

Report - FEM3220 - 2022-10-25

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.

A standard LEQ course evaluation was published after the course during the period 2022-06-23 - 2022-07-06. We received responses from 8 out of 19 possible.

During the course we promoted students to contact us by email or by using the discussion functionality in Canvas in case of questions or concerns.

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.)

No particular meetings except lectures and student presentation sessions. See further above.

COURSE DESIGN

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

Course organization:

* 9 lectures: 9*2h

* 9 sets of homework problems

* 3 half-days of student presentations

* Peer-review grading

Requirement: 80% of the total homework score to get a Pass grade; in addition, completed peer review tasks and giving a presentation of a selected topic.

5 lectures were given by Magnus Jansson and 4 by Mats Bengtsson.

Most lectures were in class while a few were re-using video presentations prepared in the previous course round.

Student homework solutions and peer grading were handled by assignments and using student groups in Canvas.

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?

In the responses of the LEQ the estimated workload among students vary a lot (from 6-38h/week) probably depending on background knowledge and level of ambition.

We believe the workload is in general OK. However, the course demands the students to be in sync and timely deliver solutions and grading results every week. Most students that drop the course do that because they cannot dedicate sufficient time to the course in the study period.

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?

22 phd students showed initial interest.

2 students dropped the course at the beginning due to collision with another course.

1 student dropped it after 3 weeks due to too little time.

19 students reached the passing level.

This was much less students than it has been previous years where it usually have been around 40-50 phd students. Maybe it is due to a saturation effect or collisions with other courses.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

See the attached LEQ.

SUMMARY OF STUDENTS' OPINIONS

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

As already mentioned, the workload is very different from easy/fine to very time-consuming/intense. Yet, no real complaints.

The level and content of the course seems to be appreciated.

Live lecture with clickers were appreciated. Attendance at lectures were however low.

A few exercises included Matlab and those were appreciated.

Peer grading is not considered fair due to varying quality and standards used by graders. The possibility to get it re-reviewed by examiners is appreciated.

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 went well and quite smoothly. Students delivered on time and the regular schedule could be followed. The results were really good and all completing students passed the course in nominal 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?
-

We believe the difference in workload is natural and not necessarily bad as long as students are able and prepared to cope with it.

It is also natural to get comments on the peer grading as many people are involved and do/judge/interpret/receive things differently. The instructions for the peer grading can possibly be improved to try to streamline this a little better.

Too little material to see any differences between gender etc.

PRIORITIZED COURSE DEVELOPMENT

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

Refine instructions for the peer grading process.

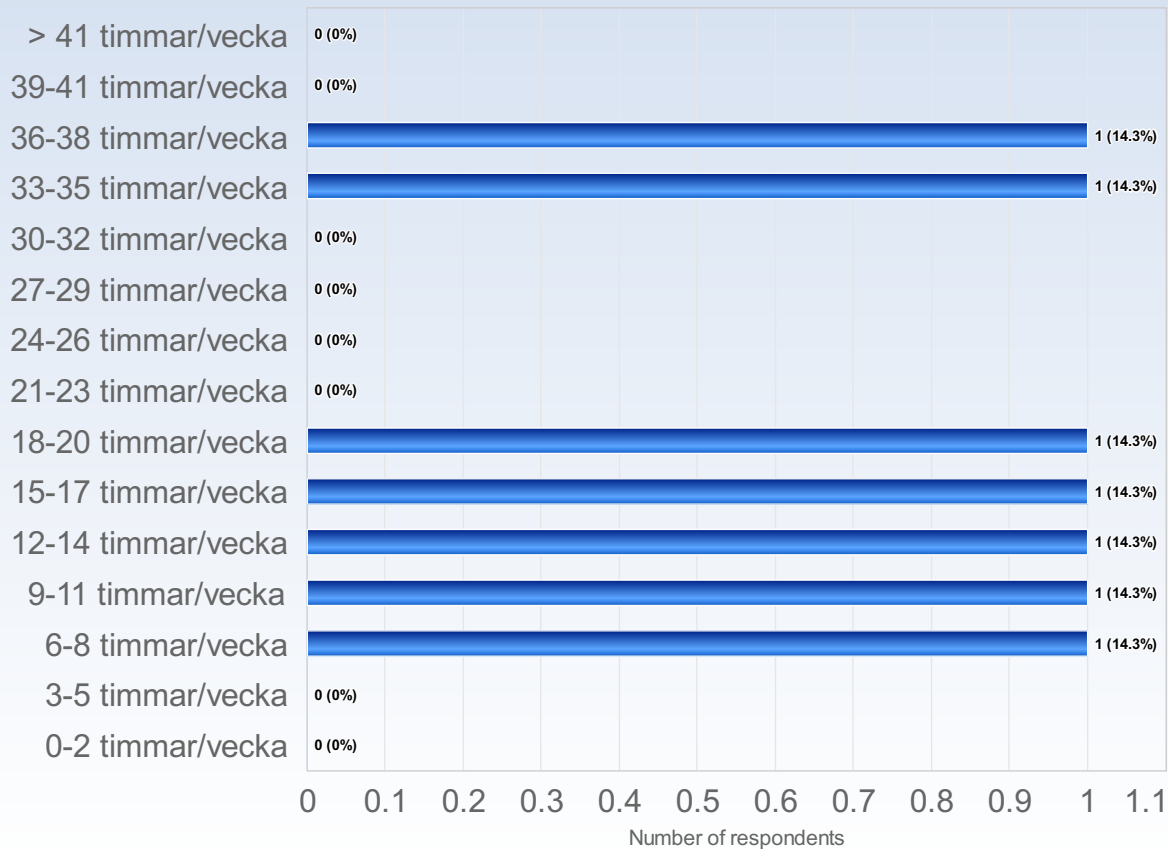
Possibly include more computer based exercises/illustrations.

