



Report - EQ2401 - 2020-09-01

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):

Magnus Jansson (janssonm@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.

Course evaluation open during 2020-03-10 - 2020-03-23.

COURSE DESIGN

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

12 lectures to give an overview of the theory. 7 problem solving sessions led by a teaching assistant to illustrate problem solving techniques. This is fewer sessions than in most other courses with the motivation to give more time to students' own practicing of problem solving outside class. Computer exercise material is provided (but not scheduled in class) to practice computer based problem solving and to illustrate theory. The examination consists of two projects where semi-practical problems should be solved by computer based tools and reported by computer code, demo, and oral presentation in groups of two students. The projects also serve the purpose of getting students active during the course. Written exam in the end. We also have weekly voluntary homework assignments on problem solving. Again, with the purpose of promoting students' active continuous learning. Completion of homework assignments give bonus points that are added to the exam score. Well solved projects also give bonus points.

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?

I think the workload seems to be on an OK level.

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 result was good, 81% passed on the first exam with a reasonable distribution among grades, and quite similar to previous years.



STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

See the course evaluation report.

SUMMARY OF STUDENTS' OPINIONS

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

The students responding to the evaluation are very positive in general. Good lectures, useful and interesting projects, good course organization and lecture notes. They would have liked to get more feedback on their projects. Good with the voluntary homework problems that students recommend to future students.

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.

Essentially no changes were made in the course design. The TA was new last year and the problem solving sessions seems to have been much better this time.

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?

Projects and homework problems are good and appreciated learning activities. The lectures were appreciated but I think they should be made more interactive. The projects are presented orally in front of the professor and are quite carefully scrutinized in detail. Still the students ask for more feedback. We will need to think of how to improve the level of feedback.

PRIORITIZED COURSE DEVELOPMENT

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

New projects again. Project feedback.

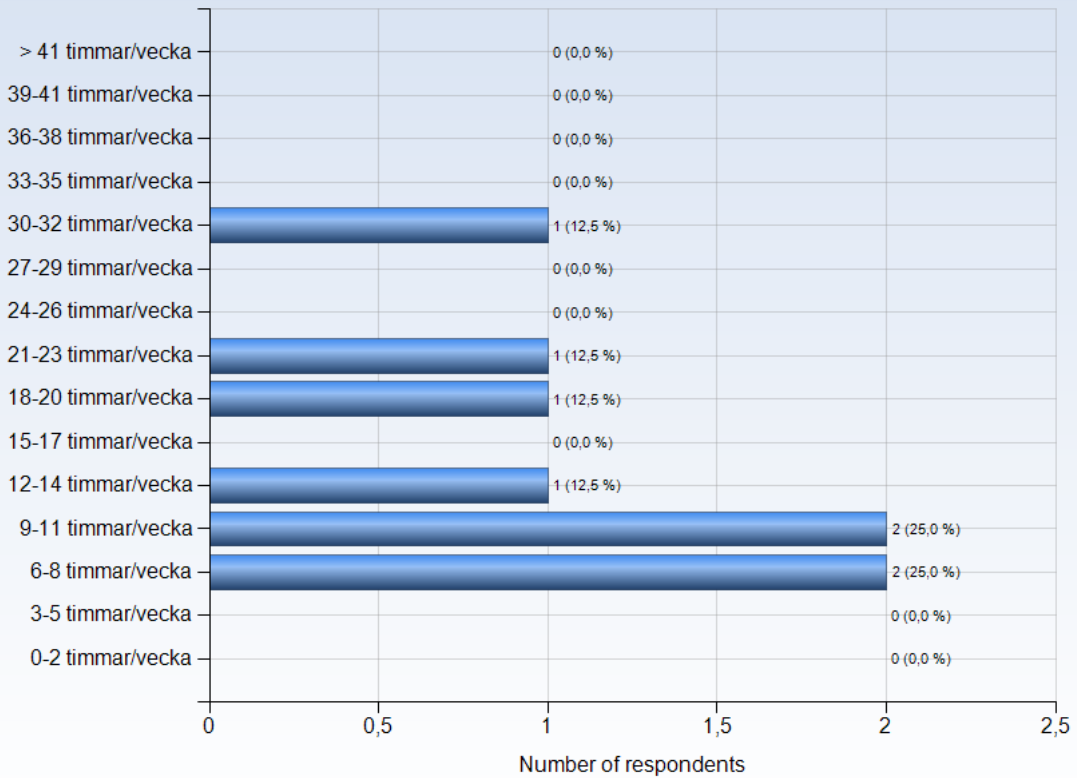


EQ2401 - 2020-03-09

Antal respondenter: 18
Antal svar: 8
Svarsfrekvens: 44,44 %

ESTIMATED WORKLOAD

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



Comments

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

Lectures and exercises that I could attend + some hours for project work and homeworks.

Comments (I worked: 21-23 timmar/vecka)

The projects where time consuming.



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:

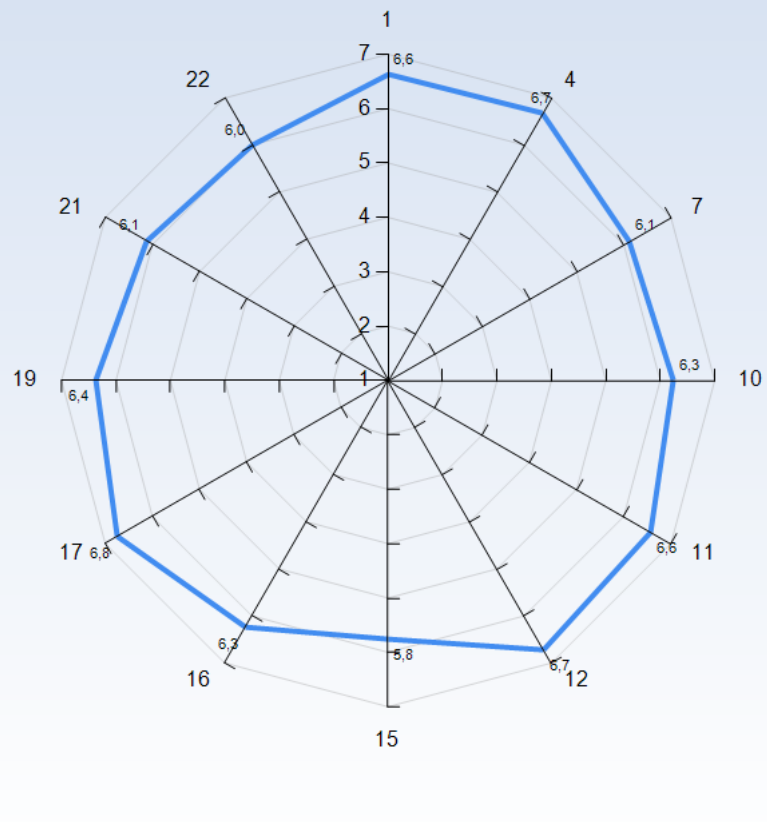
1 = No, I strongly disagree with the statement

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.

