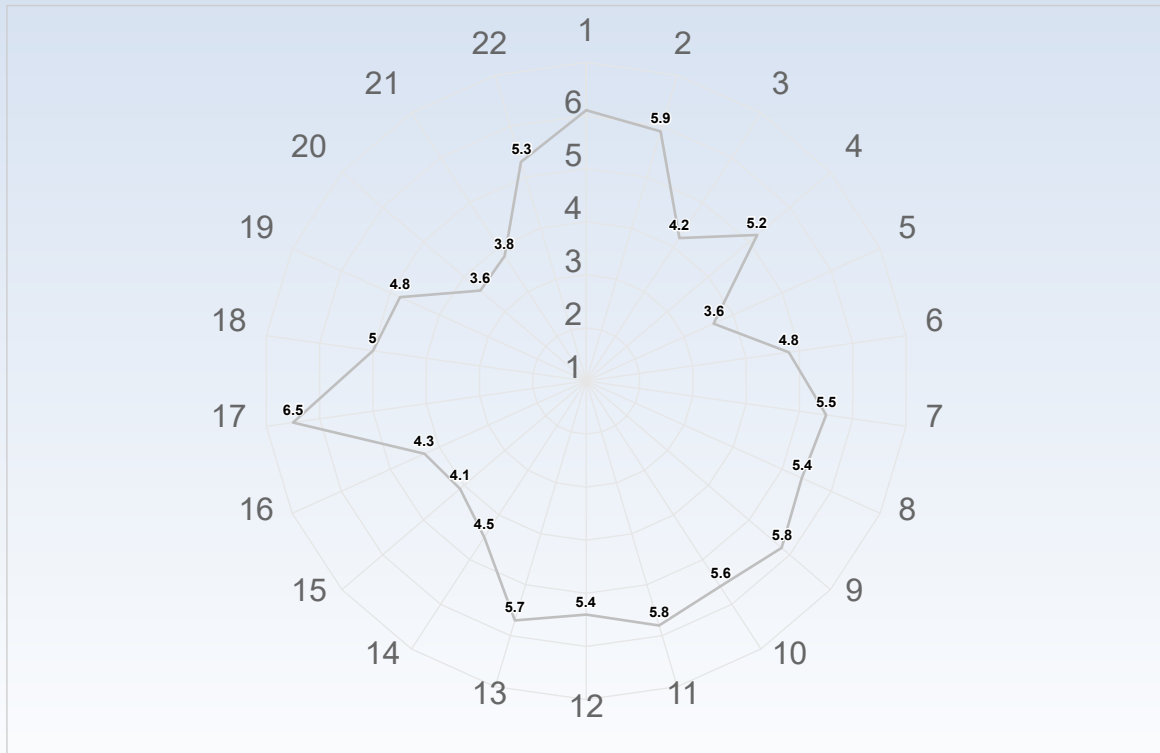


— Kvinna — Man — Annat — Vill ej uppge — (Answered)

Comments

Comments (I am: Kvinna)
 No discrimination issues

Average response to LEQ statements - per type of student



- Internationell masterstudent
- Svensk student i årskurs 4-5
- Internationell utbytesstudent
- Annan typ av student
- Svensk student i årskurs 1-3
- Vill ej uppge

Comments

Comments (I am: Annan typ av student)

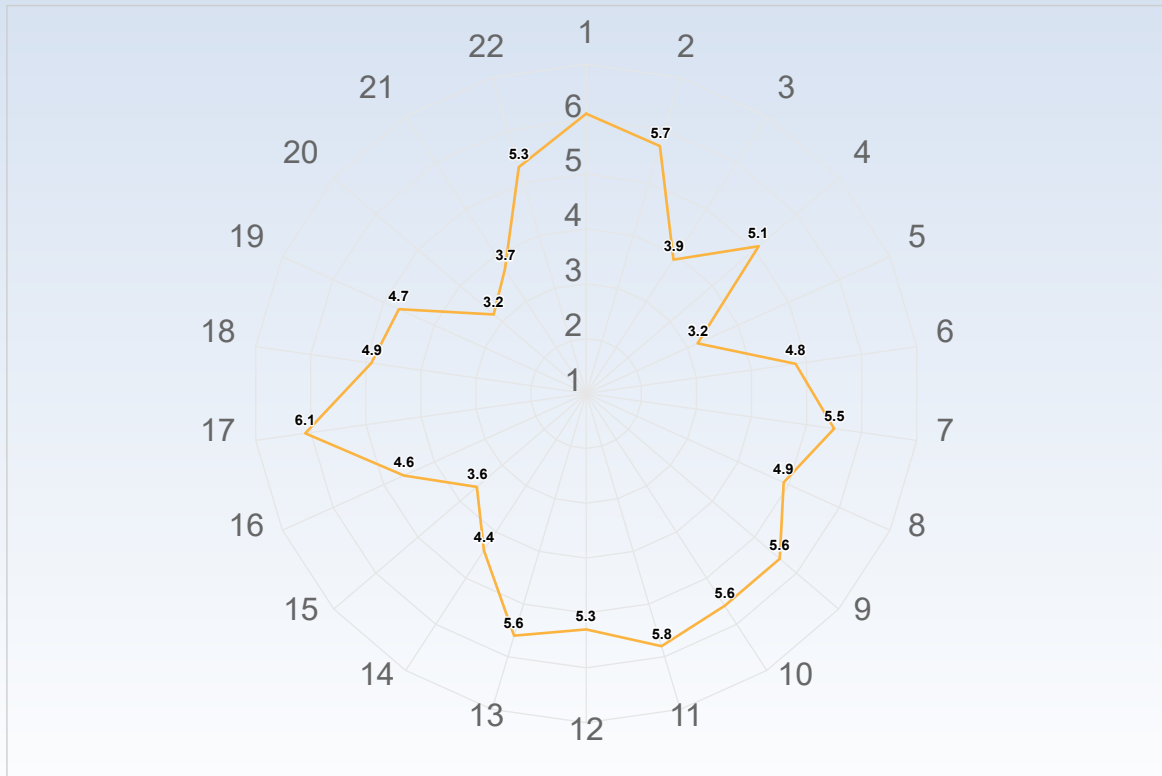
Great course for my PhD studies, well adapted to my level and also very useful

As a PhD student (2nd year) with my research closely related to convex optimization it was easy to follow and fill knowledge gaps.

PhD student

PhD student with math background

Average response to LEQ statements - per disability



— Ja — Nej — Vill ej uppge

GENERAL QUESTIONS

What was the best aspect of the course?

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

The problem sets and the final interior-point coding project.
Professor Mats is incredibly helpful.

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

the final assignment. It was interesting (yet challenging due to time limitations and Phd responsibilities) to implement the interior point method on simulated data. I understood better the method when I implemented it on my own.

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

I liked the homeworks, they were challenging but fun.

Presenting a paper. one can choose from different topics and explore a little bit more on the application of convex optimization.

The first lectures giving an overview of what one can do in convex optimization; the basic methods available and the discussion thereof.

The thorough and pedagogical way the concepts were presented and explained

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

I think that the assignments were very-well designed and suitable for learning.

The topic. Convex optimization is very important for my research.

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

The teachers did a great job in explaining and really putting effort in making the lectures interesting despite being all digital. Very pedagogical, especially the more method based/mathematical parts of the course. It was clear that the teachers were all passionate about the topic. I learnt a really interesting topic with so many applications. It was easy to draw parallels to my own work.

Nice attempts at creating interaction among the students.

I also really liked the format for the project presentations. It's not common in other courses that you get to give and take feedback, which is a very good exercise!

What would you suggest to improve?

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

There was no interaction between the teacher and students. There was no room to ask questions during the lectures and the teachers barely answered emails.

We were discussing several methods (Newton's with several steps etc) but it would be nice to have a sample code and test the methods in a simple example.

KKT conditions are necessary and sufficient when a constraint qualification is satisfied. It would be nice to have a short discussion on existing constraint qualification criteria and what the advantages of using one over another.

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

The grading part. Some guidelines for each problem to get everyone on the same page.

The first assignment was basically a check whether or not you are reading the course book -- many problems are explicitly discussed in the book. To me this seems a bit odd. Or is it really your intent to check whether one is reading the course book in the first assignment?

The preparation of the presentations took a lot of time and I did not take a lot with me from these. I would prefer another format but I do see that this is feasible. I would personally remove these presentations.

Lectures had at times quite a high information density, would be nice if some of them could perhaps be somewhat shortened or at least be even clearer about what was currently being explained and why

What would you suggest to improve? (I worked: 15-17 timmar/vecka)

The topics of the course are not simple and covering so many topics in one month and a half does not help the learning. I would probably suggest to spread out the schedule and have a regular course that covers an entire period. Also, I felt that the lectures in which we covered 40+ slides were quite challenging to follow.

Everything in the course needs improving:

- The teaching was mediocre at best. I understand that the course followed two different textbooks but there was literally zero effort to unify the notation. Also, what is the point of having 50 slides in a lecture and then skipping them?

- Some of the homeworks were good but some were a complete waste of time. The last homework took me days to finish and normally that would be okay except implementing an interior point algorithm benefits my research in absolutely no way.

- The feedback was through peer review which (as expected) had really bad quality. I am looking forward to the day when the teachers at KTH admit that peer review does not work.

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

This was a nice course! The pace of some of the application lectures could have been slower and less packed with material.

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)

Attend classes. The classes (especially of Mats and Anders) are well structured and the professors explain the material in a very clear way.

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

Go to the lectures (especially Anders')

Read the course book, which is tested in assignment 1 -- you could also add it to the intended learning outcomes. ;)

Make sure to both attend lectures and read the book, they complement each other very well

What advice would you like to give to future participants? (I worked: 15-17 timmar/vecka)

If possible, get familiar with the topics of the course before the course starts so that you can keep up with the intense schedule of the course.

Dedicate much more time to it than what you expect from 6 credits.

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

Really a great course! Make sure to have time to spend on the course as its given quite compressed in a short amount of time.

Is there anything else you would like to add?