FEM3220 - 2022-06-22

Antal respondenter: 19
Antal svar: 8
Svarsfrekvens: 42,11 %

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)

Fine for me

Comments (I worked: 33-35 timmar/vecka)

The course is extremely time-consuming and demanding. One needs to read a lot of material to complete the homeworks

Comments (I worked: 36-38 timmar/vecka)

The course was intensive.

LEARNING EXPERIENCE

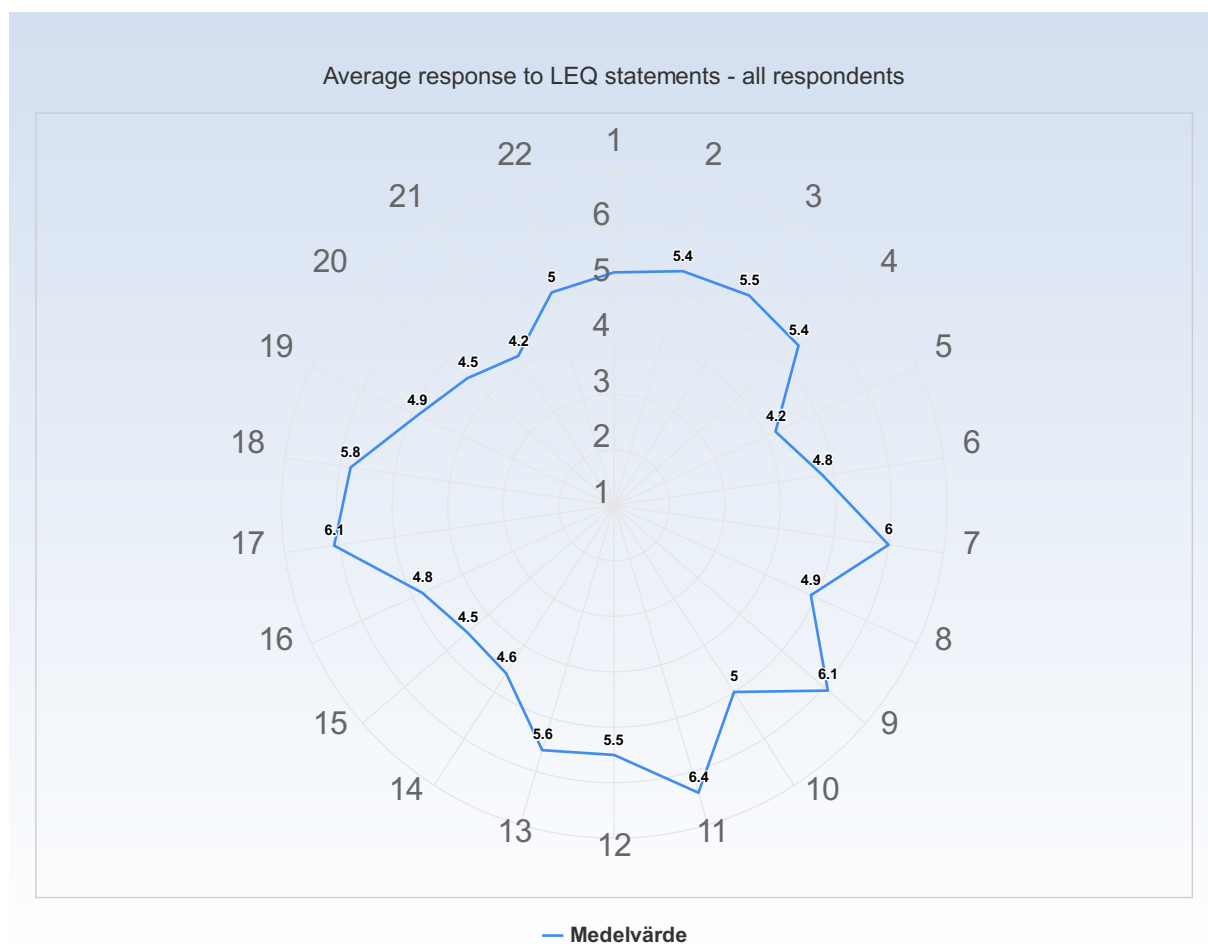
The polar diagrams below show the average response to the LEQ statements for different groups of respondents (only valid responses are included). The scale that is used in the diagrams is defined by:

