



Report - EF2245 - 2021-02-24

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):

Tomas Karlsson (tomas.karlsson@ee.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.

The students have had the opportunity to answer a standard LEQ course survey. This course analysis is based on that, plus my own impressions from 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.)

N/A

COURSE DESIGN

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

The course contains 10 x 2 h of lectures, plus 6 x 2 h tutorials. During the period, let the boundaries between the two types of activities be somewhat fluent, to obtain a better interaction between them. The course also contains 3 hand-in assignments to be solved in groups of three students, randomly assigned to the groups.

The dominant change since last terms is obviously the change to online teaching via Zoom, due to the pandemic. The examination was set up in a new way, as a hand.in examination with individualized tasks. Three more 'normal' problems, and two larger Matlab assignments.

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 seems to be rather nominal.

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 student's results were very good. In fact, maybe the examination is a little bit too easy. This is also discussed below.



STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

'The group assignments were a highlight for me. The problems were interesting, not too long and helped us apply the knowledge from the lectures. The quick feedback was also good.'

'The course is interesting.'

'Very interesting topics!'

'The group assignments were a highlight for me. The problems were interesting, not too long and helped us apply the knowledge from the lectures. The quick feedback was also good.'

'The lectures started to fall behind schedule more and more which made it more difficult to keep up with what reading as applicable for what lecture. Maybe planning more lectures with the possibility to cancel would be better.'

'Maybe see exercises every time an argument ends, in order to not forget the key concepts and see them with an application.'

'Mostly I thought it was fine. The hardest part to make digital is the classroom itself, meaning there were probably less questions during both the lectures and workshops than usual.'

'It (the examination/Tk) was long but the examiner gave us enough time to complete the exam despite having other exams scheduled in the same week. Fair.'

'I really liked the home exam, but I think there is a lot of room for improvement.'

First of all, I think it could be both longer (more questions) and harder (trickier questions). Basically don't be afraid to make it tougher, especially since we have a lot of time and resources to do it.

Second, I think you can include questions which focus on discussion and theory. It couldn't be easy questions one could simply look up online of course. This in order to make sure that we have properly understood the problem.

Third, I would like to see you challenge us with questions that have no "correct" answer. It could be you asking us to discuss some unexplained

phenomenon, and we would have to look up recent findings and research papers (maybe a miniature literature study).

This feedback is written from a student who did well enough on the exam to get an A, but is not at all satisfied with his own performance. I was not able to study the course material as much as I would have liked due to other exams and deliverables, and I was prepared for settling for a C maybe.'

SUMMARY OF STUDENTS' OPINIONS

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

The students are in general happy with the course. The Zoom teaching worked fine, but interaction with the students becomes more difficult.

The examination worked fine, but as can be seen there are some thoughts on if this is perhaps too easy. (Although I do not think this is the general opinion). However, I to some degree agree. I will think about this, and perhaps slowly over the next years add some more challenging tasks.

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.

Overall it worked OK with the online teaching. I will reflect a little bit on the examination.

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 differences in experience between:

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

The balance between lectures and tutorials seems to be OK in general, but perhaps they should be blended even more. As one student suggests, perhaps solve some examples already in context with the lecture?



PRIORITIZED COURSE DEVELOPMENT

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

The prioritized development for next year will probably be the examination. I think the Matlab assignments came out very well. In any case, nowadays it is more natural to work in Matlab or similar tools is natural when you set problems that are based on real data. It is a bit artificial to just read off of printed material. I think that ext year I will use a mixed form, with a shorter written examination with more theoretical context (perhaps three problems during a 3 h examination), and also have some individual data-based or modelling-based assignments.

OTHER INFORMATION

Is there anything else you would like to add?

N/A

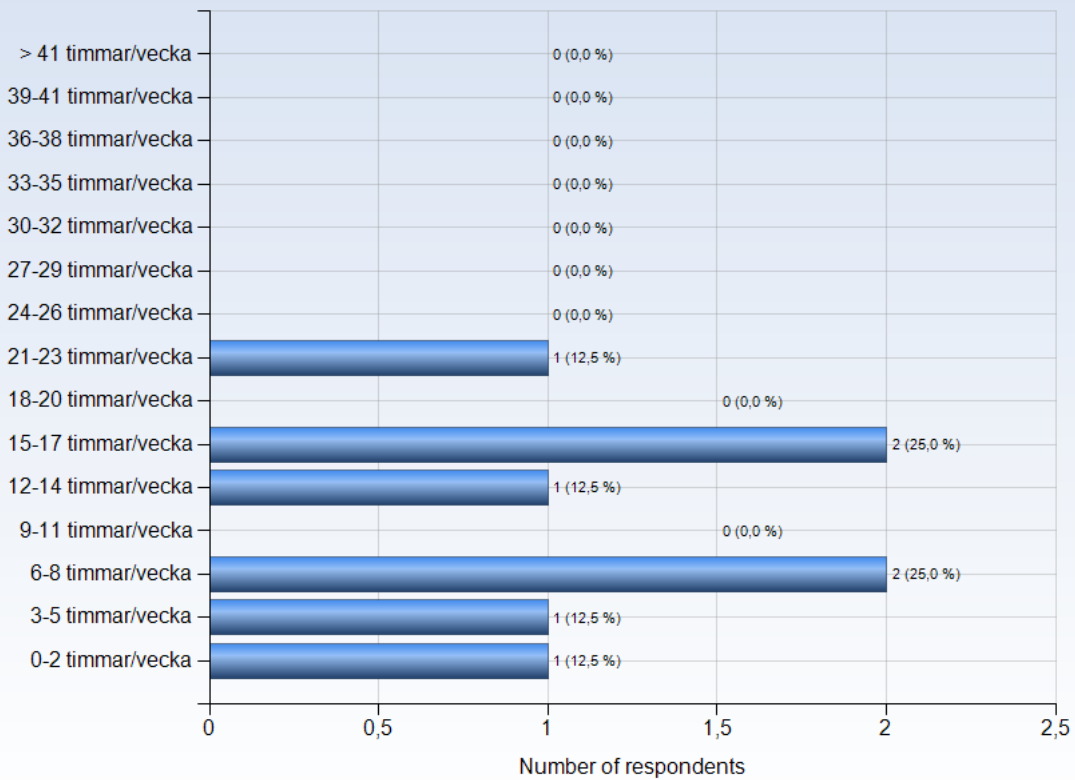


EF2245 - 2021-01-15

Antal respondenter: 24
Antal svar: 8
Svarsfrekvens: 33,33 %

ESTIMATED WORKLOAD

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



Comments

Comments (I worked: 0-2 timmar/vecka)

Work mostly for the assignments group work

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

It was quite hard to find time to study the course material for me this period. A lot was left for the finals week.

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

Good. The course is interesting. Reading the course once a week and do the tutorials before is enough to succeed in my opinion.