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

This is more like a general comment about all the courses I have so far taken at KTH: I don't think the teachers here have yet adapted their methods to the demands of 2021. This is no longer the good old days when people could afford to spend time working on subjects and exploring topics just because they found them interesting. As a PhD student facing extreme competition, I feel the need to be as efficient as possible, learn exactly those things that I find useful and discard everything else. But when you offer me a course that is entirely inflexible in its topics and assignments (c.f. the paper presentations), which btw I must take because of the credit requirements, I find it frustrating that my time is being wasted.

I sincerely think you need to get more perspective about what a PhD student needs from a course these days.

SPECIFIC QUESTIONS

RESPONSE DATA

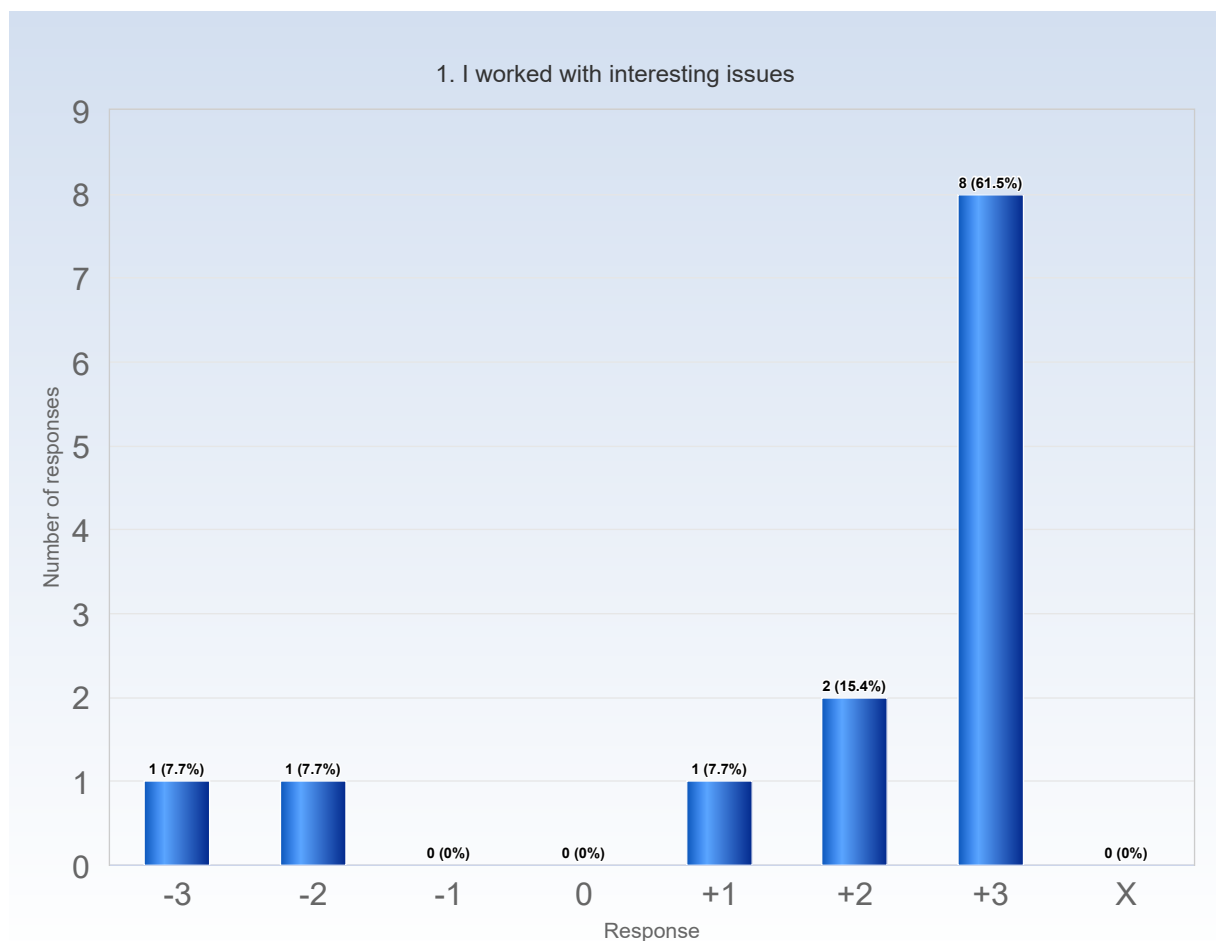
The diagrams below show the detailed response to the LEQ statements. The response scale is defined by:

-3 = No, I strongly disagree with the statement

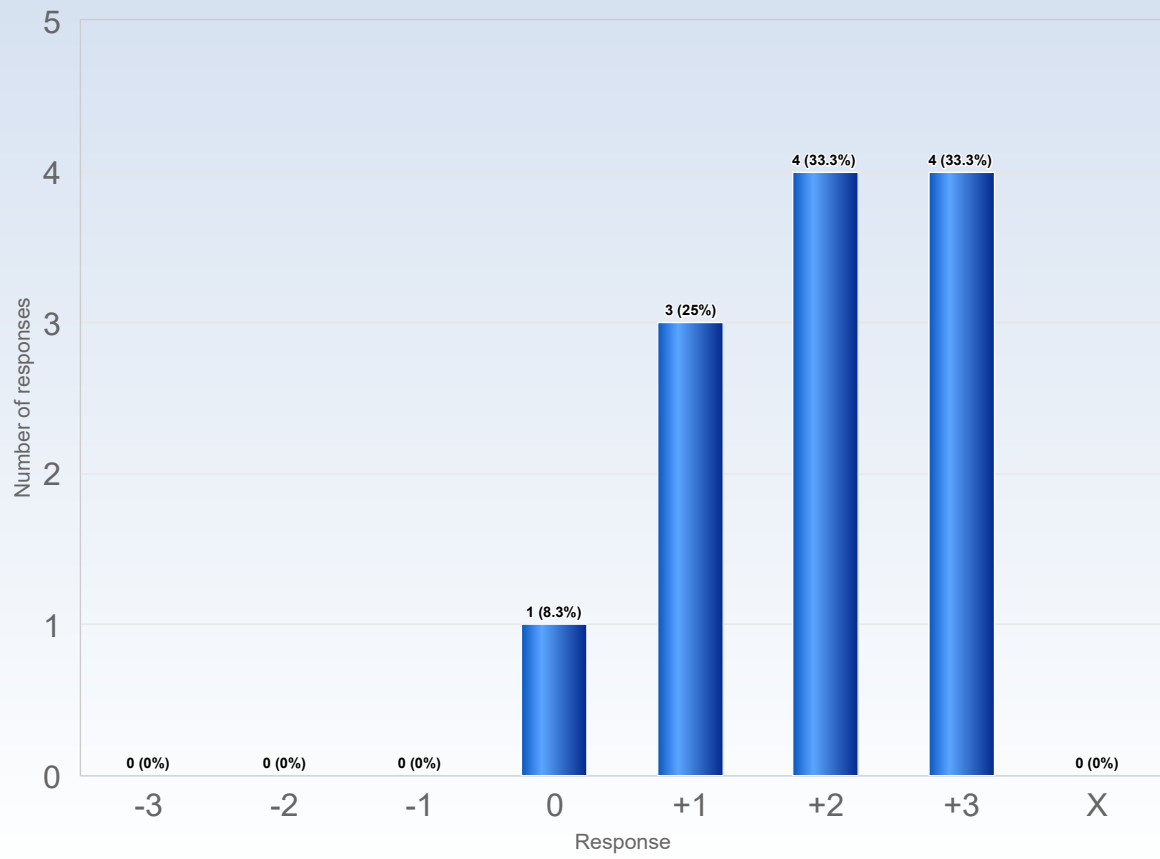
0 = I am neutral to the statement

+3 = Yes, I strongly agree with the statement

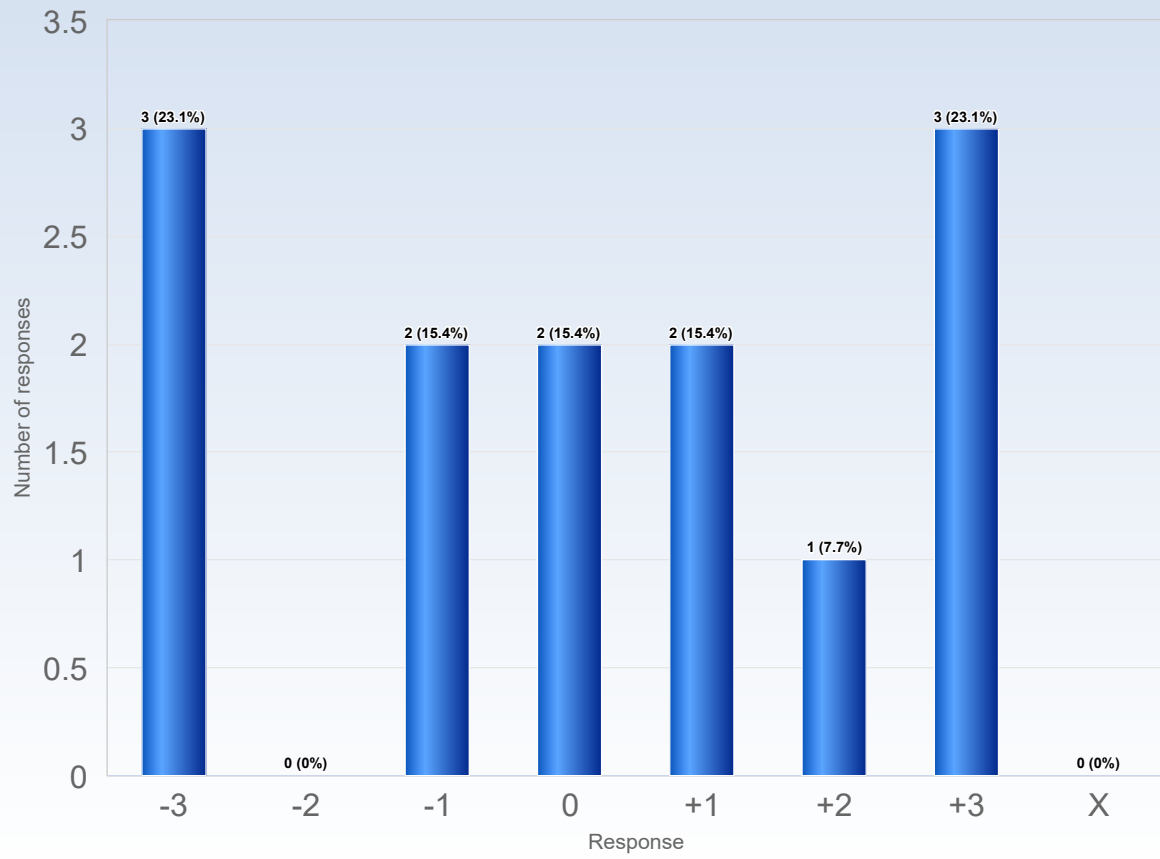
X = I decline to take a position on the statement