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.

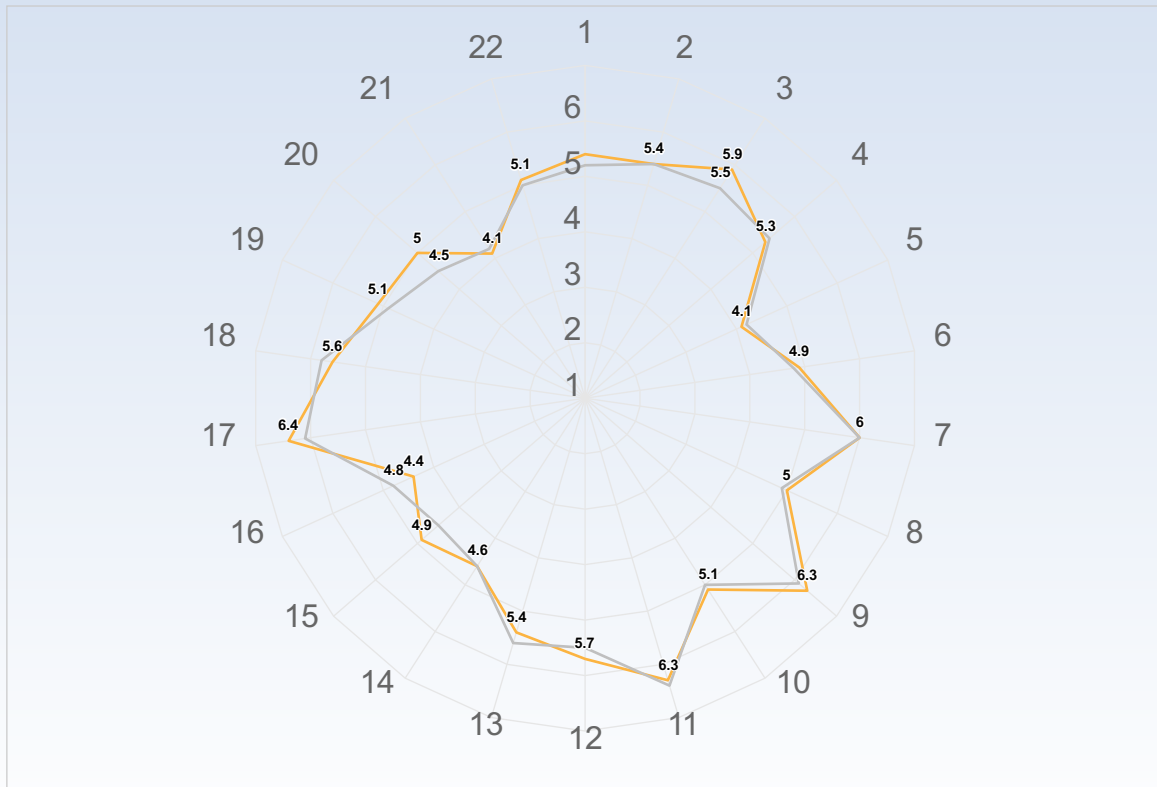
Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

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.