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:

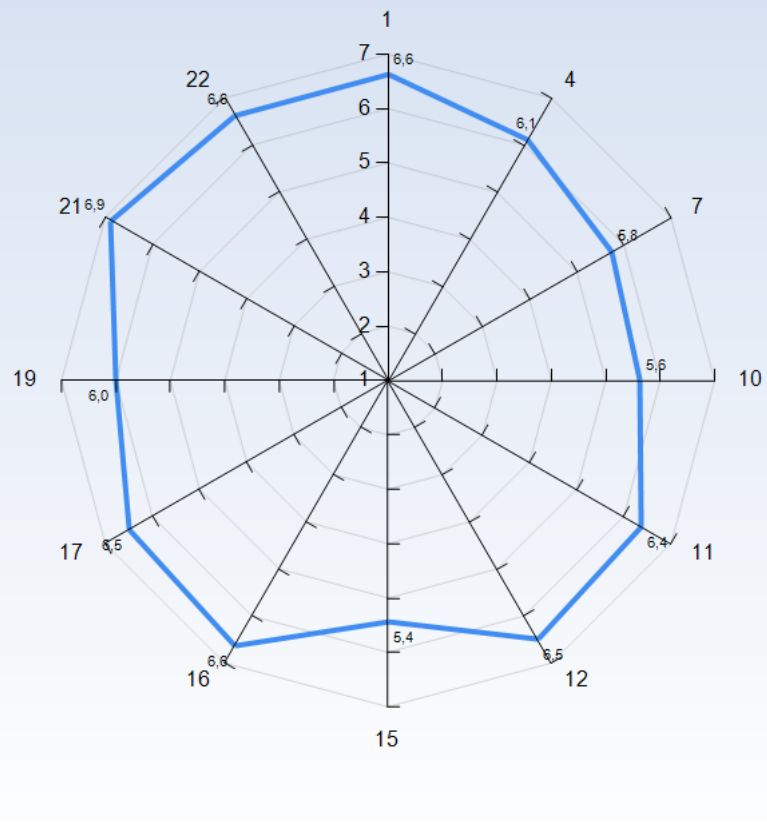
1 = No, I strongly disagree with the statement

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.

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.

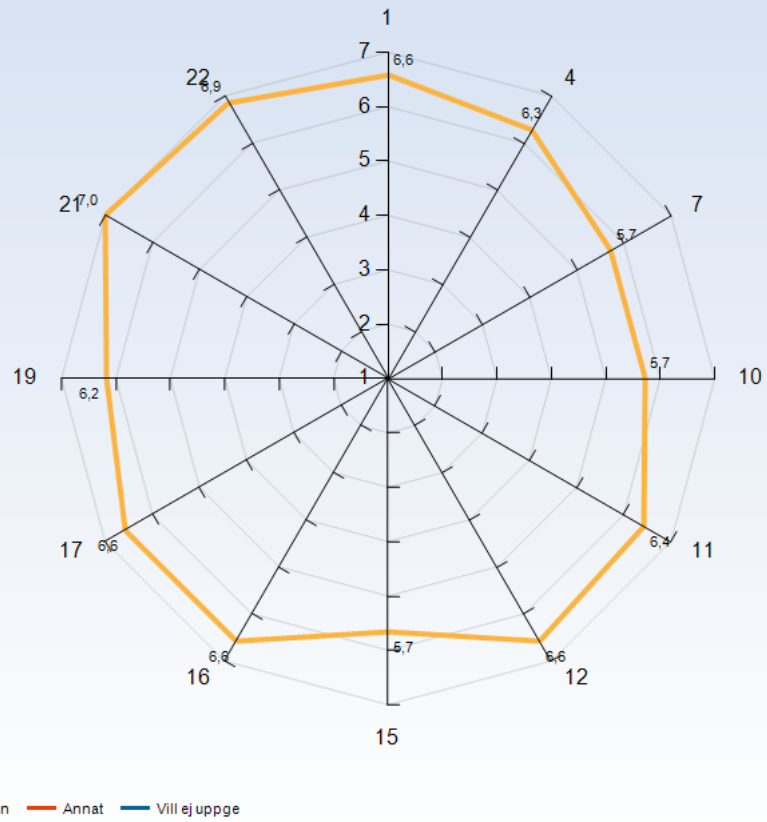
Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

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.

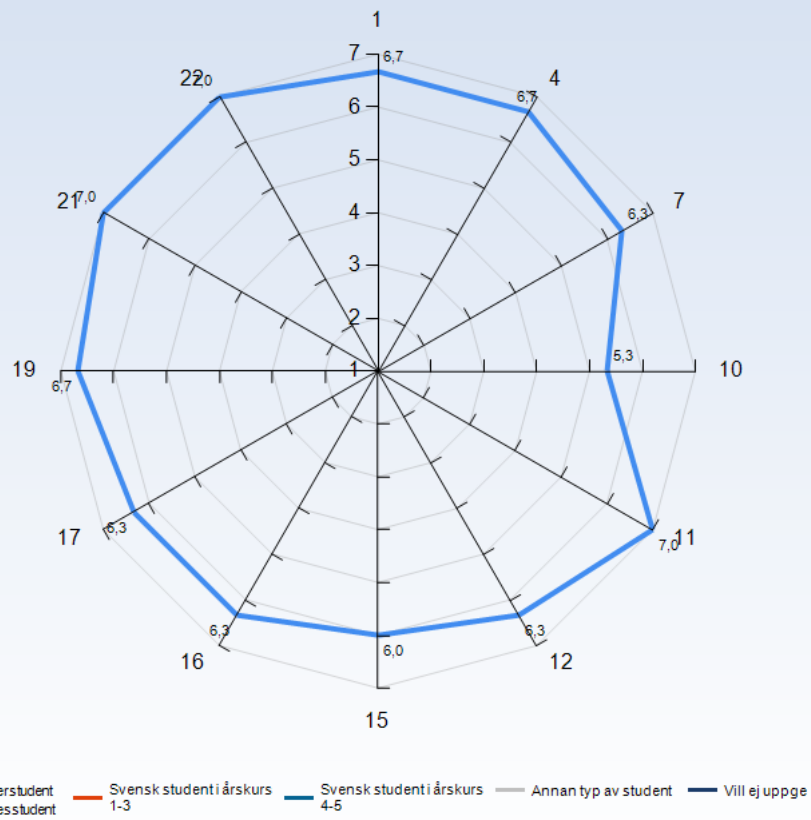
Ramsden, P. (2003). *Learning to Teach in Higher Education*, Chapter 6, pp. 84-105. New York: RoutledgeFalmer.