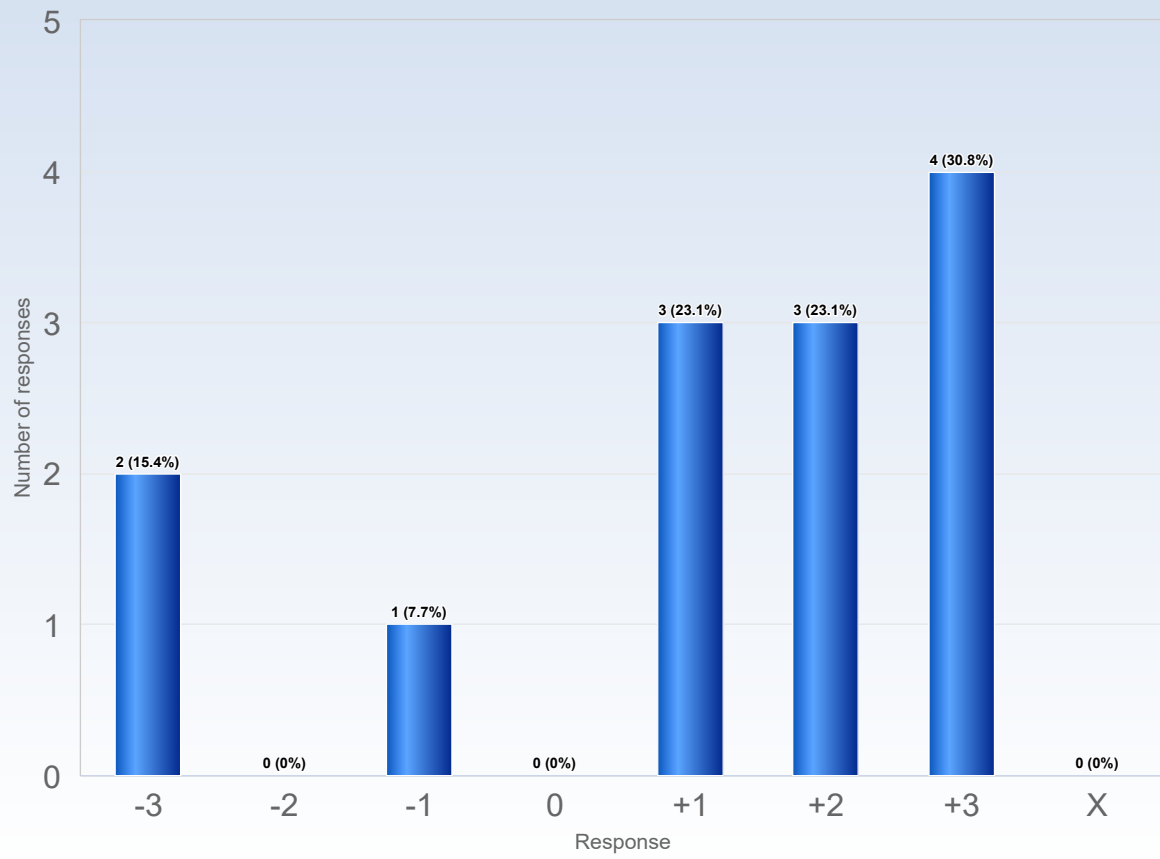
2. I explored parts of the subject on my own



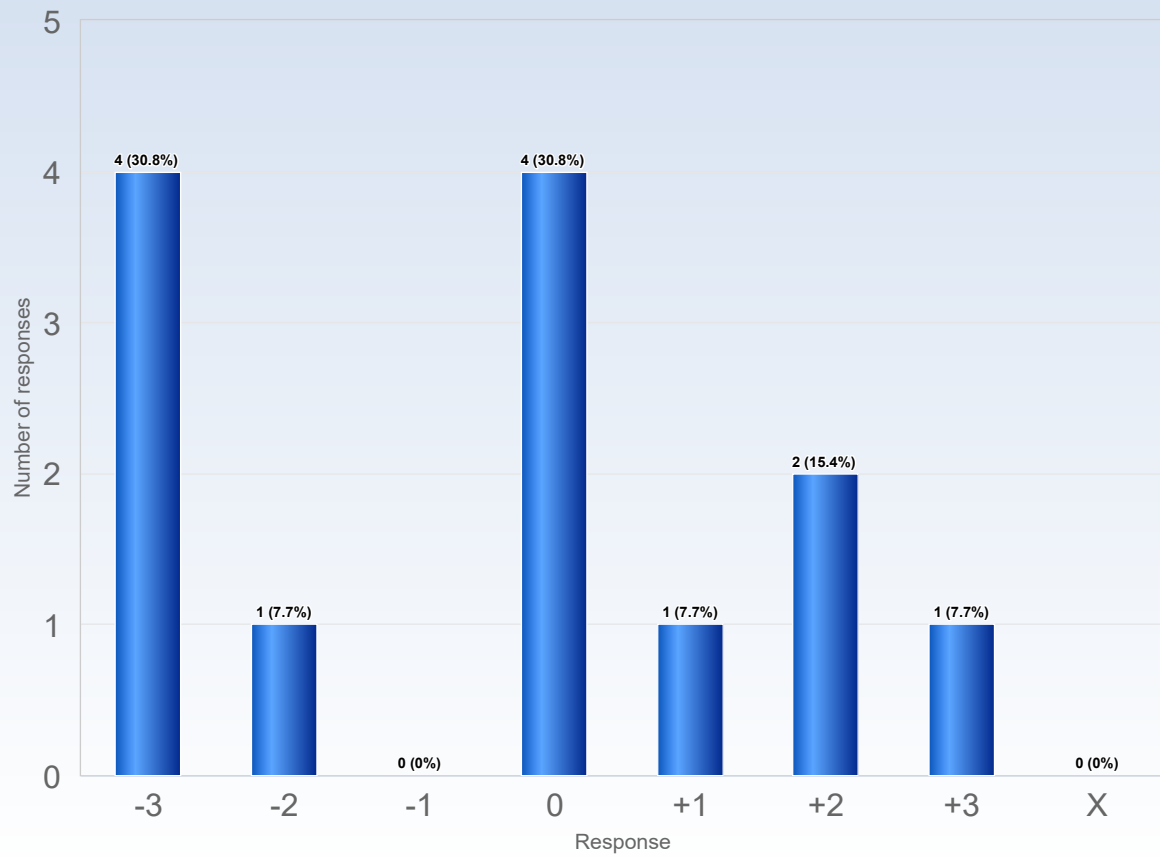
3. I was able to learn by trying out my own ideas



4. The course was challenging in a stimulating way



5. I felt togetherness with others on the course



Comments

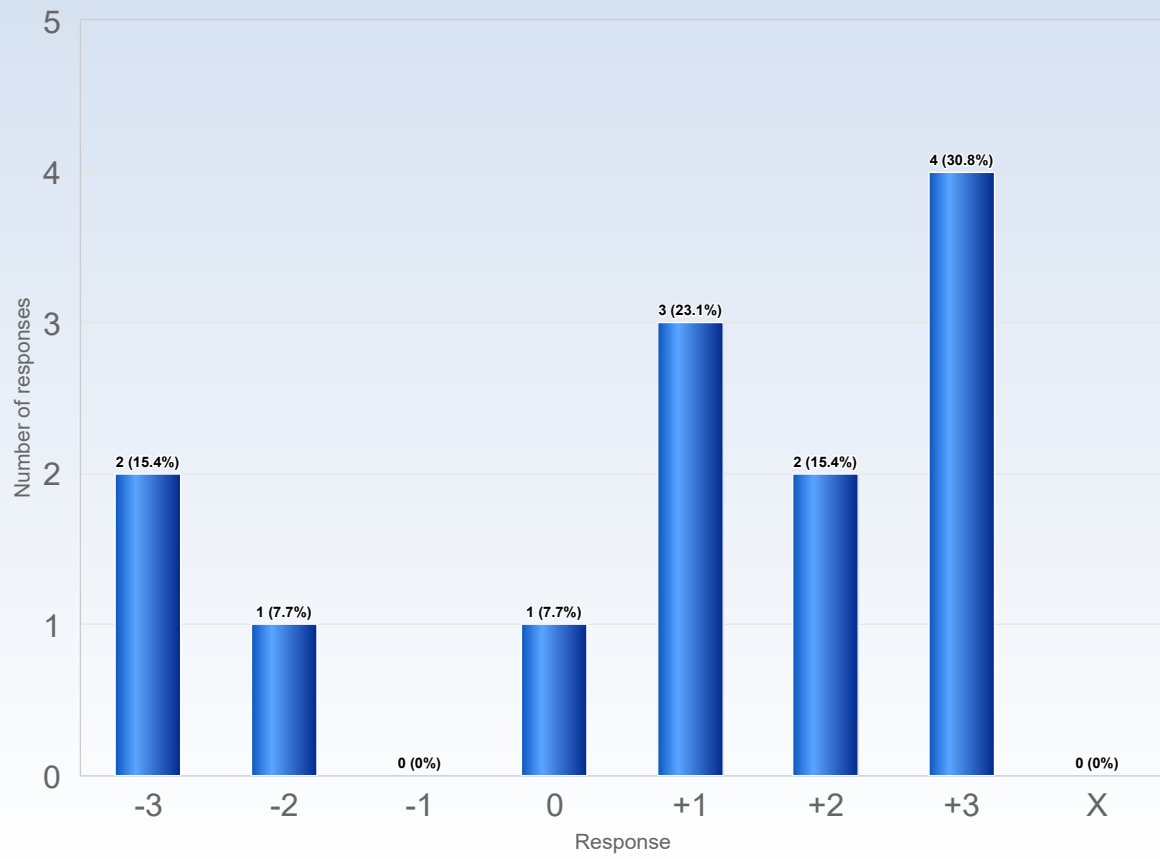
Comments (My response was: -3)

The course was organized on a teacher- based approach and there was no cooperation among participants.