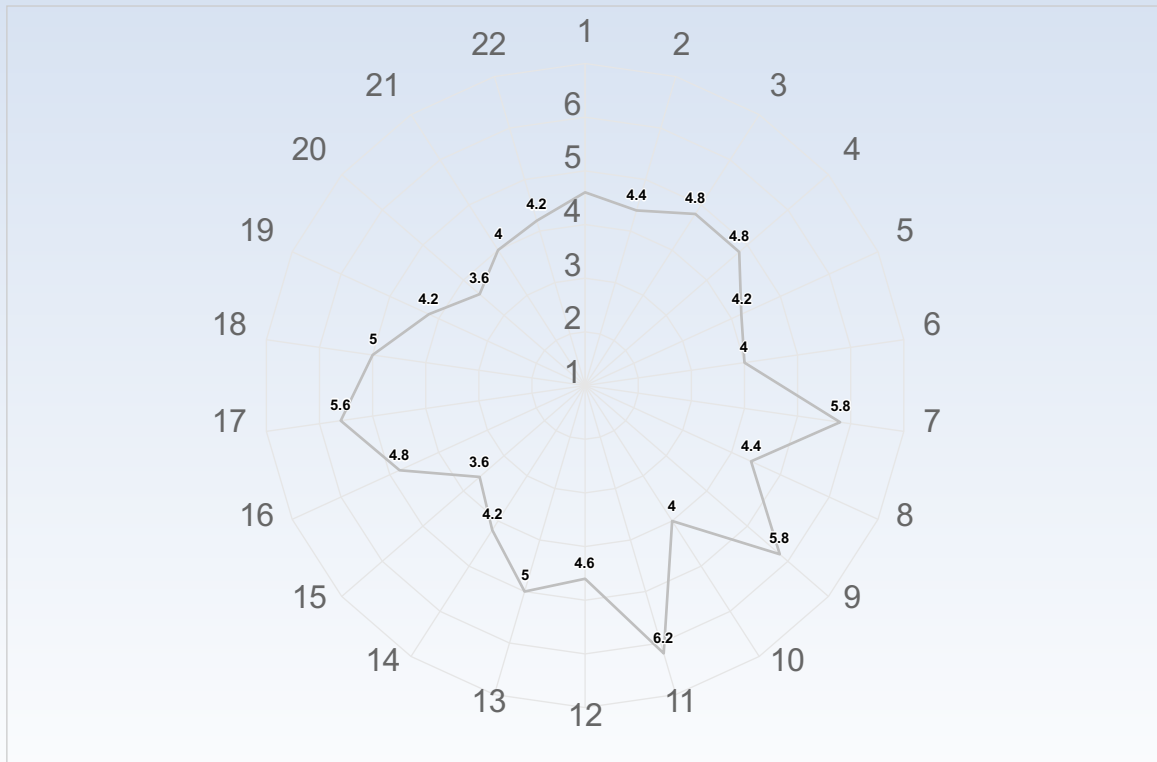
Ramsden, P. (2003). *Learning to Teach in Higher Education*, Chapter 6, pp. 84-105. New York: RoutledgeFalmer.