Average response to LEQ statements - per gender



Comments

Average response to LEQ statements - per type of student

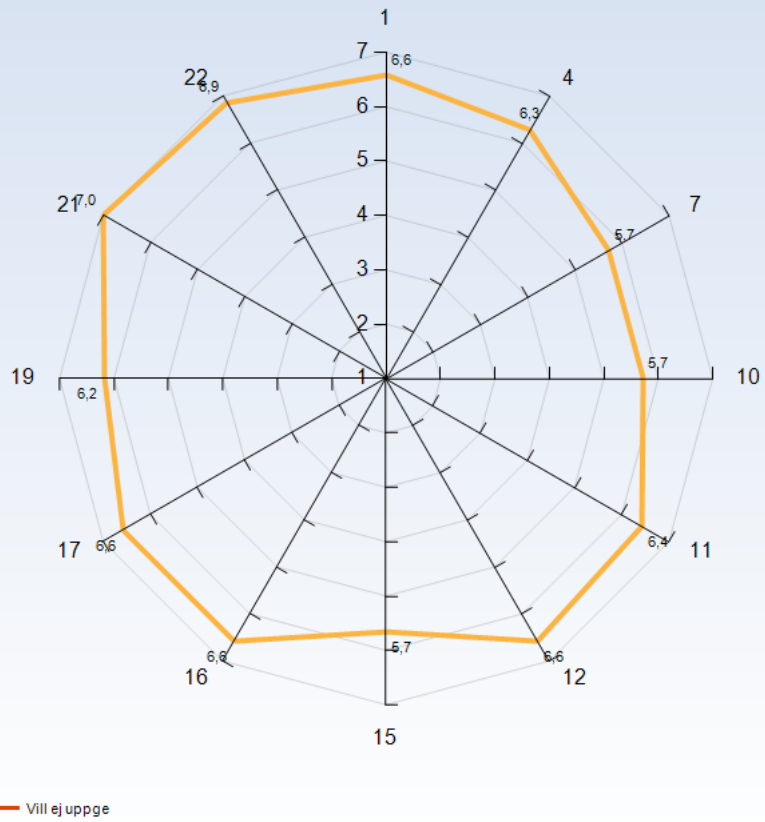


Comments

Comments (I am: Internationell masterstudent)

Good, everything in English

Average response to LEQ statements - per disability



Comments



GENERAL QUESTIONS

What was the best aspect of the course?

What was the best aspect of the course? (I worked: 0-2 timmar/vecka)

The group work assignments were a good way to meet each other and talk together in order to understand and learn better some topics

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

The topics, the group assignments. The final home exam was done in an interesting way, but I dont think it was perfect.

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

The group assignments where a highlight for me. The problems where interesting, not too long and helped us apply the knowledge from the lectures. The quick feedback was also good.

What was the best aspect of the course? (I worked: 21-23 timmar/vecka)

Computer home assignments

What would you suggest to improve?

What would you suggest to improve? (I worked: 0-2 timmar/vecka)

The learning on Zoom by just listening to the teacher and looking at slides was a bit difficult for me because I struggled to stay focus for the all 2 hours class

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

Some of the tutorials are a little tricky to follow.

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

The lectures started to fall behind schedule more and more which made it more difficult to keep up with what reading as applicable for what lecture. Maybe planning more lectures with the possibility to cancel would be better.

What would you suggest to improve? (I worked: 21-23 timmar/vecka)

Maybe see exercises every time an argument ends, in order to not forget the key concepts and see them with an application.

What advice would you like to give to future participants?

What advice would you like to give to future participants? (I worked: 0-2 timmar/vecka)

Take as much notes as possible during the course to stay focus and understand better

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

If you cant make time for all the course classes, prioritize the tutorials.

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

Attend the scheduled activities and do some reading to prepare for the lectures to get the most out of them.

What advice would you like to give to future participants? (I worked: 21-23 timmar/vecka)

Focus on concepts and understand how to use and combine final equations.



Is there anything else you would like to add?

Is there anything else you would like to add? (I worked: 3-5 timmar/vecka)

I really liked the home exam, but I think there is a lot of room for improvement.

First of all, I think it could be both longer (more questions) and harder (trickier questions). Basically dont be afraid to make it tougher, especially since we have a lot of time and resources to do it.

Second, I think you can include questions which focus on discussion and theory. It couldnt be easy questions one could simply look up online of course. This in order to make sure that we have properly understood the problem.

Third, I would like to see you challenge us with questions that have no "correct" answer. It could be you asking us to discuss some unexplained phenomenon, and we would have to look up recent findings and research papers (maybe a miniature literature study).

This feedback is written from a student who did well enough on the exam to get an A, but is not at all satisfied with his own performance. I was not able to study the course material as much as I would have liked due to other exams and deliverables, and I was prepared for settling for a C maybe.

As a closing comment, I am extremely impressed with both of your Space Physics courses. It feels like you actually give a shit about the course material, and you care about it in such a way that you want us to understand it properly. The last two periods have been extremely hectic for me, but I've had a ton of fun in both your courses. Thank you for that. Please keep teaching in the same way, but dont be afraid to challenge your students.

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

The change in examination compared to previous years felt good and appropriate for the situation.

Is there anything else you would like to add? (I worked: 21-23 timmar/vecka)

No

SPECIFIC QUESTIONS

How did you think the Covid-19 modifications of the course worked, specifically that all course moments were performed via Zoom?

How did you think the Covid-19 modifications of the course worked, specifically that all course moments were performed via Zoom?

It was the better way of doing it.

Mostly I thought it was fine. The hardest part to make digital is the classroom itself, meaning there were probably less questions during both the lectures and workshops than usual.

It was really difficult for me to stay focus on Zoom alone in front of my computer, I also missed being and working with other students but the assignments helped for that

It worked very well, I have nothing to complain about.

It was good to have lectures recorded

What did you think about the examination?

What did you think about the examination?

I really like it

It was handled well and seemed fair, even though it probably took more time to construct and correct.

Enough time was given and the difficulty was correct

Fair and good. In my opinion one of the best forms of examinations.

See above comments :)

It was long but the examiner gave us enough time to complete the exam despite having other exams scheduled in the same week. Fair.