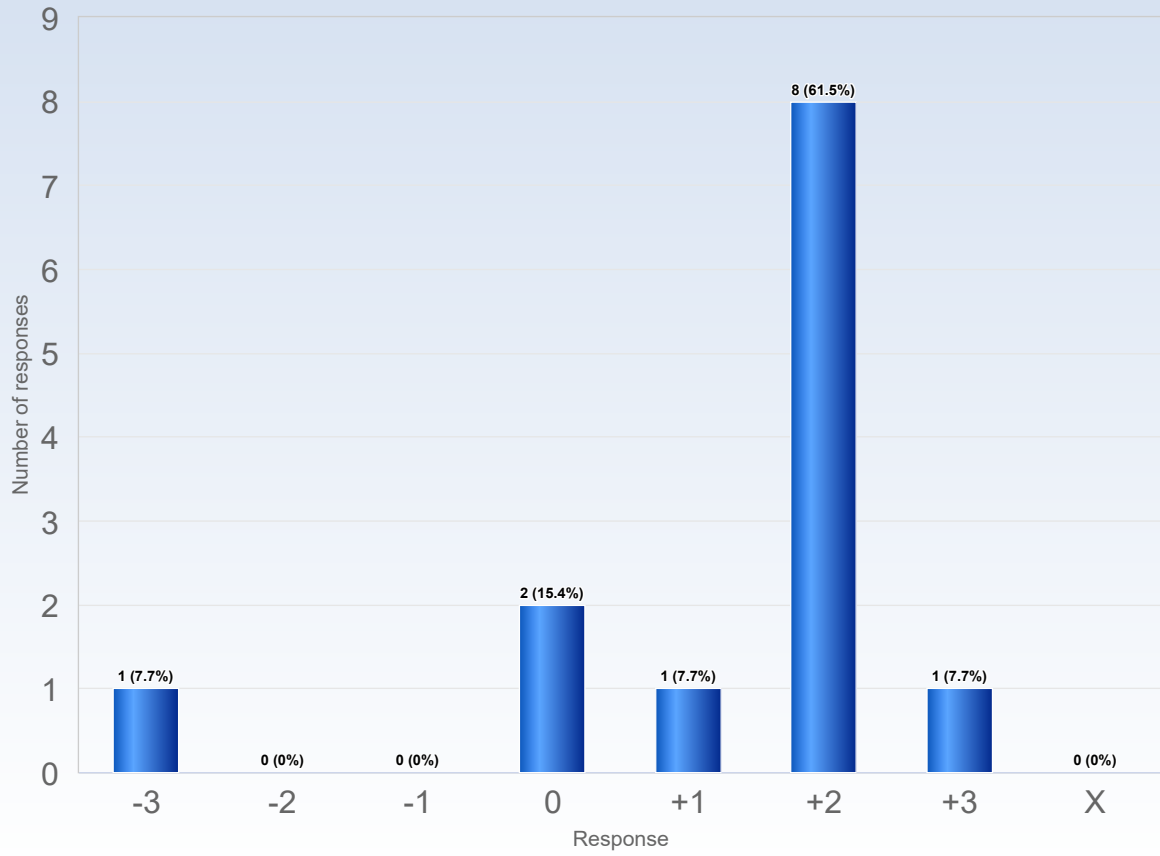
Comments (My response was: +2)

The shared grading was a good initiative, and also the presentations of the papers.

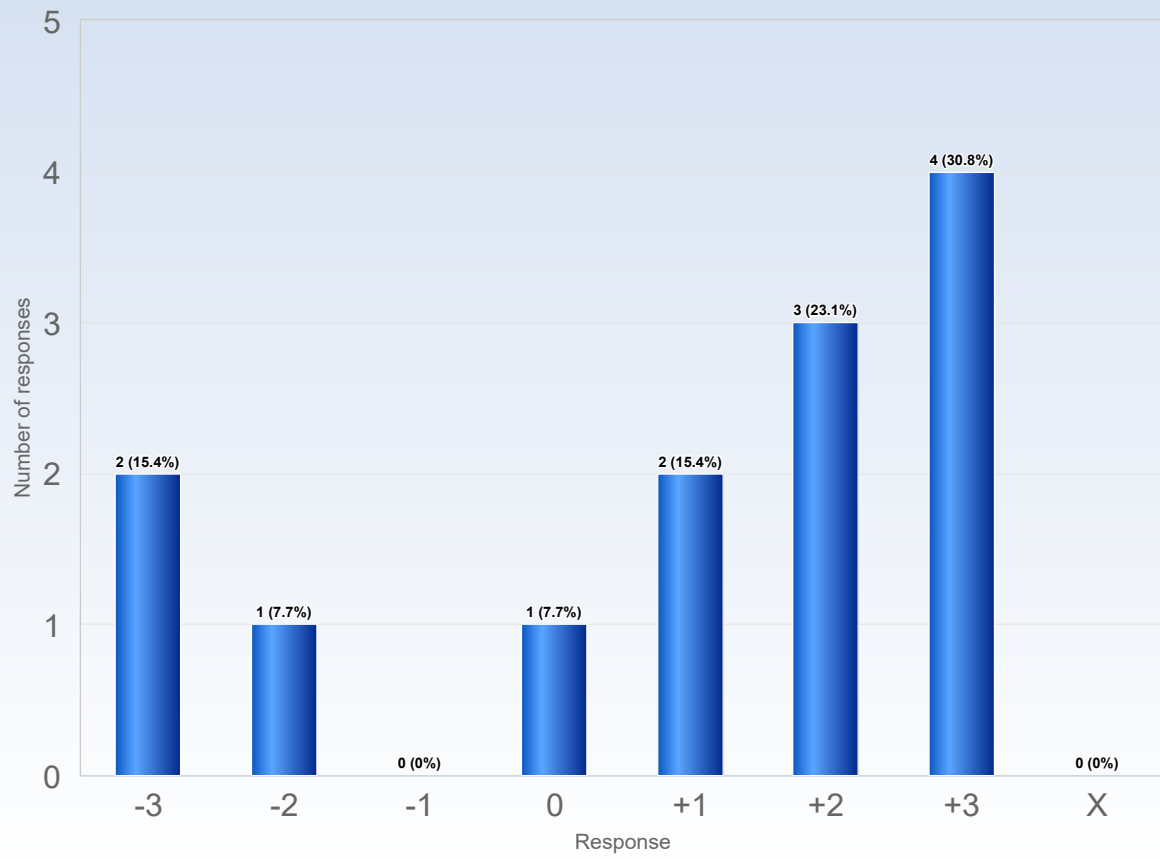
6. The atmosphere on the course was open and inclusive



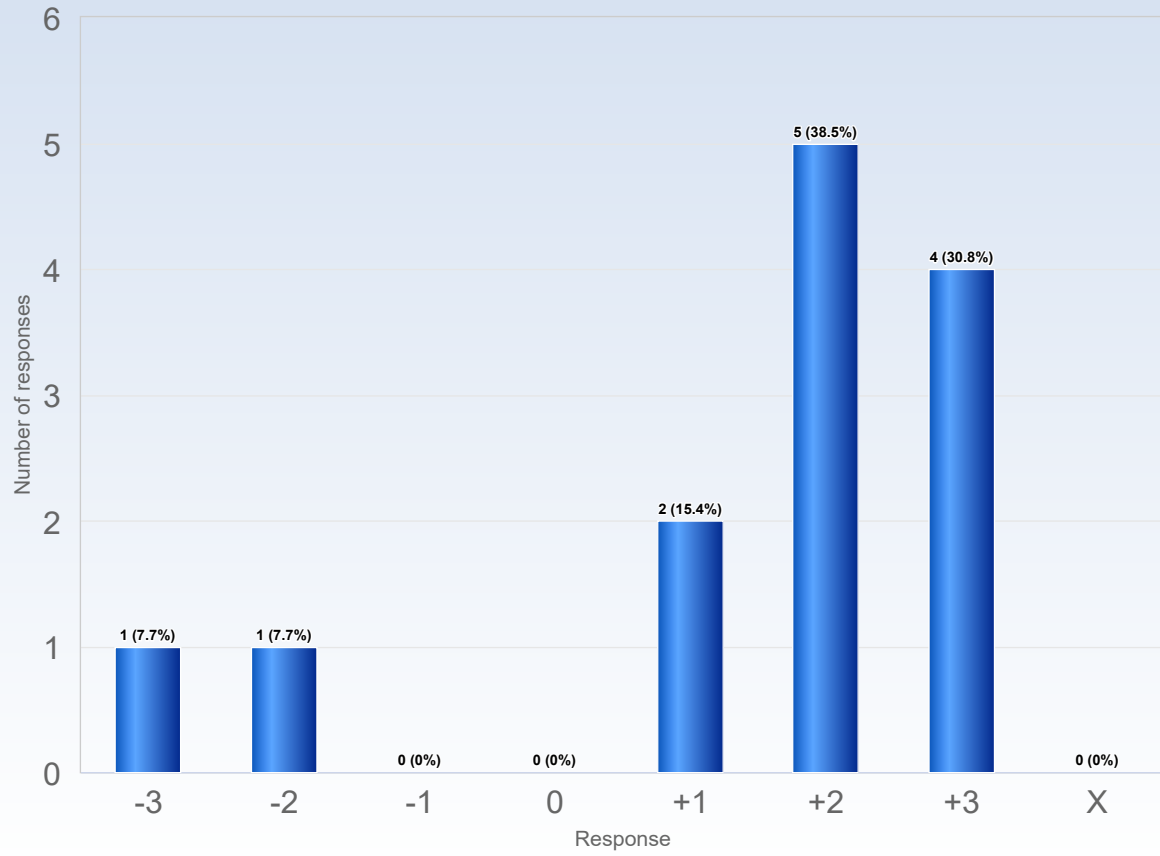
7. The intended learning outcomes helped me to understand what I was expected to achieve