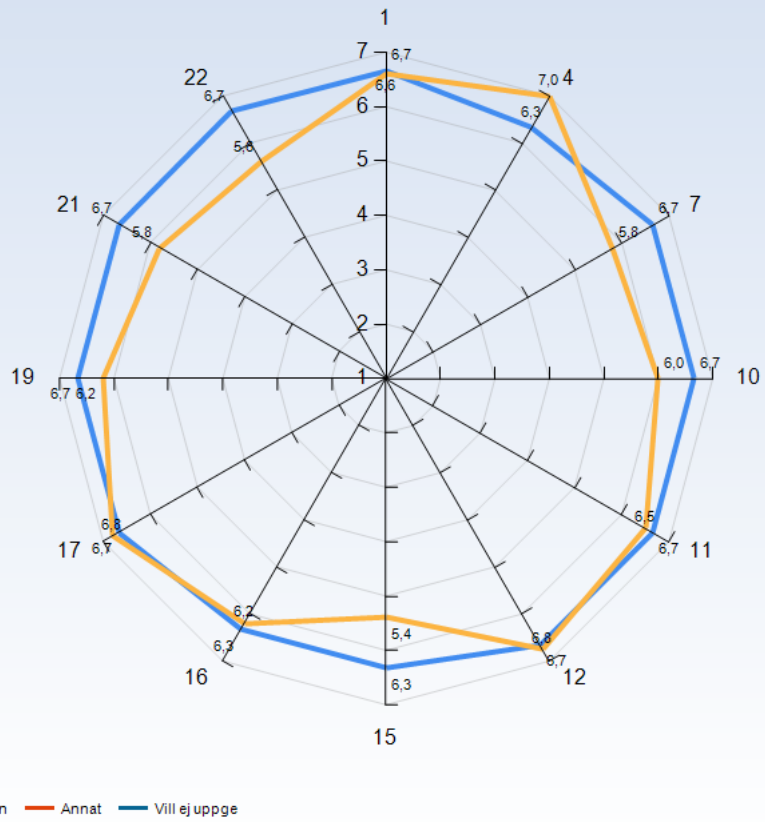
Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

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.

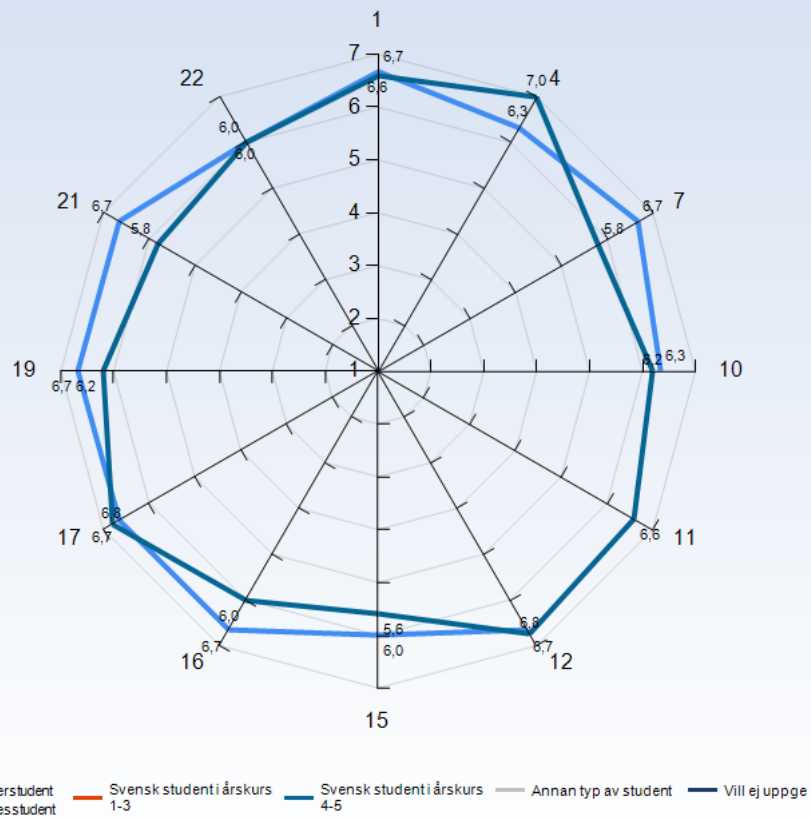
Ramsden, P. (2003). *Learning to Teach in Higher Education*, Chapter 6, pp. 84-105. New York: RoutledgeFalmer.

Average response to LEQ statements - per gender



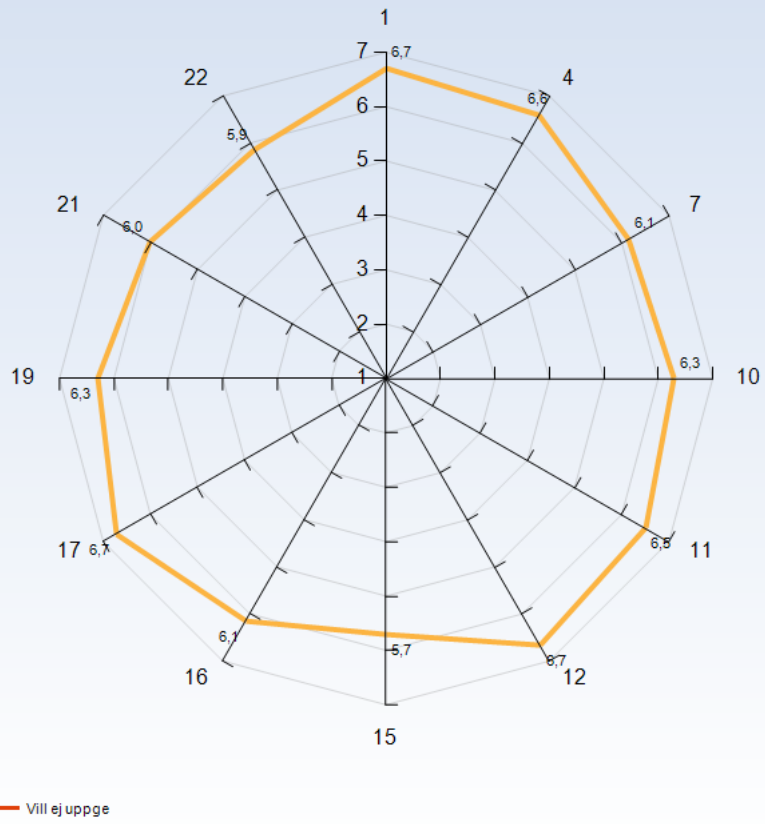
Comments

Average response to LEQ statements - per type of student



Comments

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: 6-8 timmar/vecka)

Good lectures and course compendium. I also liked the home assignments. They helped practice exercises while getting feedback.