RESPONSE DATA

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

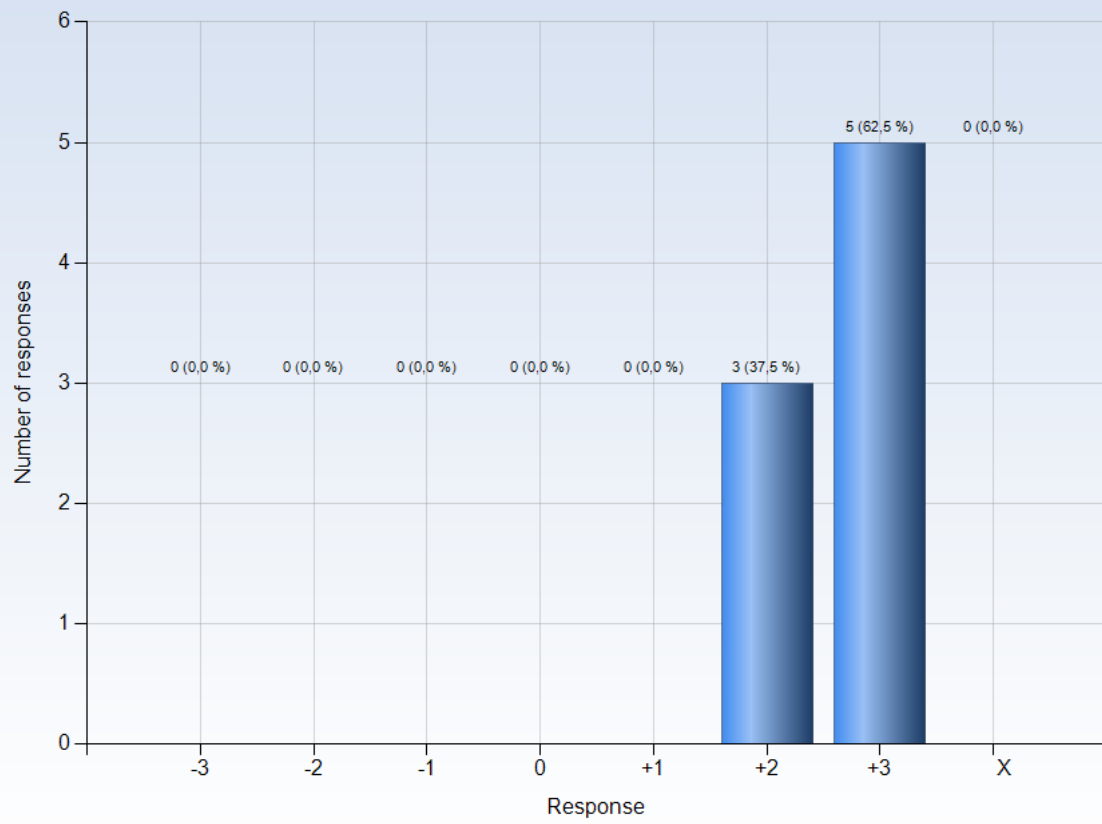
-3 = No, I strongly disagree with the statement

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

1. I worked with interesting issues

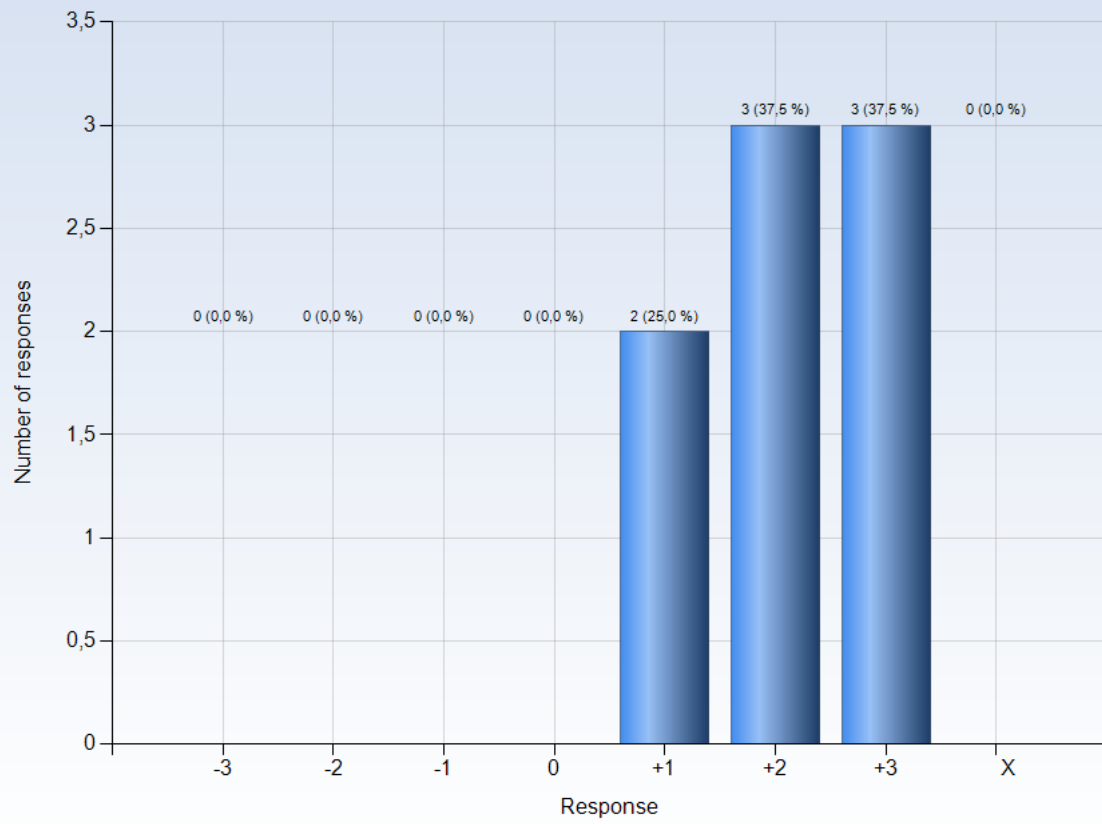


Comments

Comments (My response was: +3)

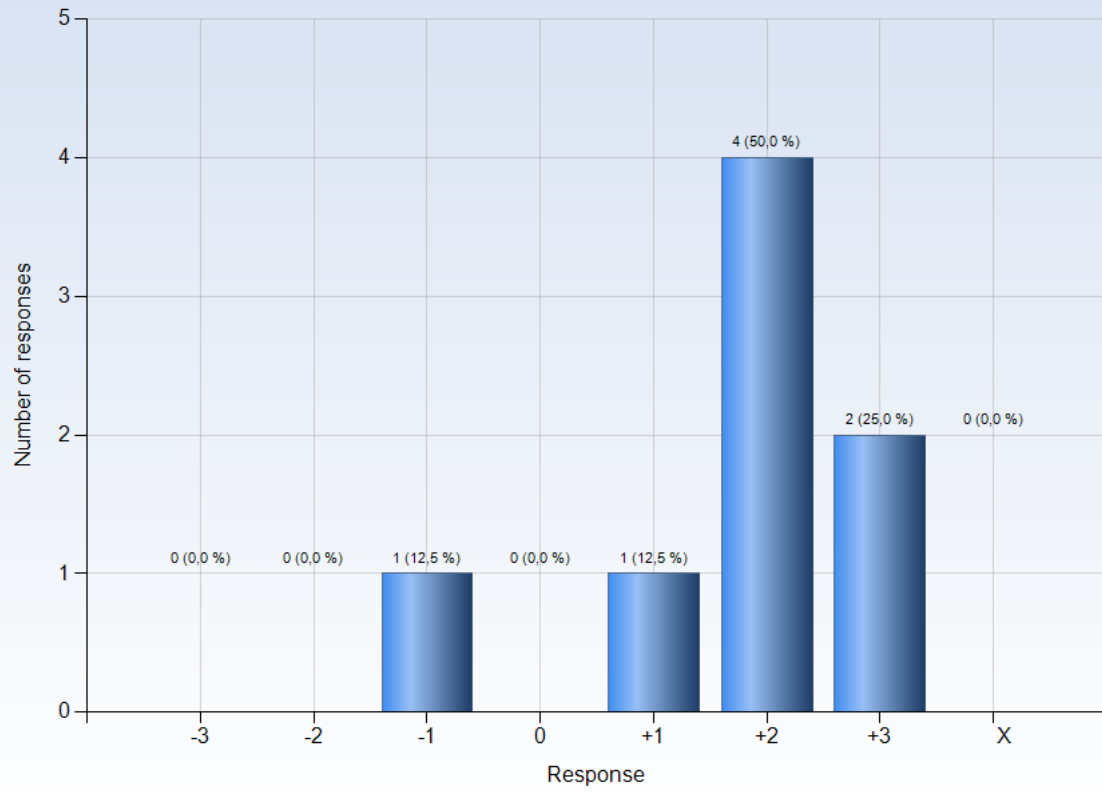
Very interesting topics!