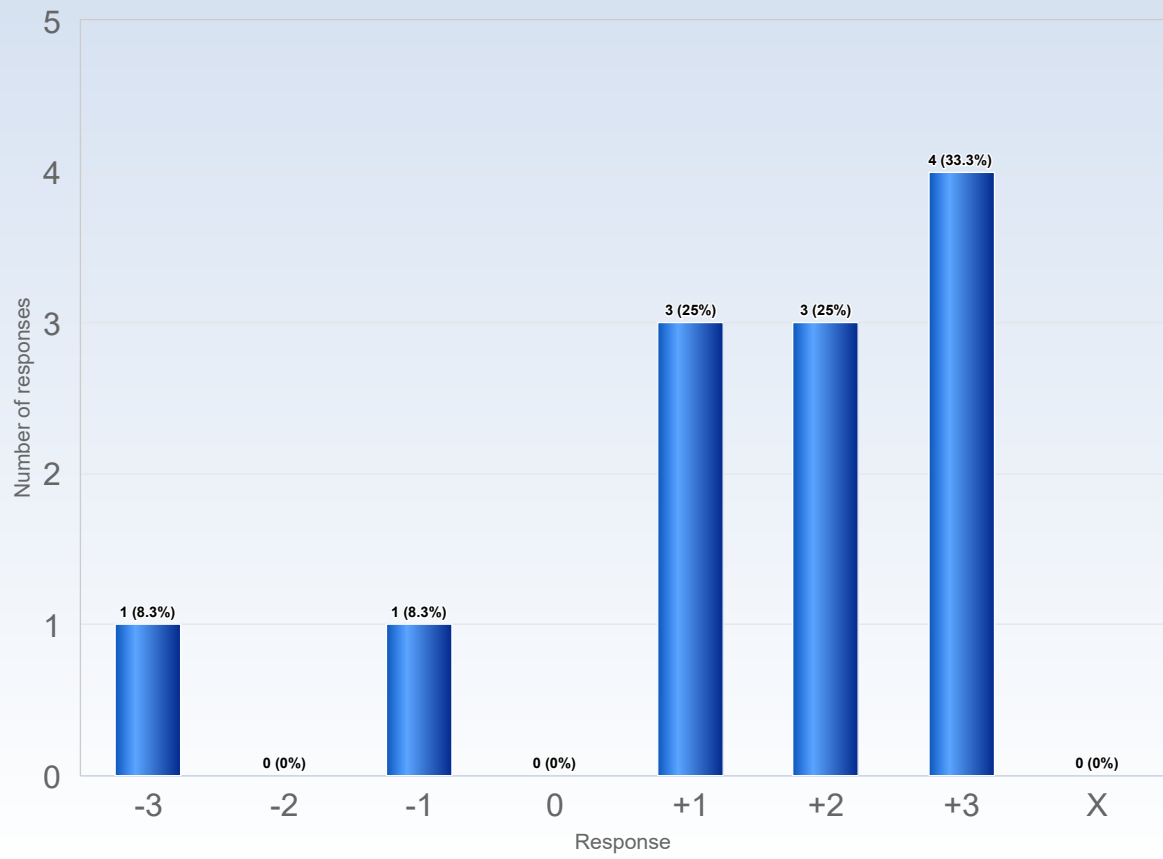
8. The course was organized in a way that supported my learning



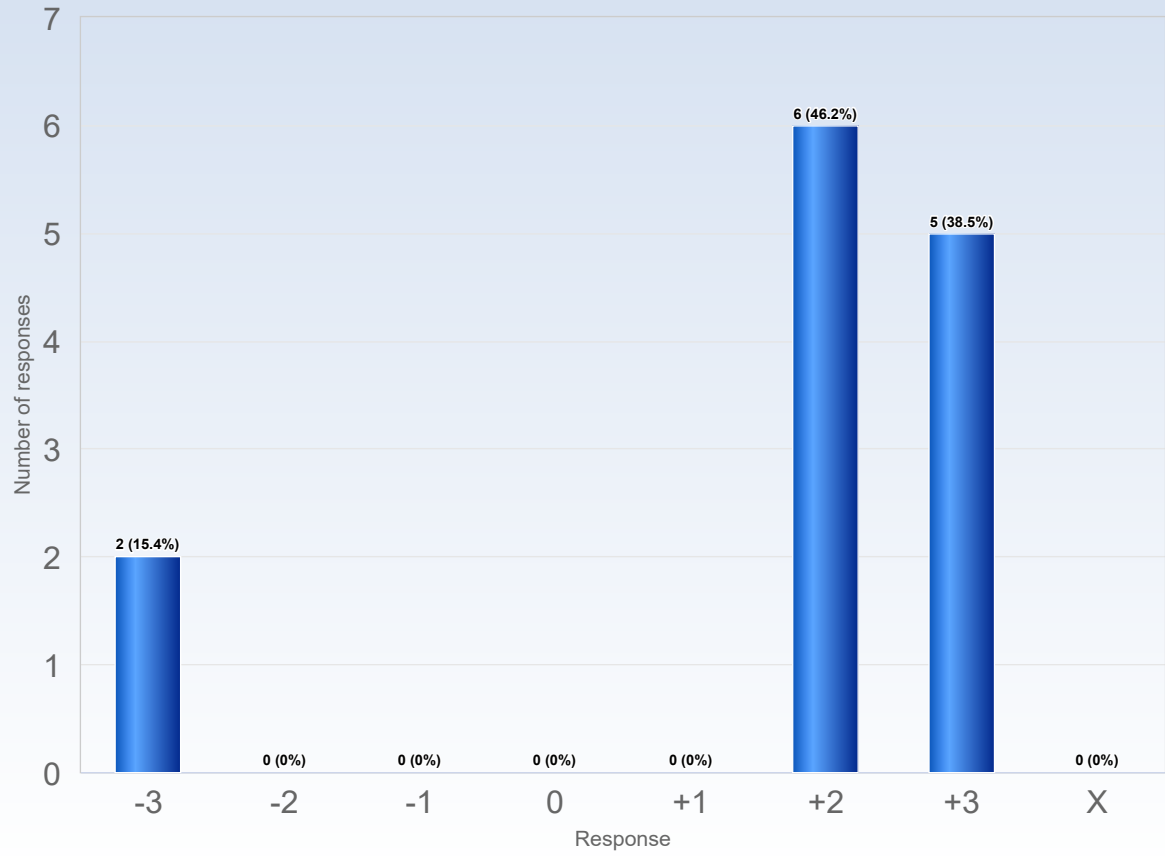
9. I understood what the teachers were talking about



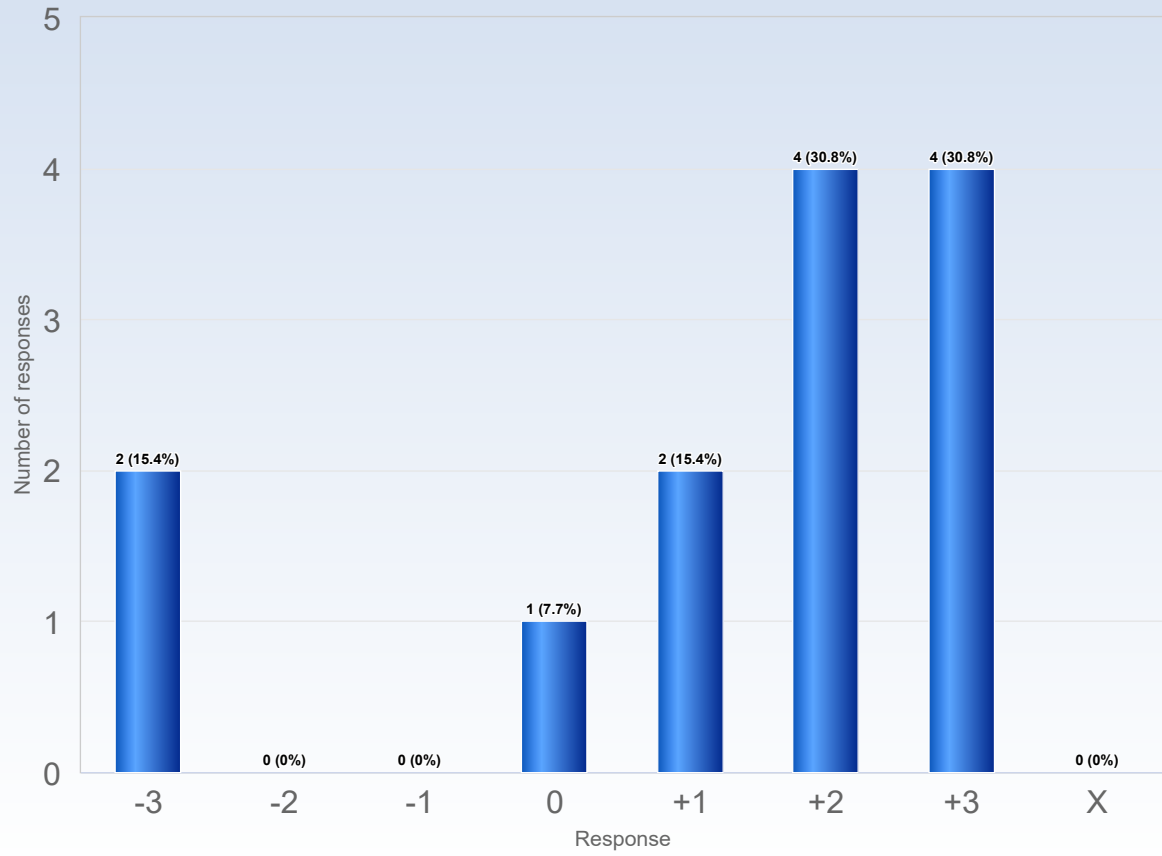
10. I was able to learn from concrete examples that I could relate to