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

The projects help me learn better.

The projects were a nice touch! Homeworks are always nice to keep up the learning during the whole course.

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

Very clear what you were expected to know, since lectures and tutorial sessions followed the lecture notes closely.

What was the best aspect of the course? (I worked: 30-32 timmar/vecka)

The emphasis on a limited but very functional amount of theory

What would you suggest to improve?

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

It would be nice to get more feedback on the project assignments and presentations. It would be helpful to know why you got a certain number of points to know what was good and what could be improved.

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

Propose reference answer for the projects.

Feedback on the projects would have been nice.

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

Maybe clearer instructions on the project assignment (e.g. more hints).

What would you suggest to improve? (I worked: 30-32 timmar/vecka)

I would suggest to try to show-case more potential models of the different systems in terms of how they function when applied as vector quantities, as linearizations of non-linear systems et cetera. Also breakdown the core concepts of the algorithms and explain how the different parts of one are connected.

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)

It is worth doing the home assignments.

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

Do the projects carefully.

Do the homeworks, attend the lectures and learn to use lecture notes before the exam to find info!

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

Do some problems on your own in the problem collection, and start early doing old exam problems. Go to all the lectures.

What advice would you like to give to future participants? (I worked: 30-32 timmar/vecka)

Ask a lot of questions. This is a theoretical course and all things are not obvious, even after some studies.

Is there anything else you would like to add?

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

No

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

If you don't know matrix calculus, look up some key concepts, such as the definition of the derivative of a vector with respect to a vector.

Is there anything else you would like to add? (I worked: 30-32 timmar/vecka)

Magnus and the TA were very helpful.



SPECIFIC QUESTIONS



RESPONSE DATA

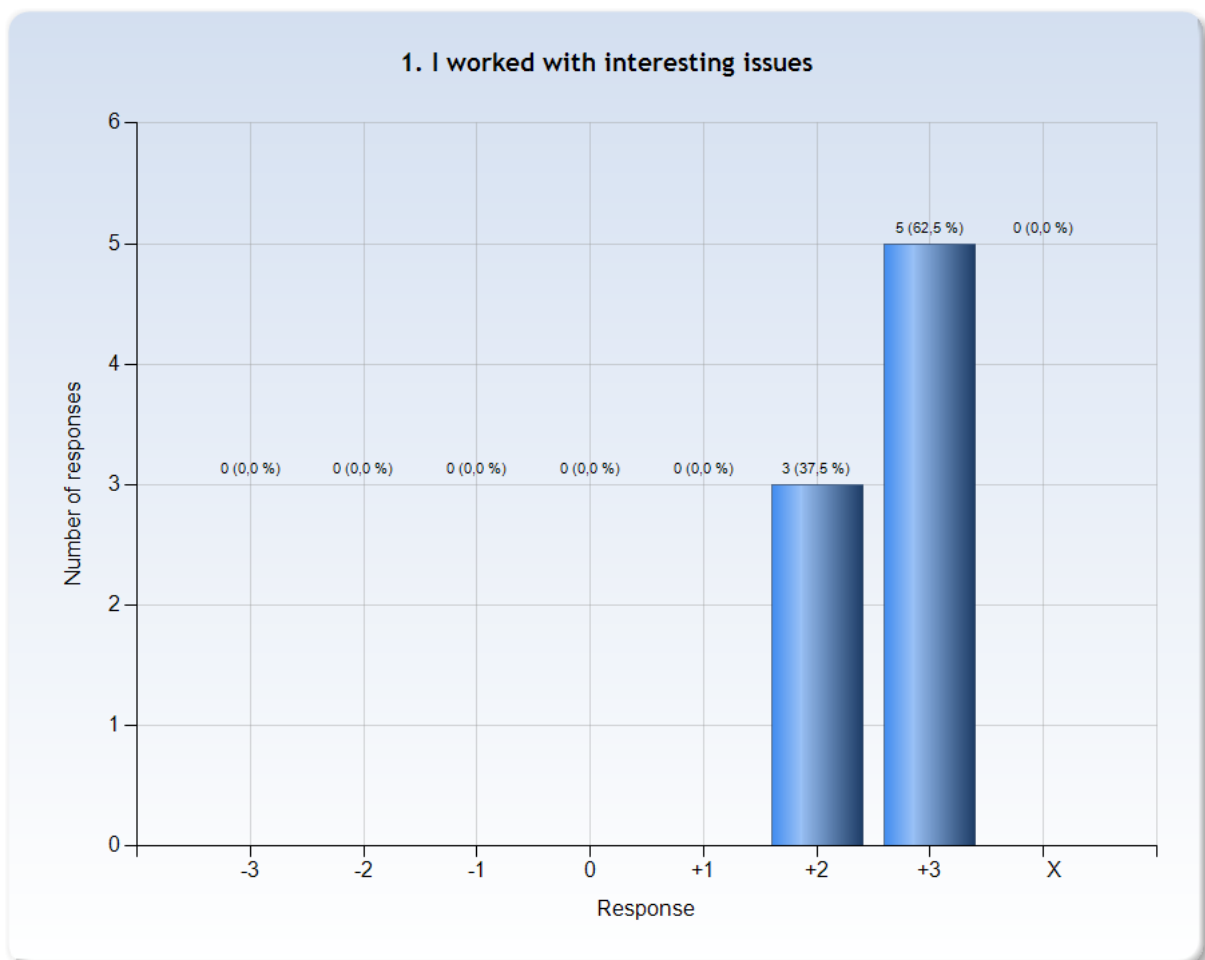
The diagrams below show the detailed response to the LEQ statements. The response scale is defined by:

-3 = No, I strongly disagree with the statement

0 = I am neutral to the statement

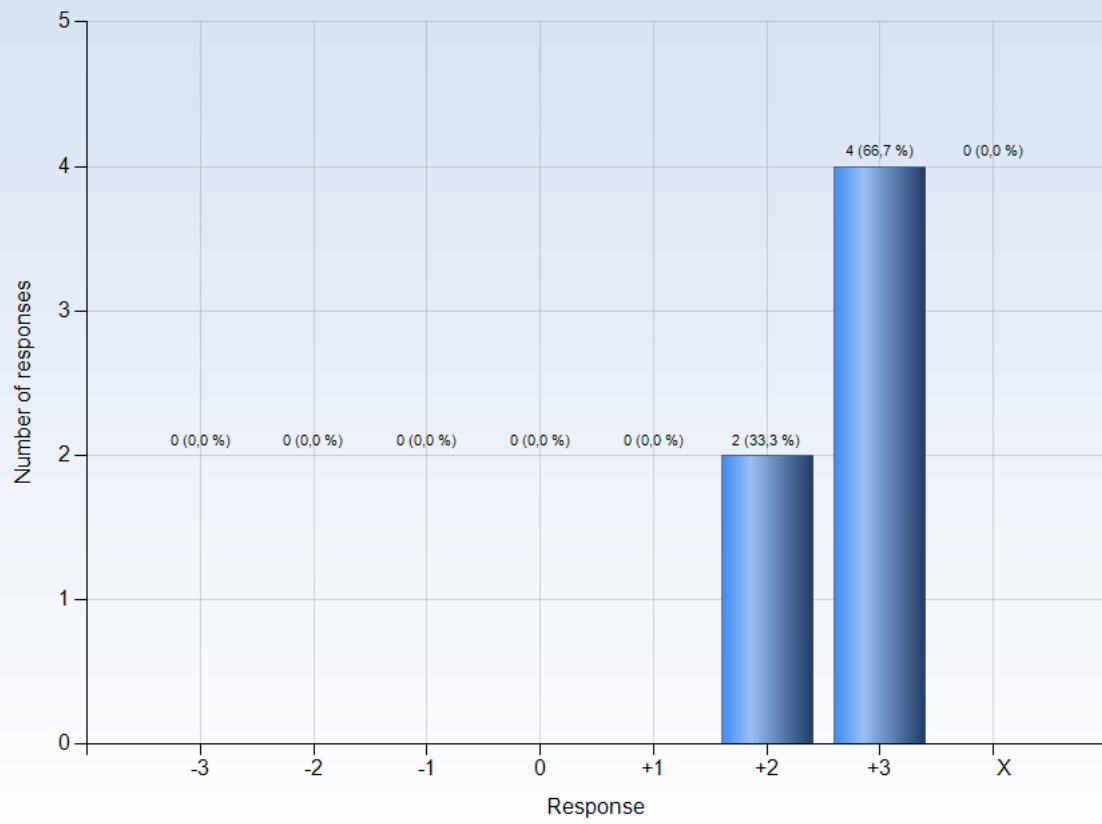
+3 = Yes, I strongly agree with the statement