4. The course was challenging in a stimulating way



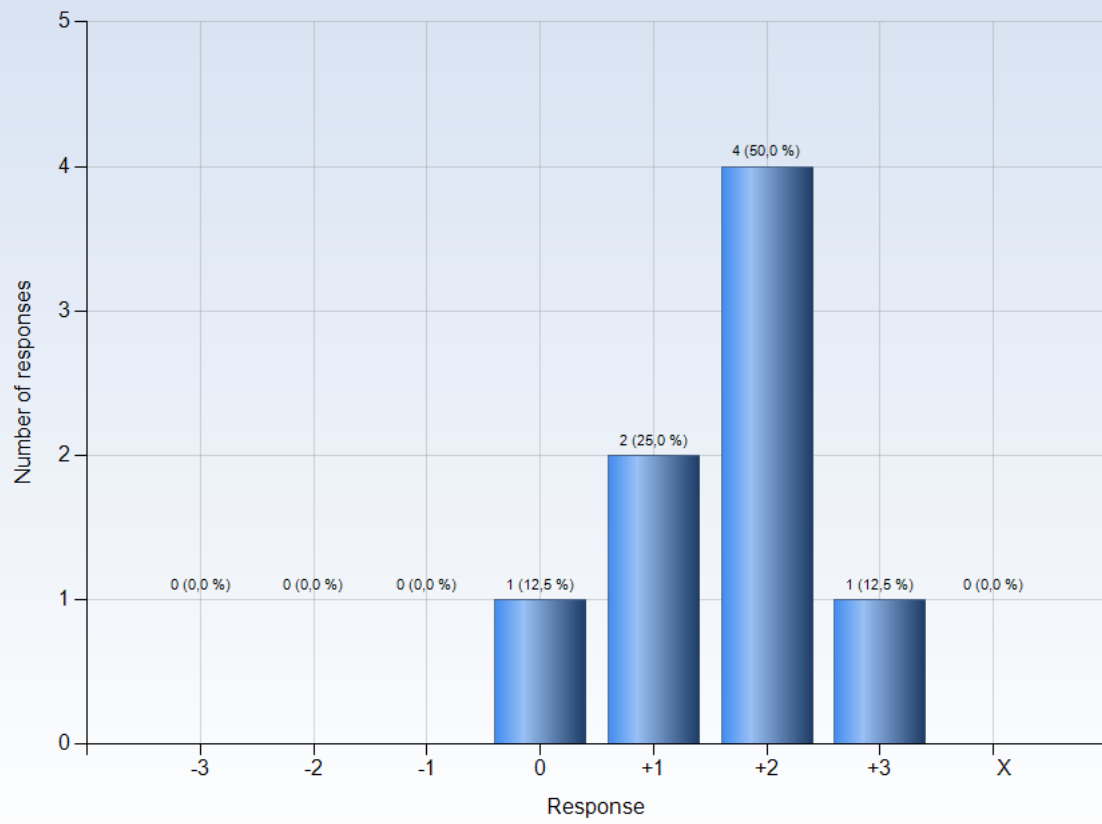
Comments

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



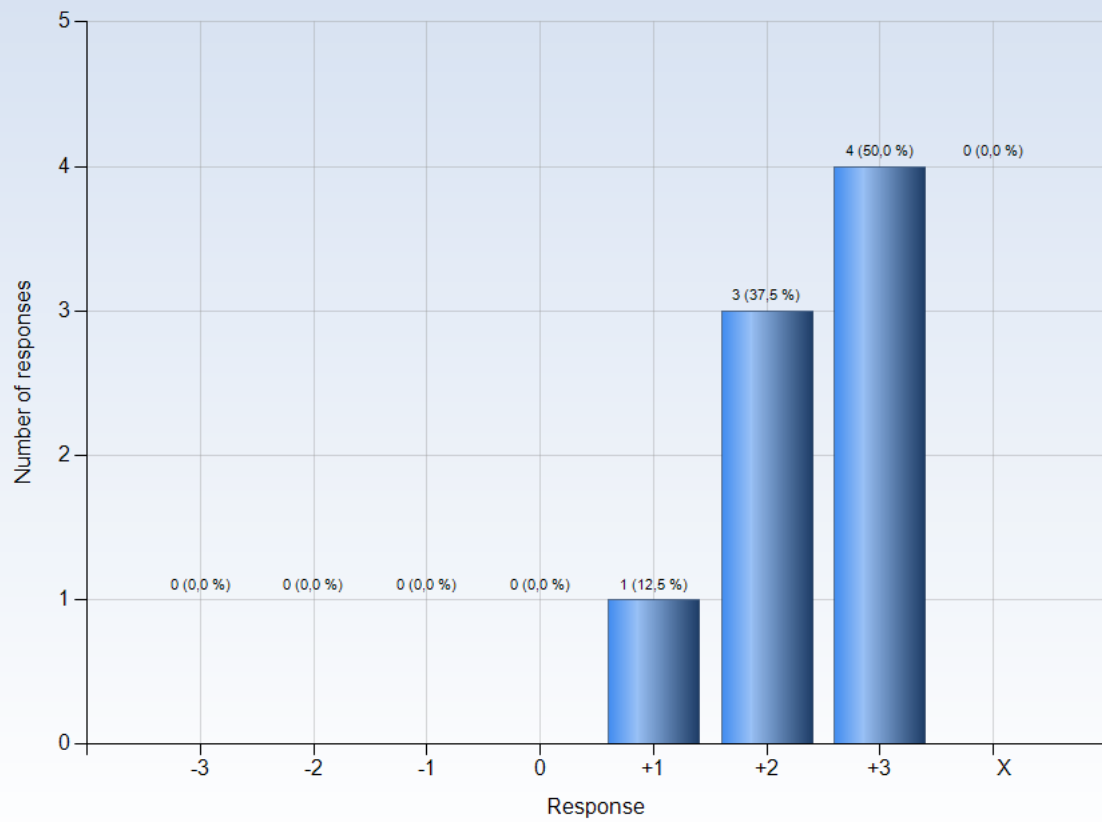
Comments

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