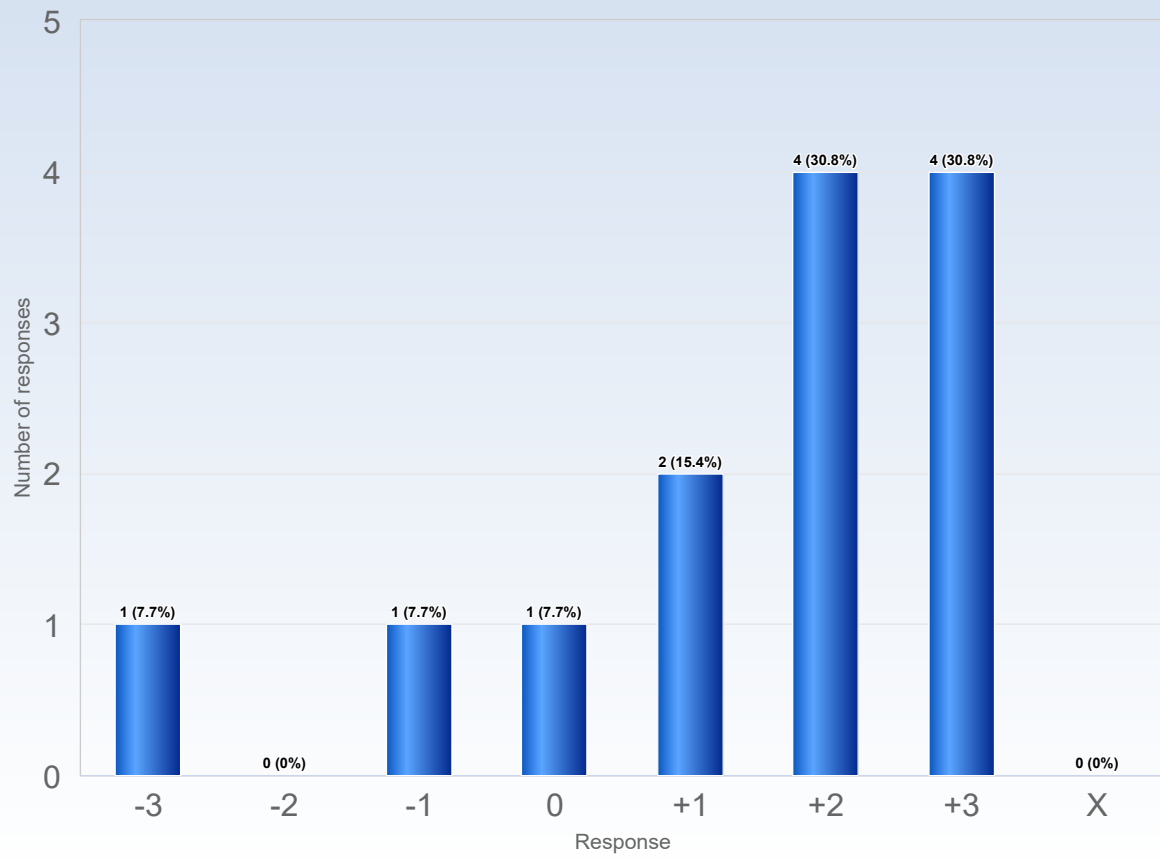
11. Understanding of key concepts had high priority



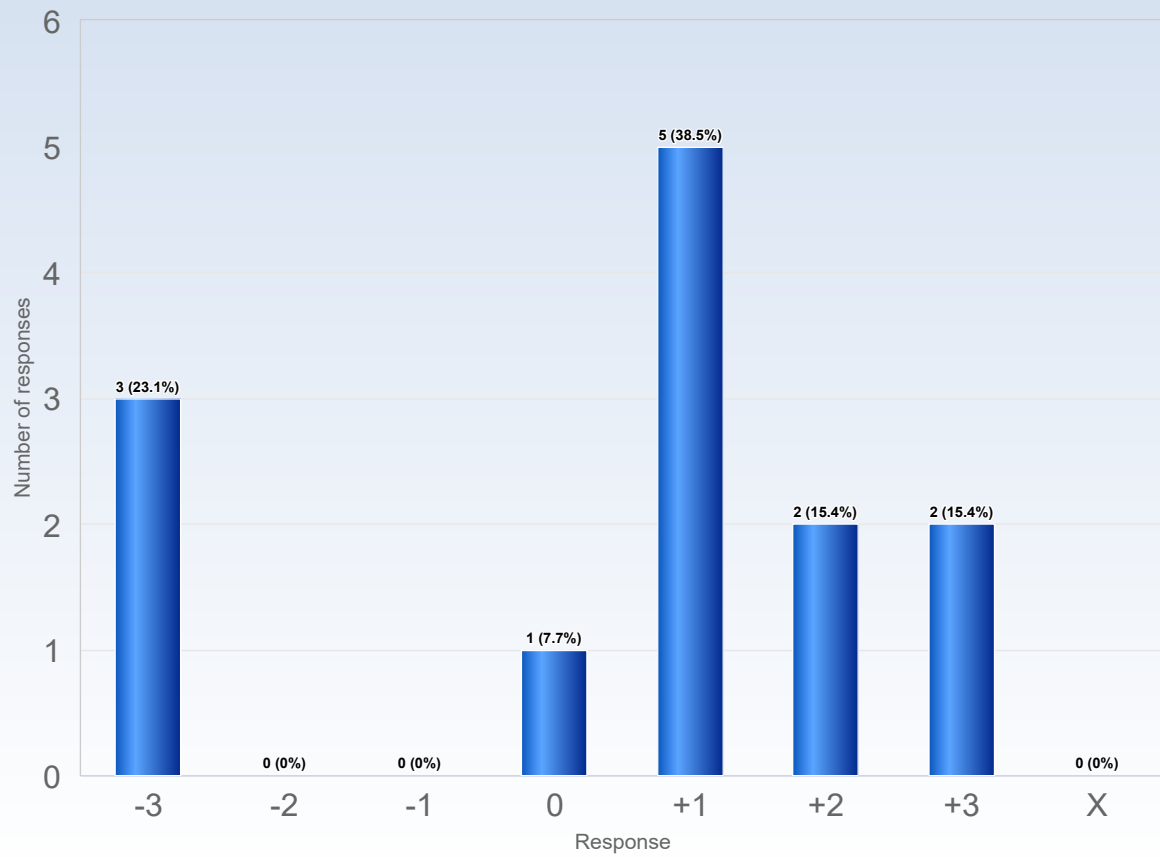
12. The course activities helped me to achieve the intended learning outcomes efficiently



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



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



Comments

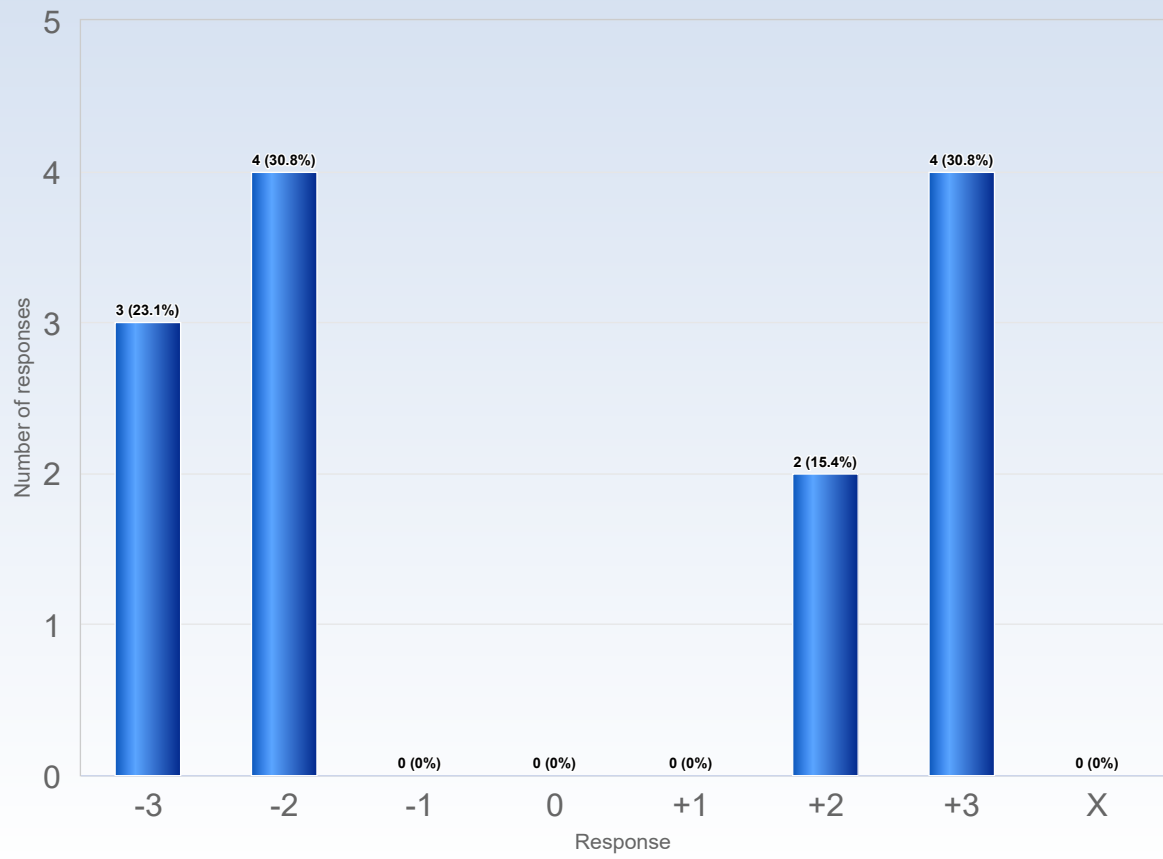
Comments (My response was: -3)