X = I decline to take a position on the statement



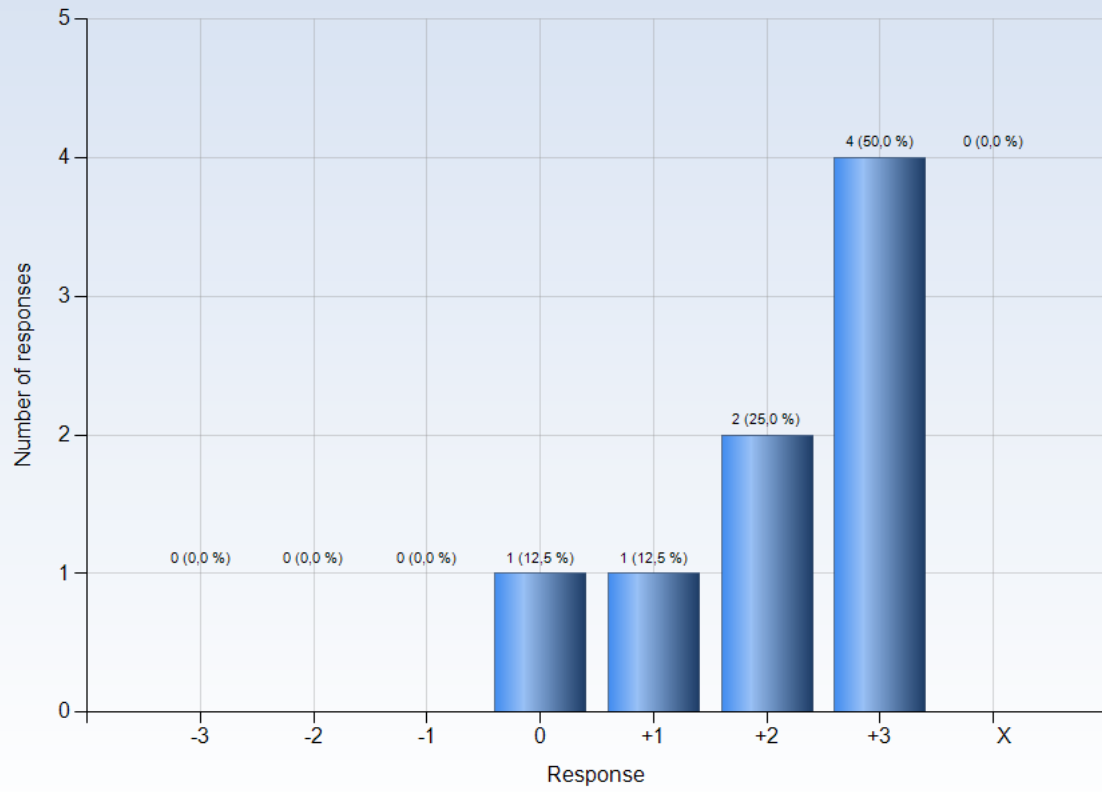
Comments

4. The course was challenging in a stimulating way



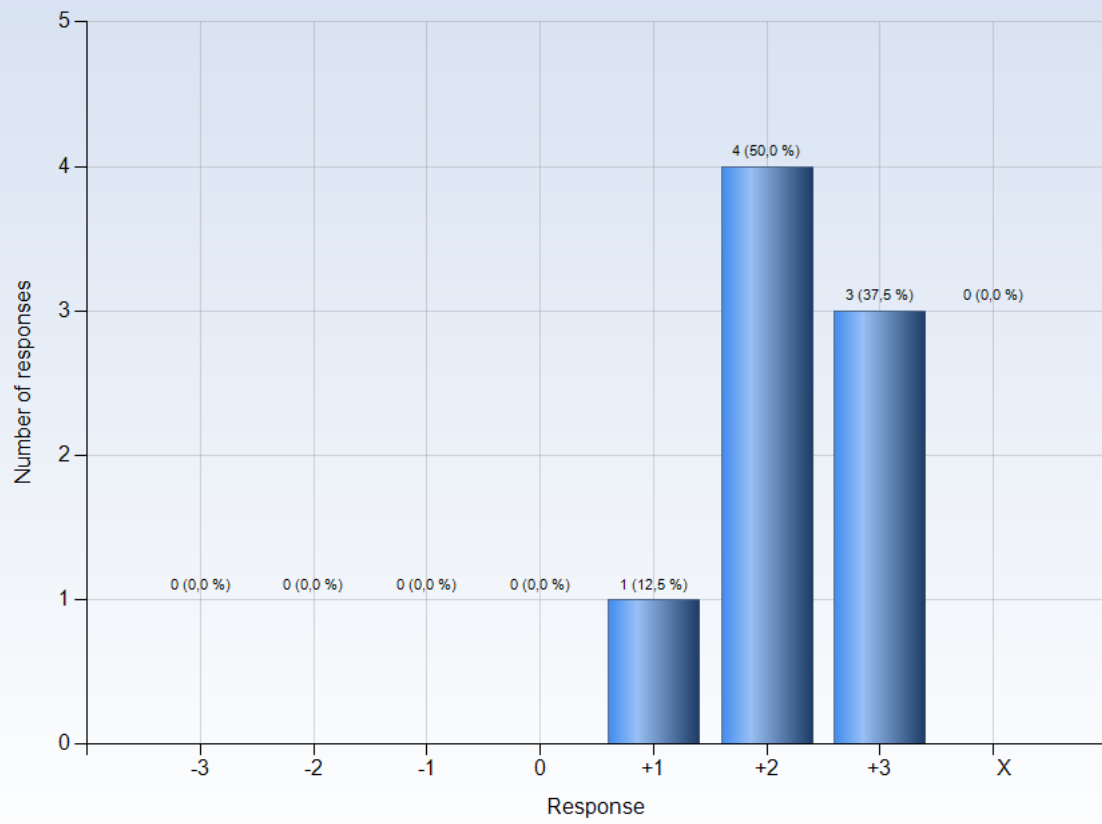
Comments

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



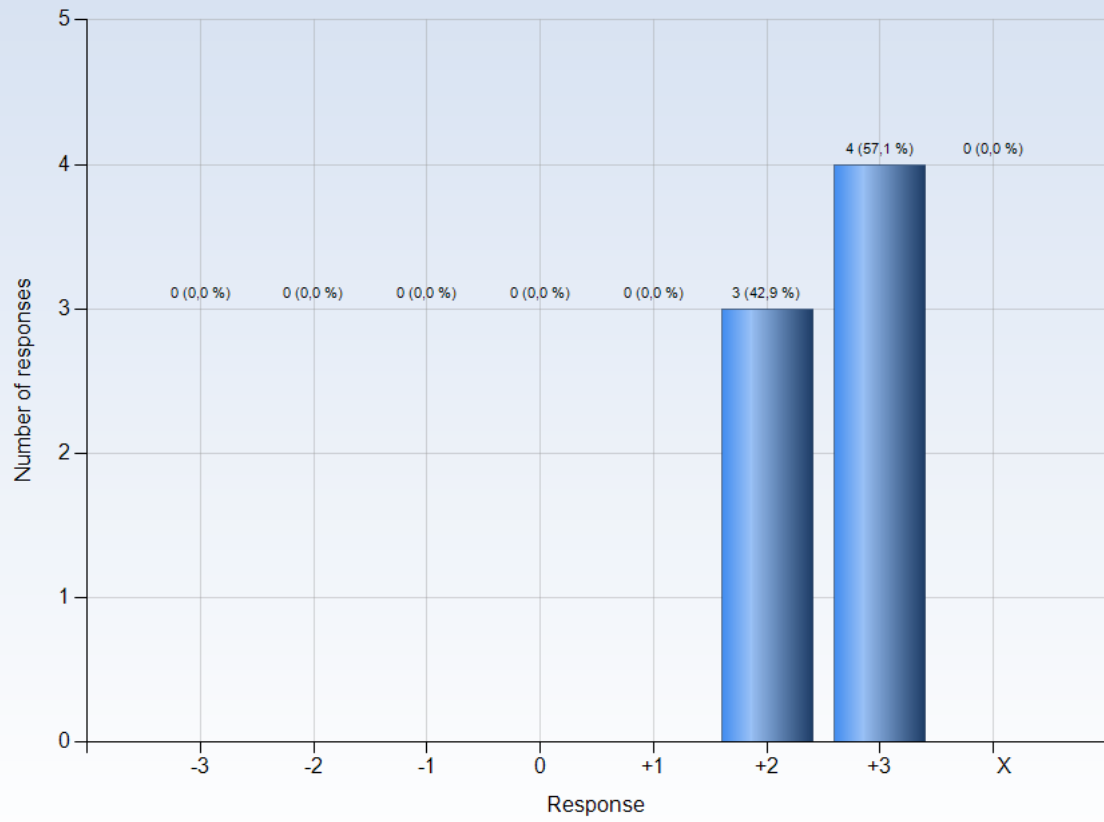
Comments

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



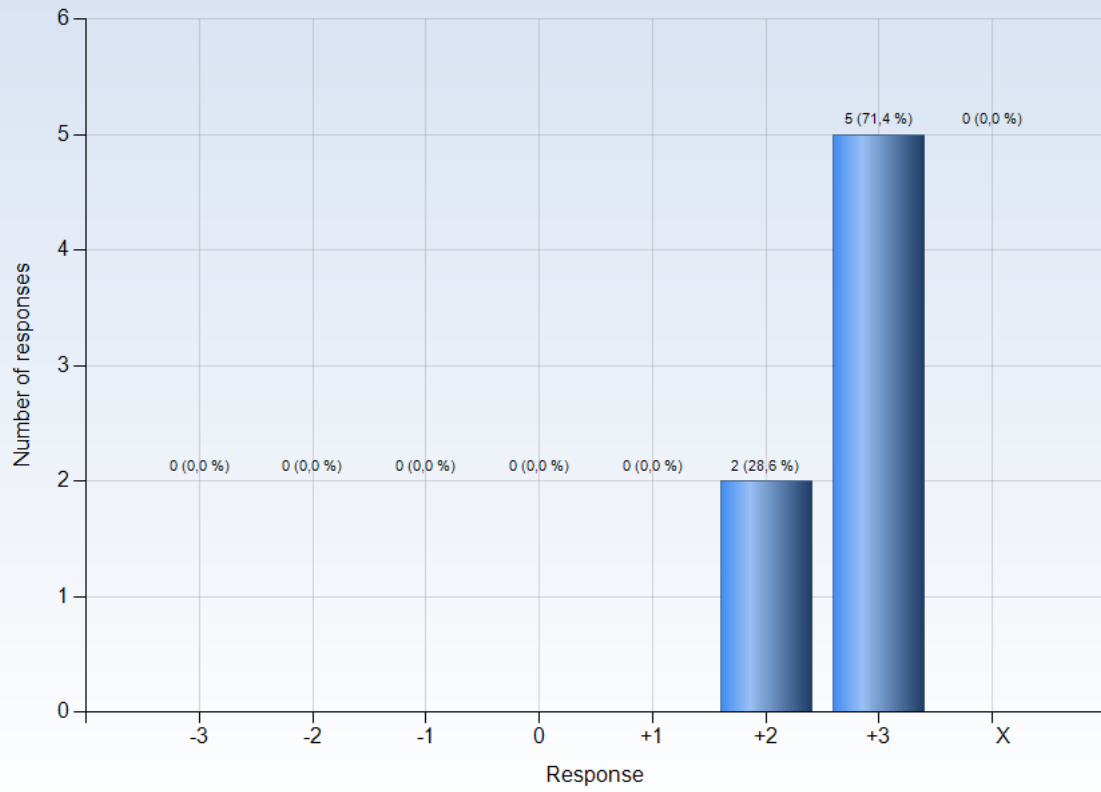
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11. Understanding of key concepts had high priority