Comments

11. Understanding of key concepts had high priority

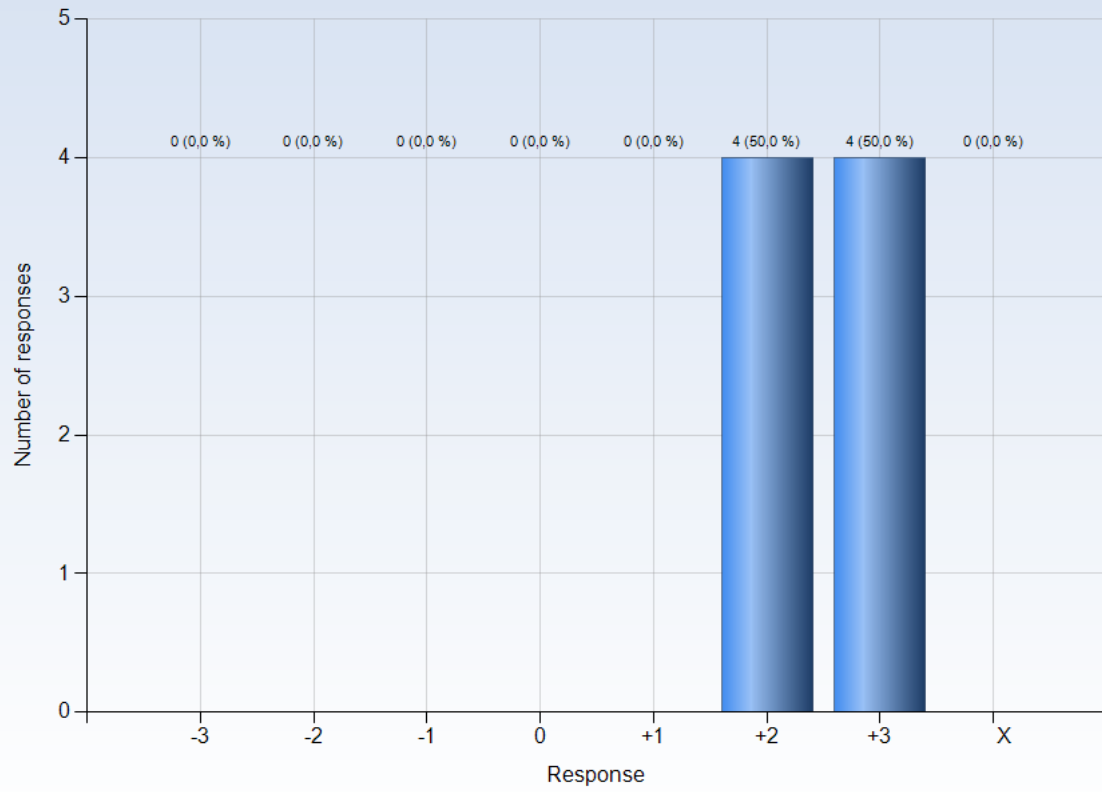


Comments

Comments (My response was: +2)

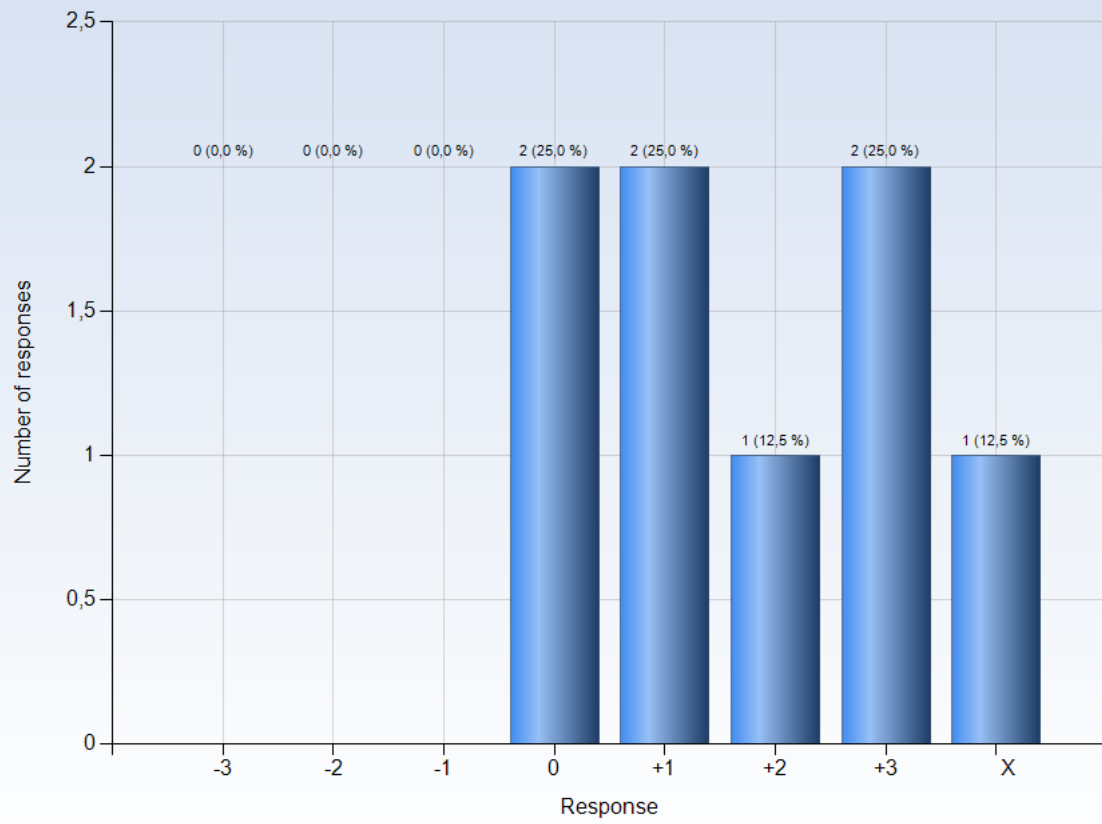
Yes, but I think one can get away with not knowing certain things very well