No feedback at all

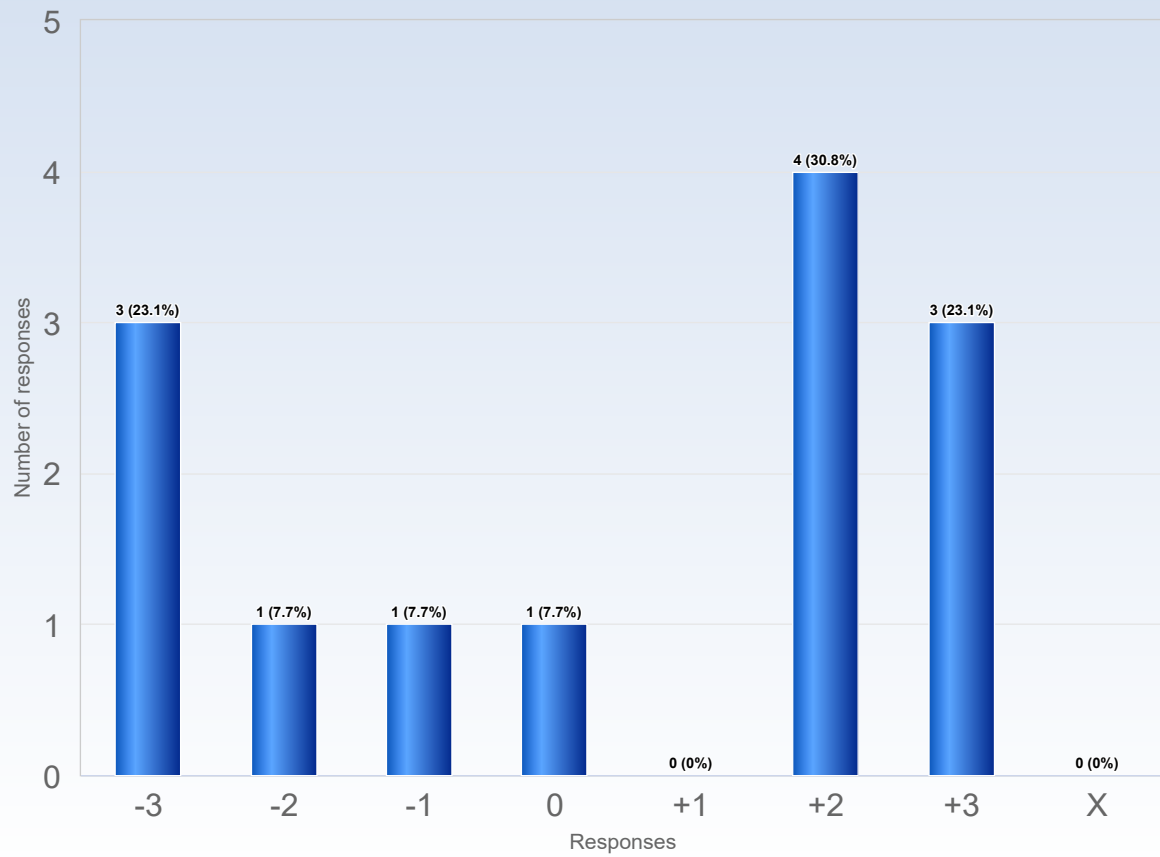
Comments (My response was: +2)

It's hard to give feedback on other's work, but also a good exercise.

15. I could practice and receive feedback without being graded



16. The assessment on the course was fair and honest



Comments

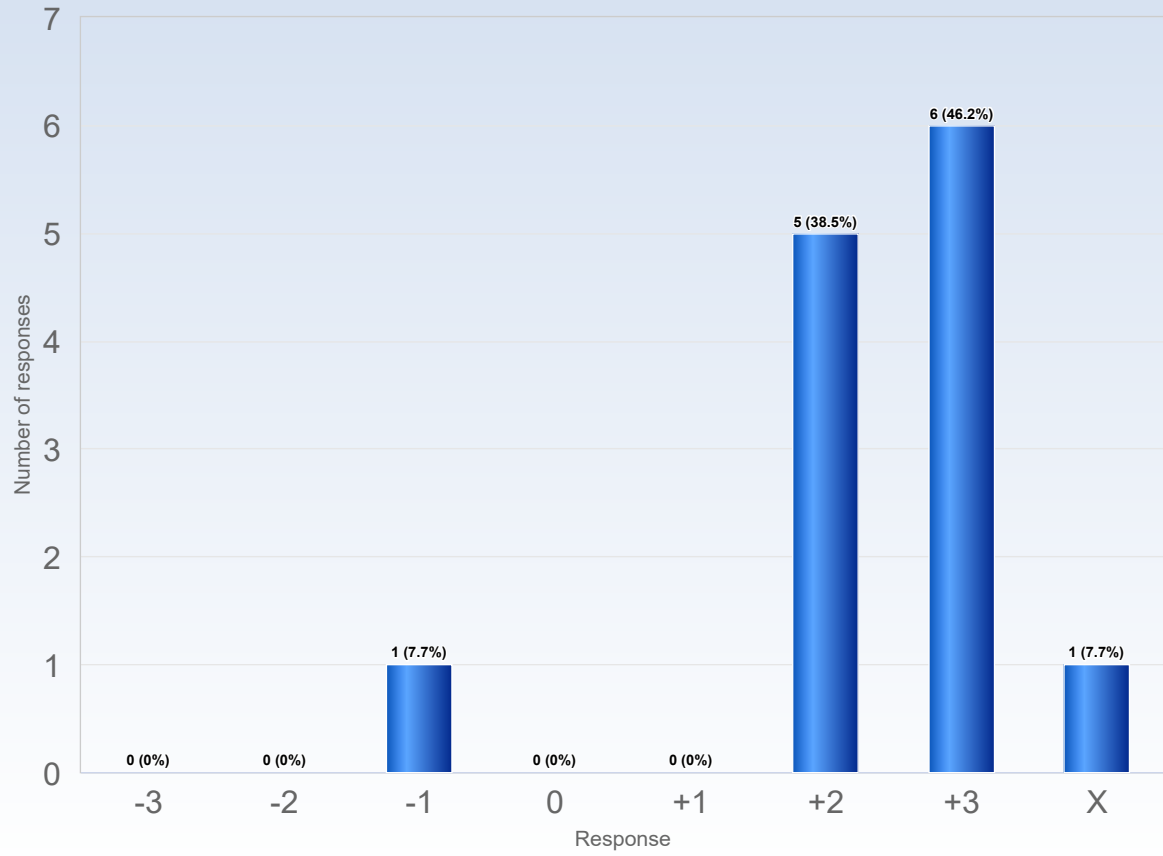
Comments (My response was: -2)

I think there should have been some grading guidelines for the peer grading. The level of grading (when points were deducted) was quite different between the groups.

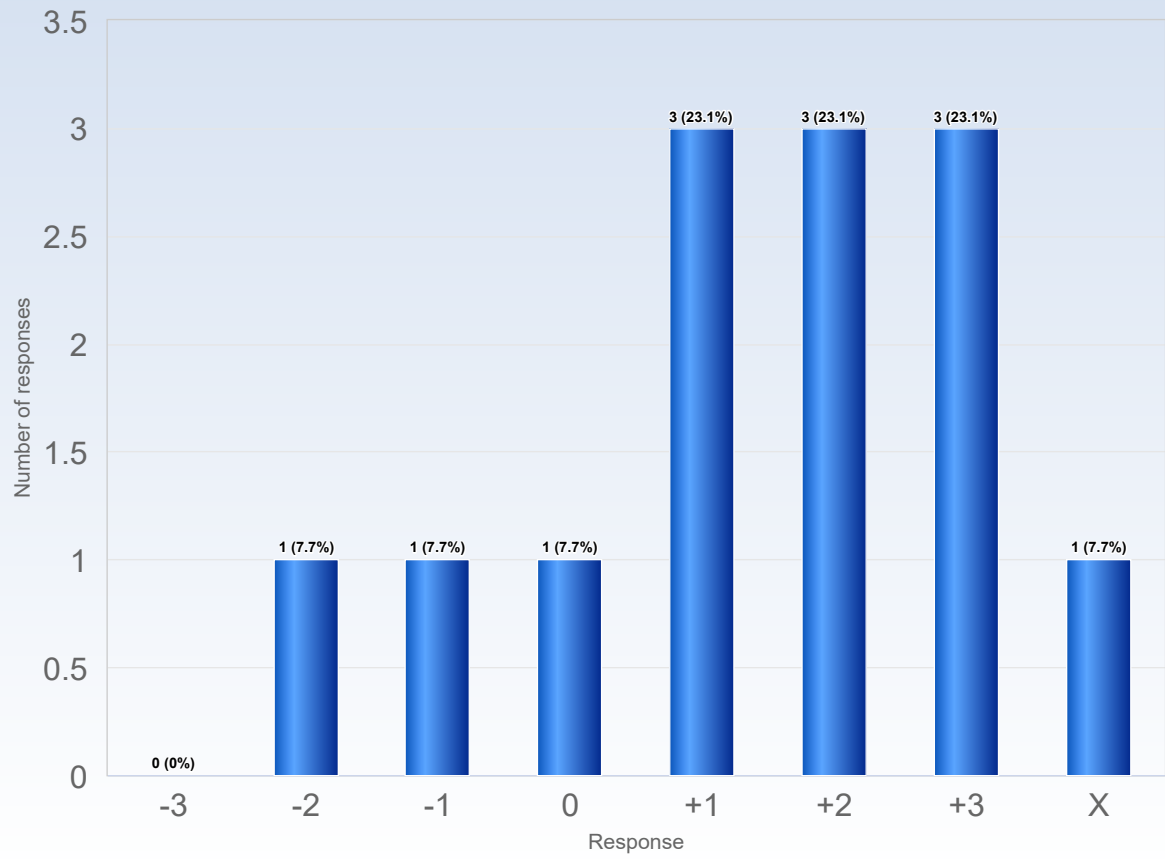
Comments (My response was: -1)

I liked the idea of peer grading, but different students clearly have different expectations of other people's work.