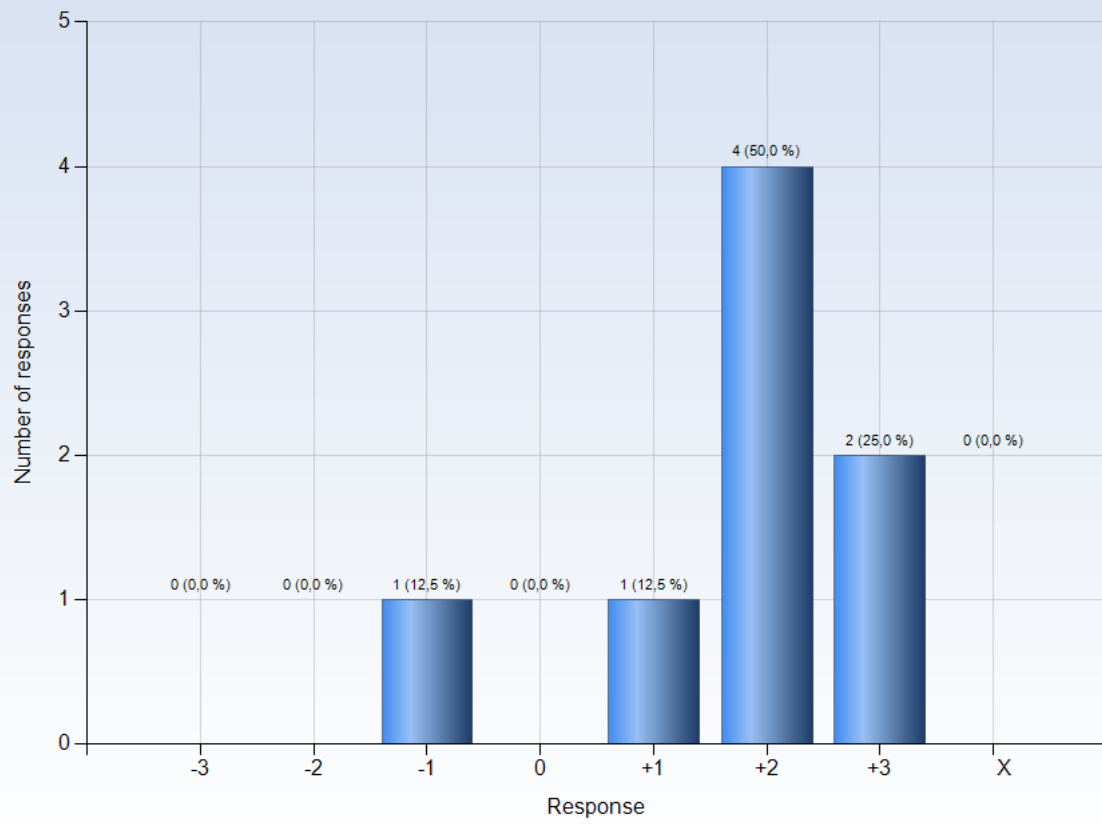
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12. The course activities helped me to achieve the intended learning outcomes efficiently