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



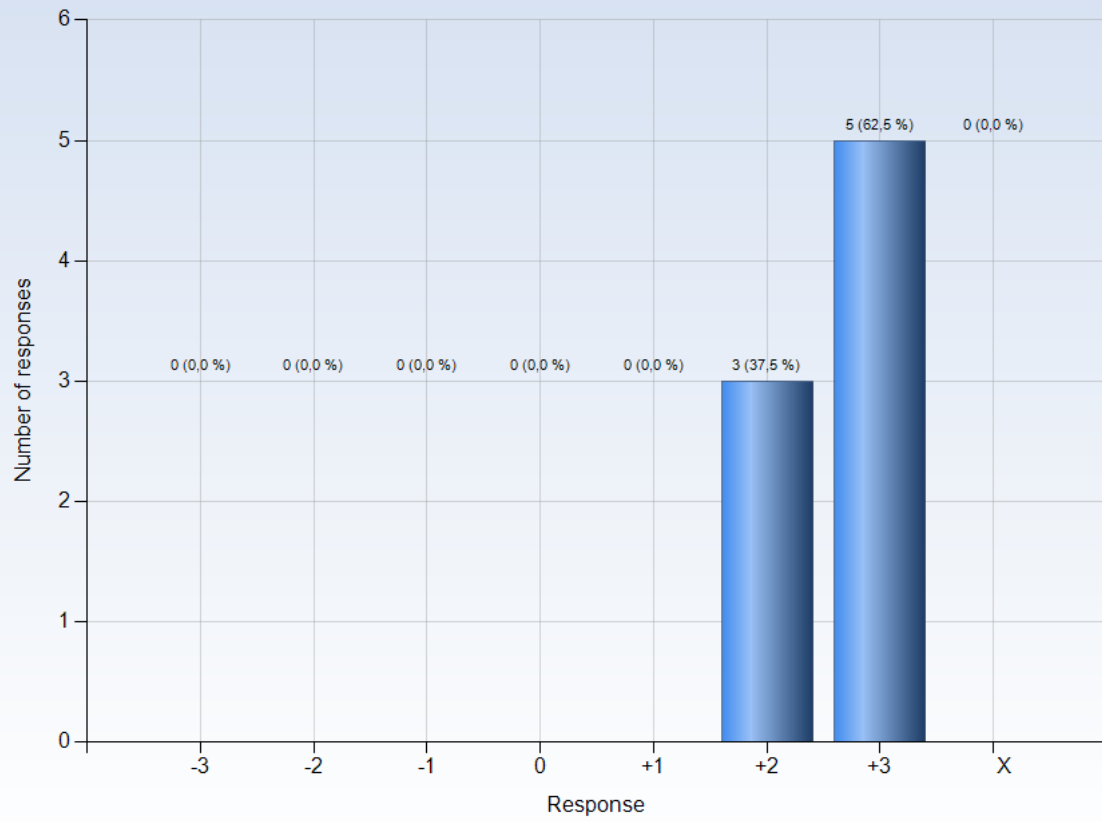
Comments

15. I was able to practice and receive feedback without being graded



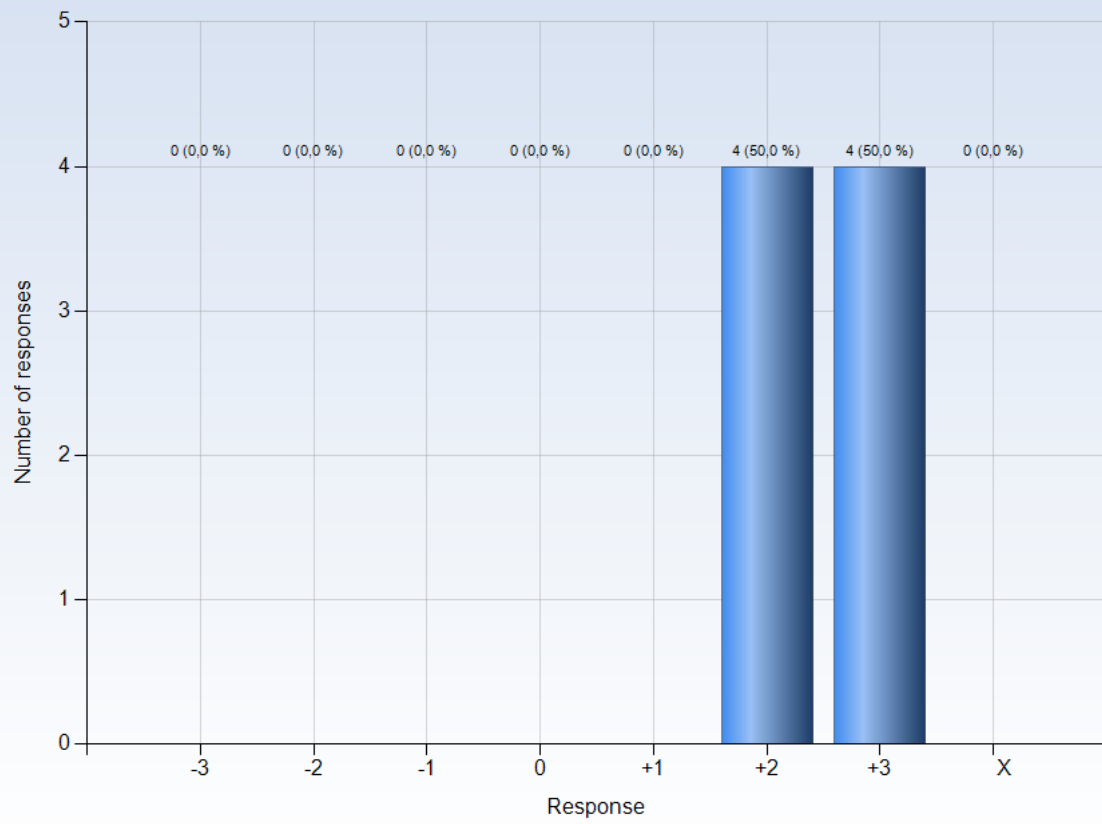
Comments

16. The assessment on the course was fair and honest



Comments

17. My background knowledge was sufficient to follow the course

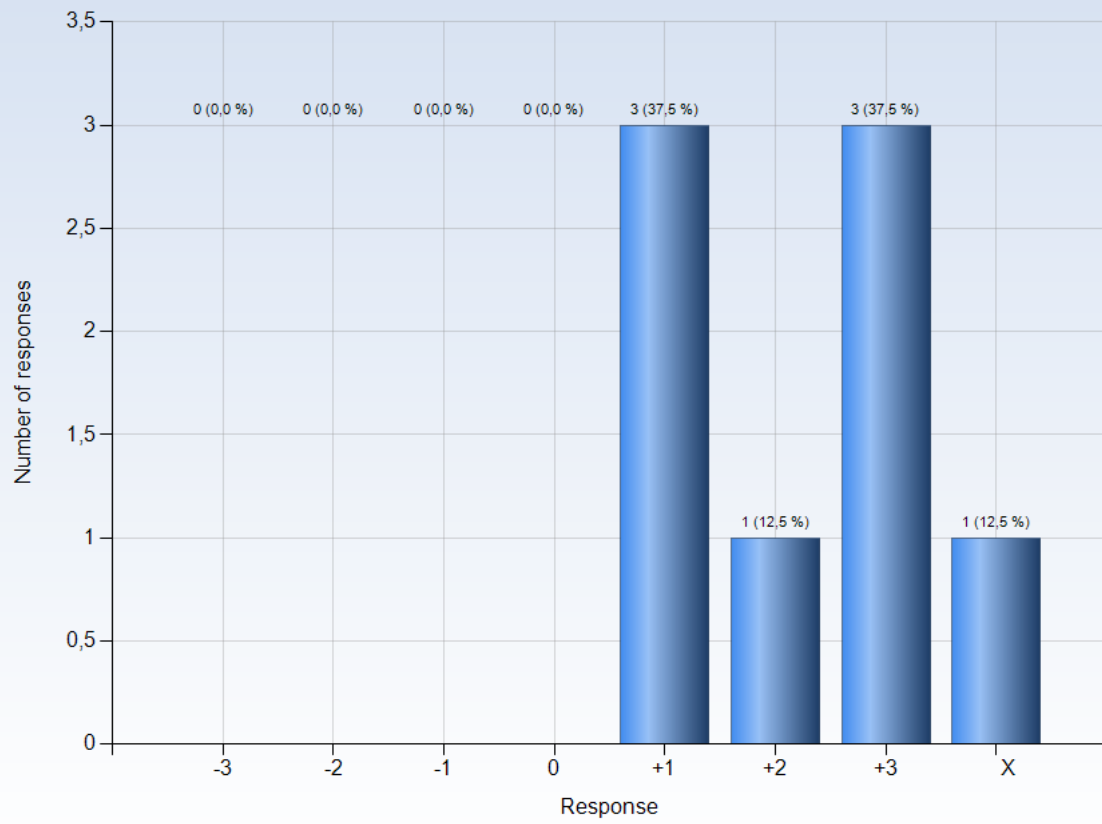


Comments

Comments (My response was: +2)