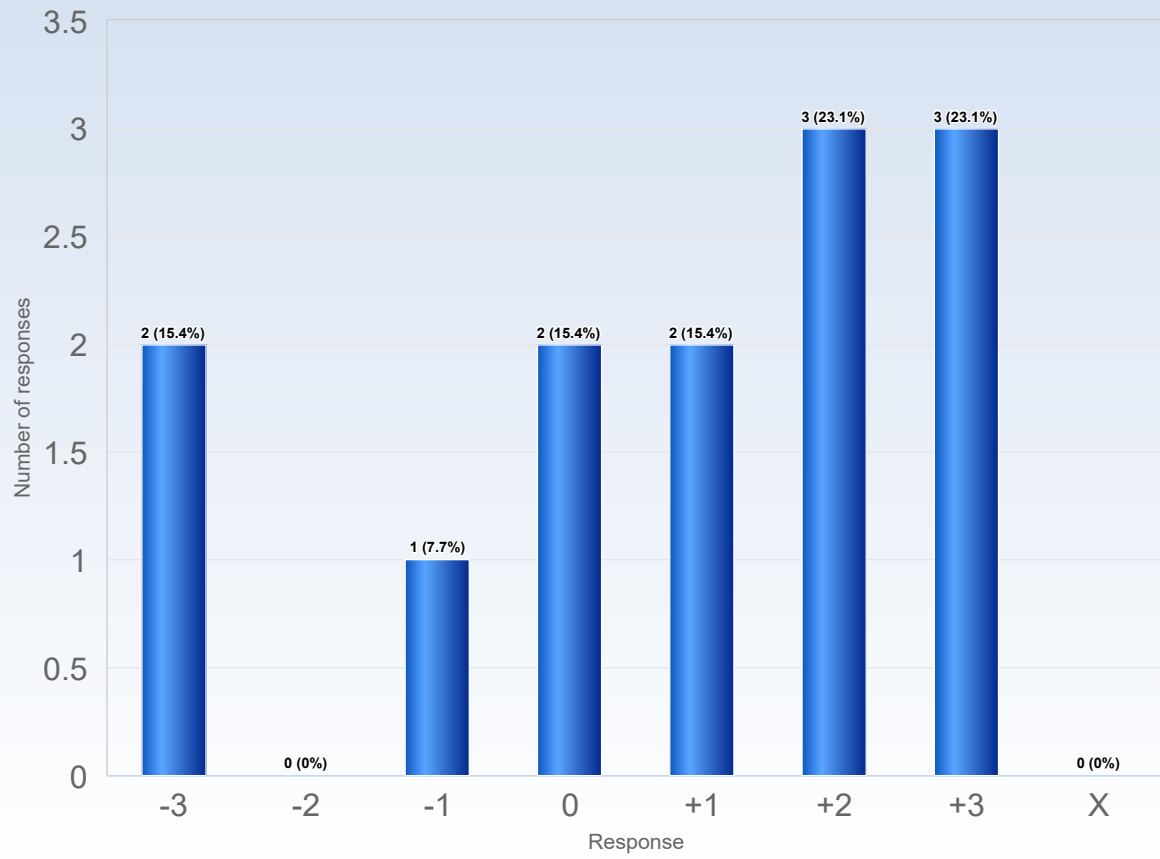
17. My background knowledge was sufficient to follow the course



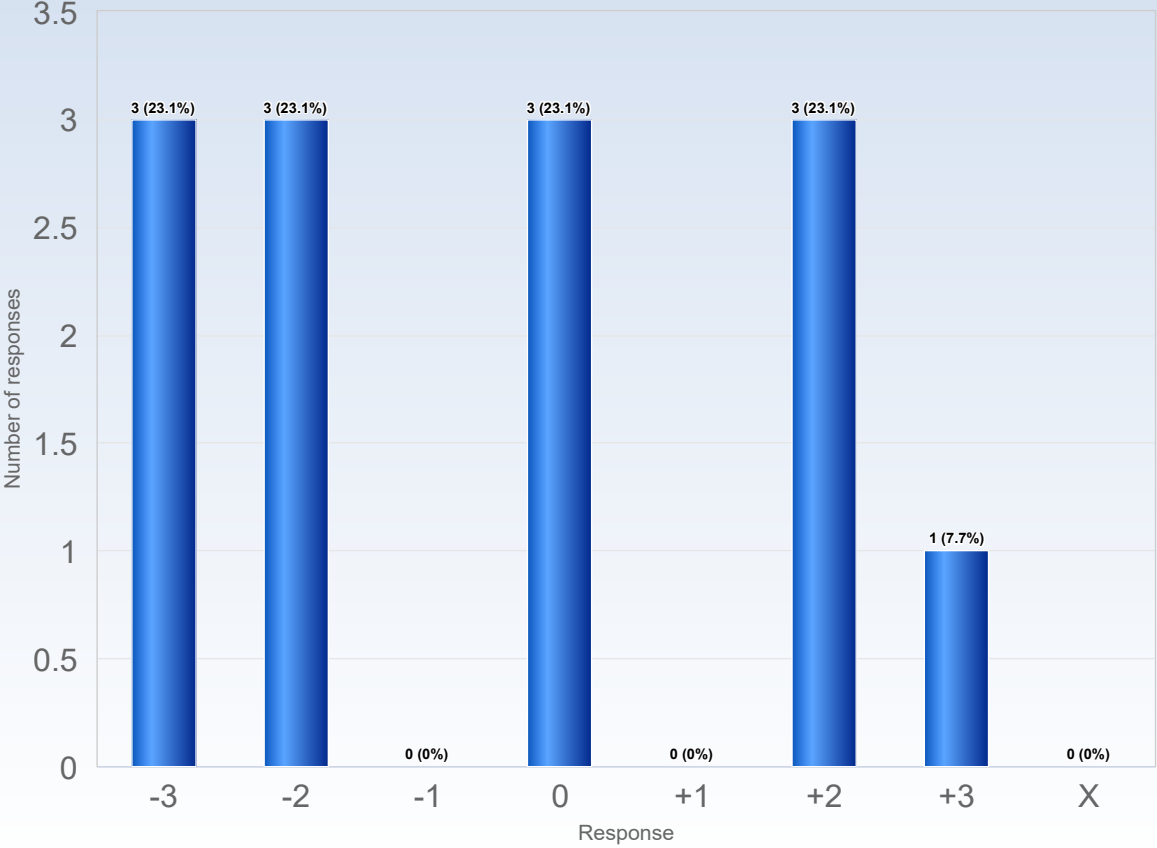
18. I regularly spent time to reflect on what I learned



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



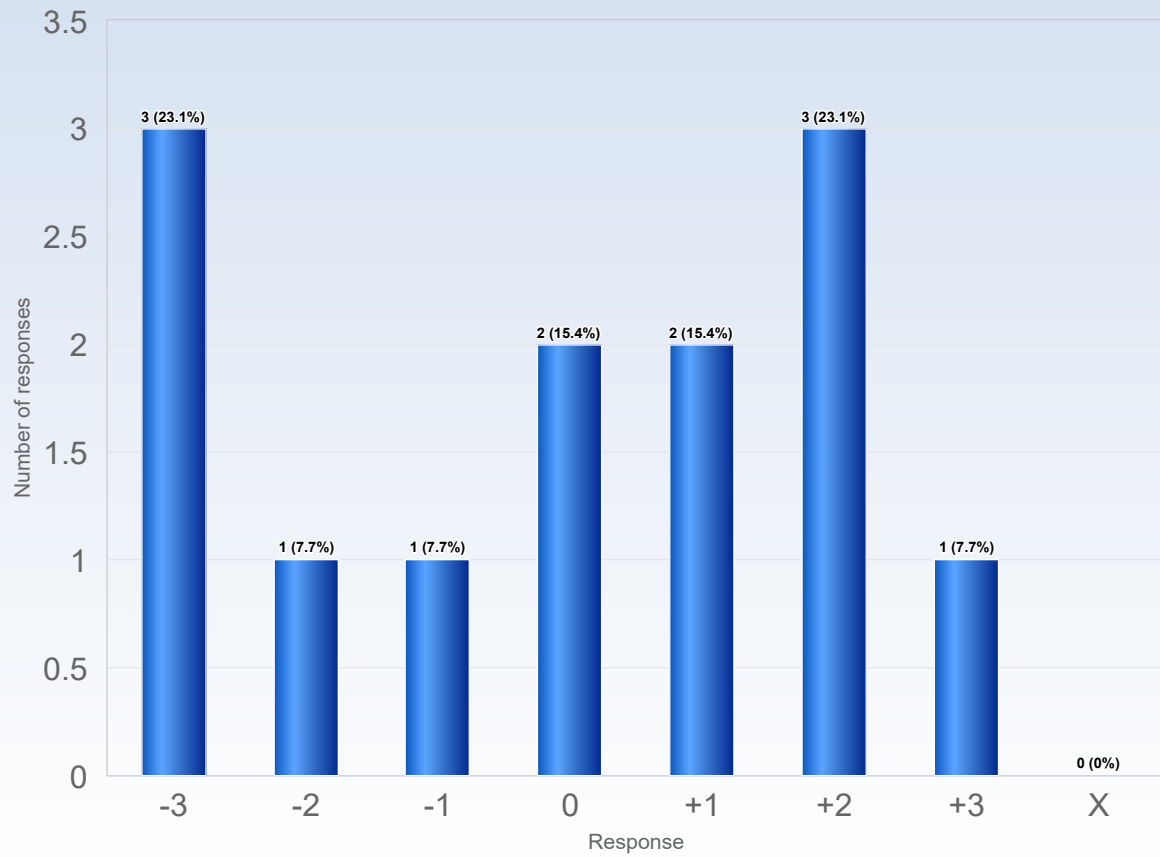
20. I had opportunities to influence the course activities



Comments

Comments (My response was: +2)
It was easy to ask questions

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



Comments

Comments (My response was: +2)

Hard in covid times, but the teachers really made an effort for this to happen.

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