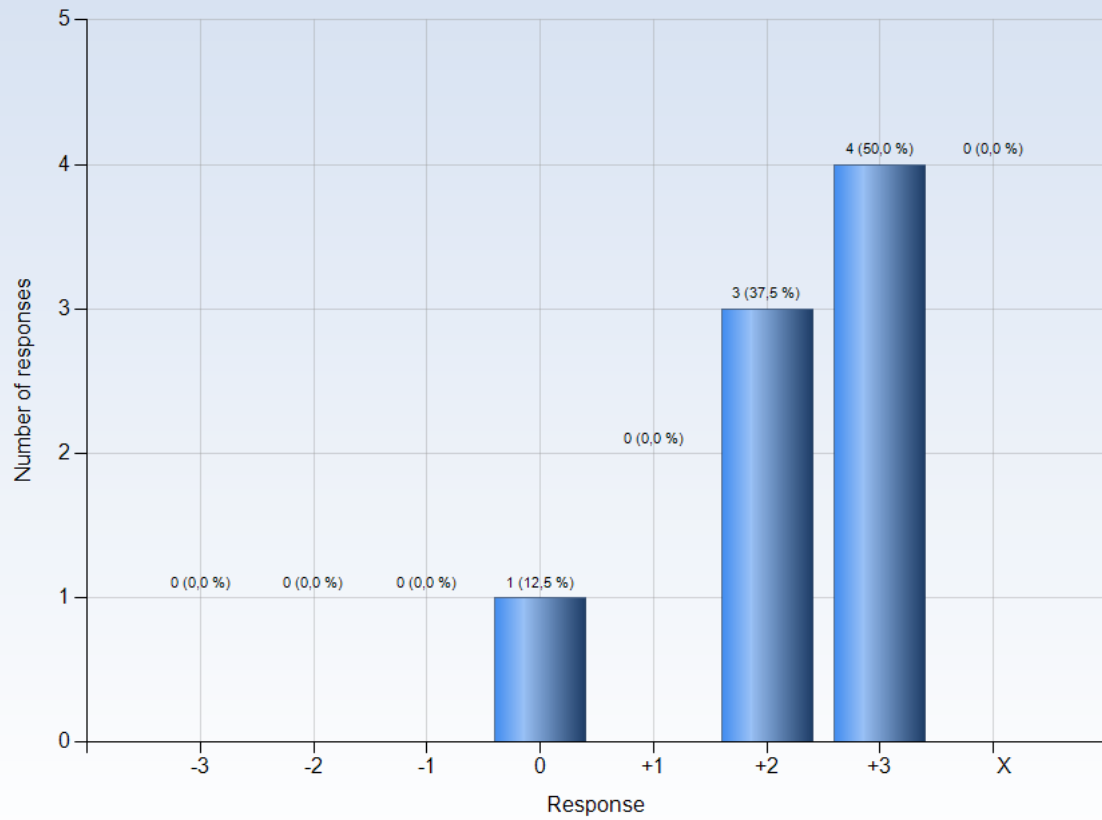
Comments

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



Comments

16. The assessment on the course was fair and honest



Comments

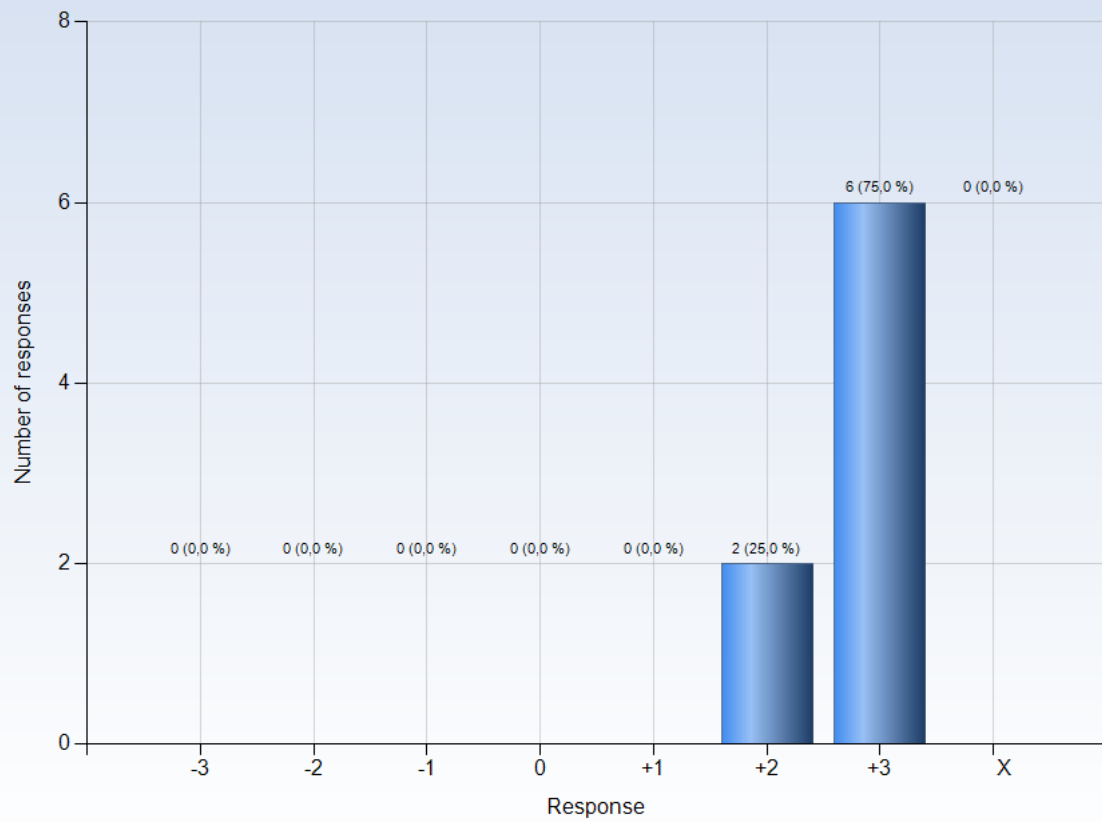
Comments (My response was: +2)

The exam features problems with very complicated numbers sometimes, which feels unnecessary.

Comments (My response was: +3)

The project assesement was fair. Have yet to be assessed on the exam.

17. My background knowledge was sufficient to follow the course

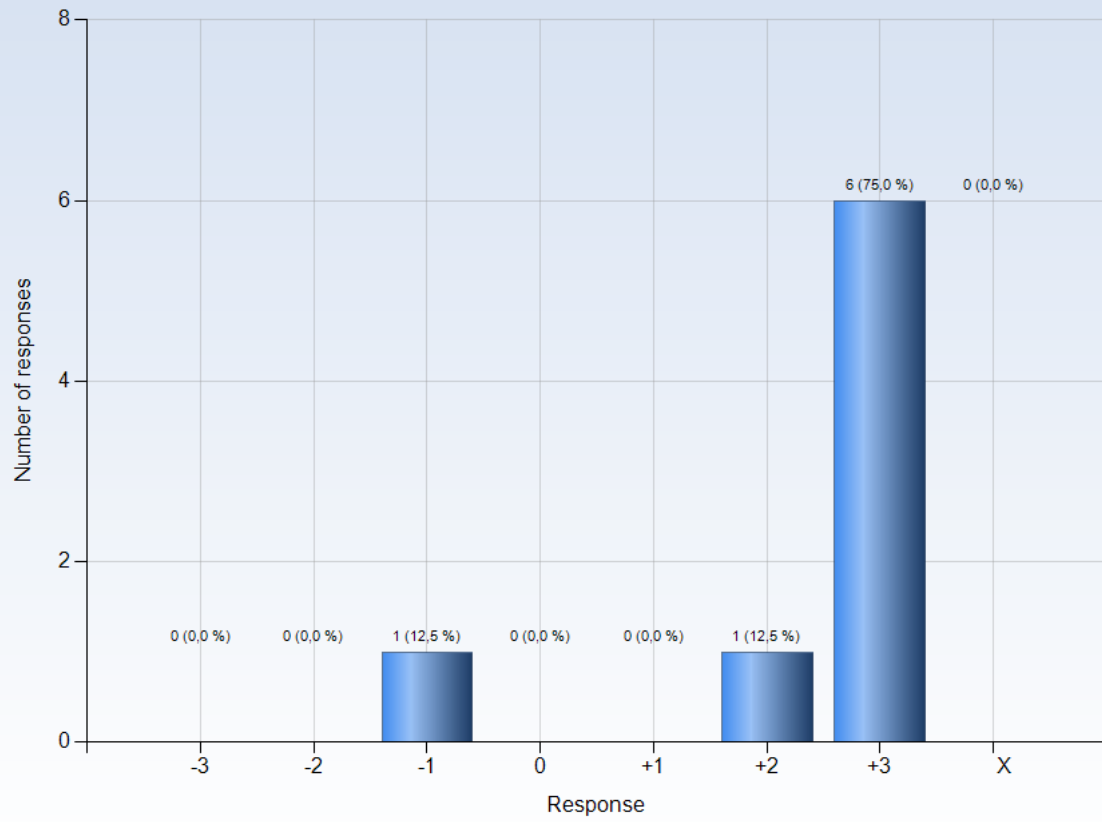


Comments

Comments (My response was: +2)