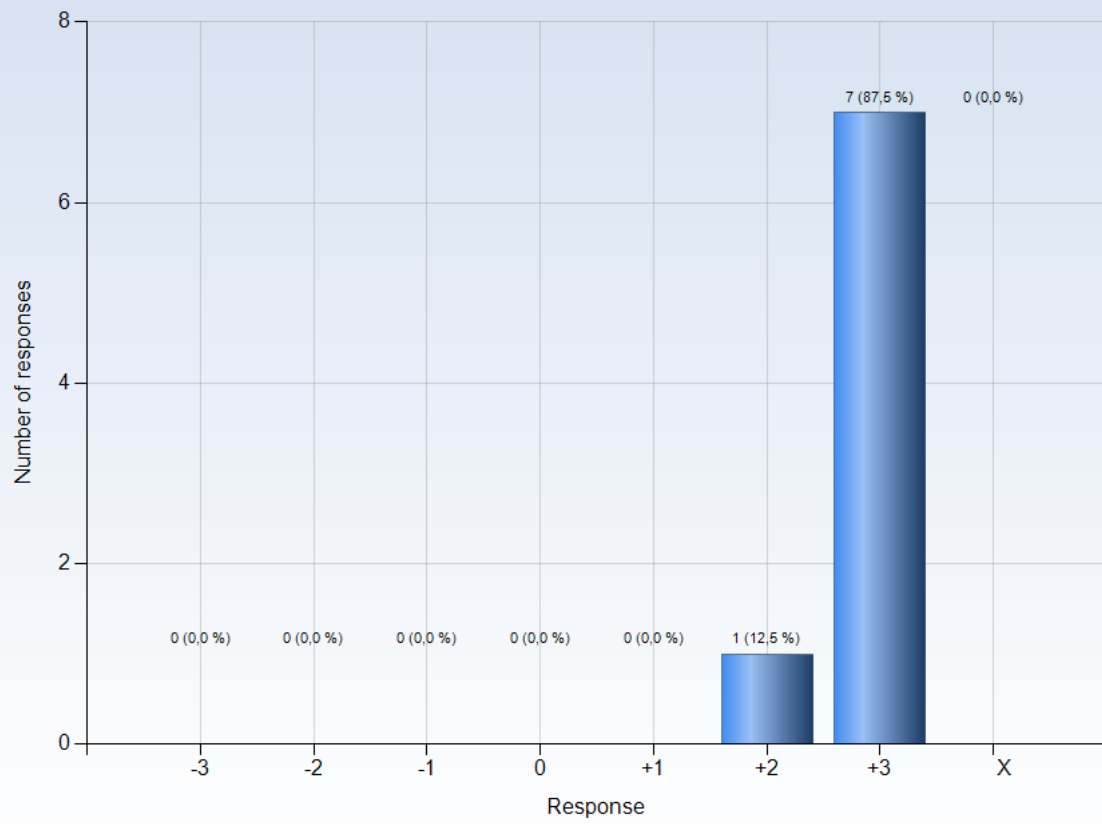
Mostly yes

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



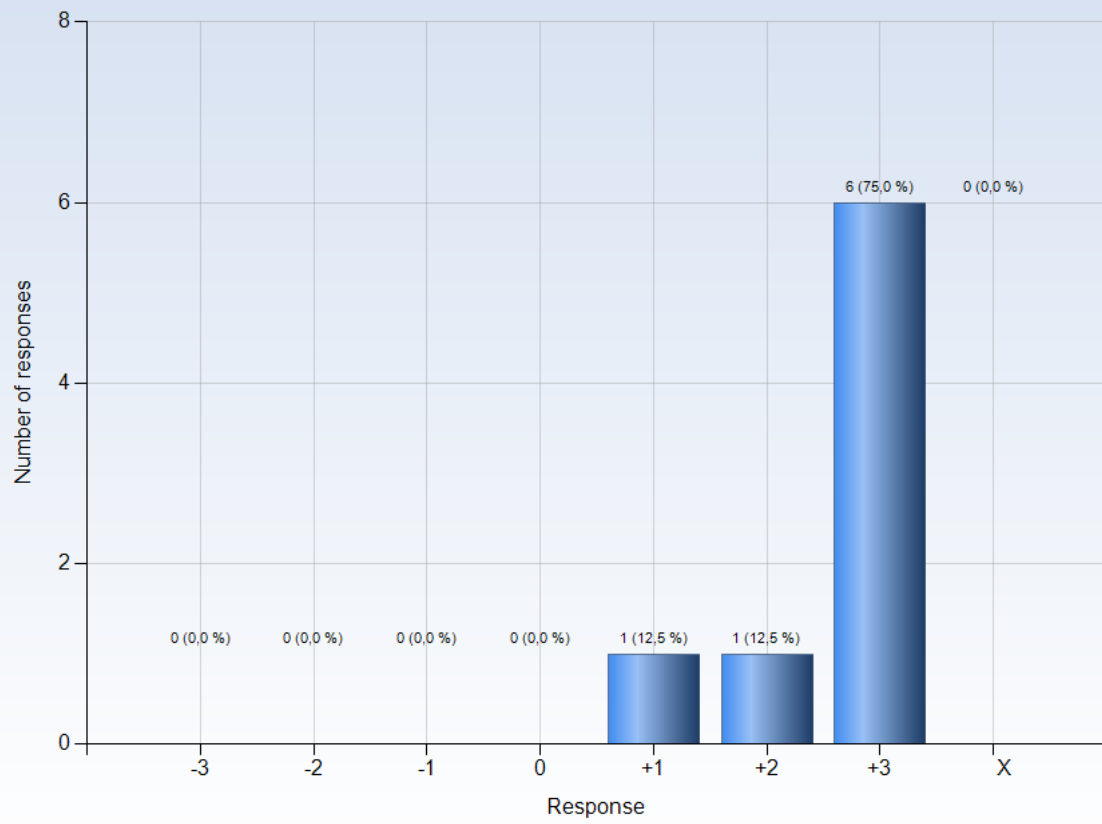
Comments

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