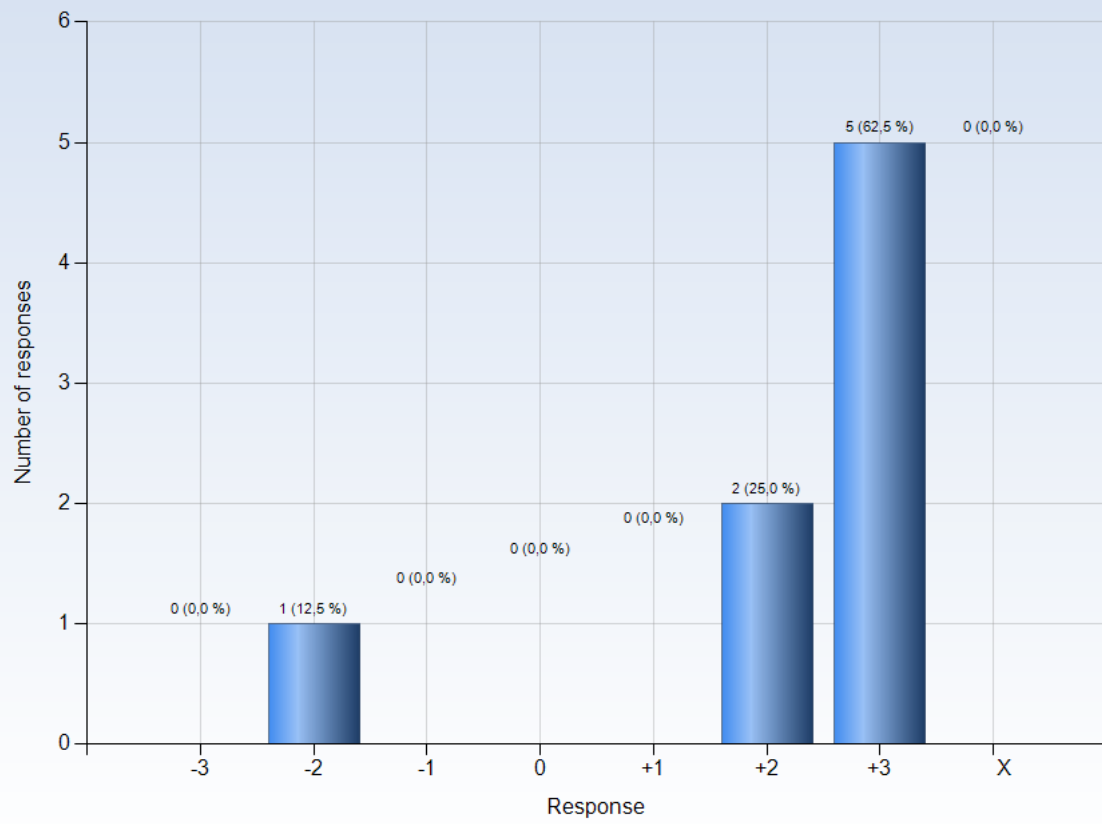
No previous experience of the matrix calculus used in the derivations of e.g. LMS

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



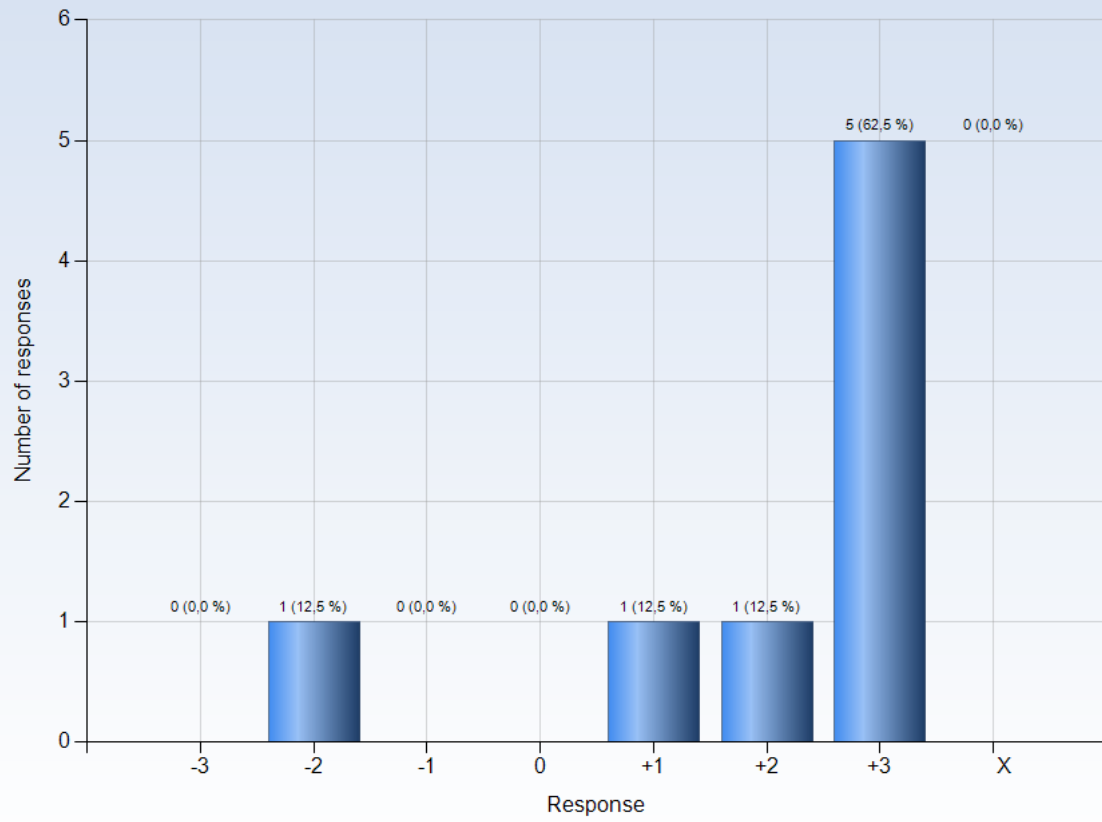
Comments

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