Average response to LEQ statements - per gender



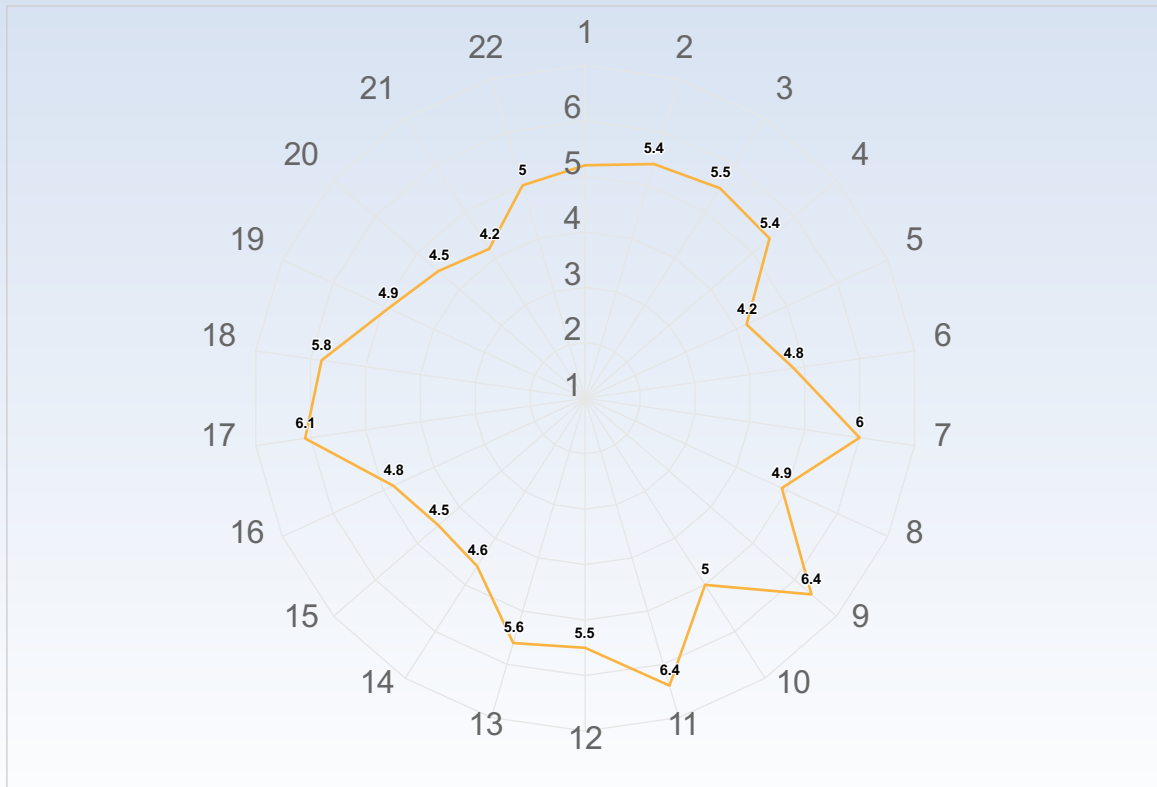
— Kvinna — Man — Annat — Vill ej uppge — (Answered)

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

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: 6-8 timmar/vecka)

Good and sufficient amount of exercises

What was the best aspect of the course? (I worked: 33-35 timmar/vecka)

The best aspect of the course was the in-person lectures especially the ones by Mats where the clickers were used. The use of clickers made the learning experience quite interactive and helped greatly in solving homework. It was quite strange why many people didn't attend the lectures. They are nice to stimulate interest. Another very interesting aspect was the programming-based exercises in the homework and the final presentation in the end. It gives the students an opportunity to explore a topic and really get to understand it.

What was the best aspect of the course? (I worked: 36-38 timmar/vecka)

The reference texts that were followed are pretty standard and encouraged me to read parts of the text book.

What would you suggest to improve?

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

I cannot think of a better way to learn maths

What would you suggest to improve? (I worked: 33-35 timmar/vecka)

I have the following suggestions regarding the course:

1. Peer grading should be reviewed a bit. I believe that peer graders need to be given a certain guideline regarding how to mark a problem and give points. The current grading scheme in terms of percentage of the problem solved and marks are okay but I believe that it would benefit if the teachers can show in the class an example of how a particular problem should be graded so that there are some basic guidelines that students can follow (e.g. Do's and Don'ts of peer grading). After this, it is of course some personal opinion and discretion into play. Some peer graders often deduct points very arbitrarily without proper reason. This causes a lot of anxiety for students who then have to stress to clear the baseline score for the homework.

2. It should be a nice idea to introduce more programming assignments into the homework. Matrix algebra is a very applied topic in general, so the introduction of more such programming assignments would help students in the long run.

What would you suggest to improve? (I worked: 36-38 timmar/vecka)

Please try to remove peer grading from next time or penalize the graders in some way if they are not fair to others. While I appreciate that examiners took time to review it and could change the grade, but it is sometimes slightly annoying to ask the examiner quite often due to poor reviews.

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)

Typeset your work and don't use handwriting

What advice would you like to give to future participants? (I worked: 33-35 timmar/vecka)

You should try to make the most out of the course by attending the lectures and trying the homework problems. But, be prepared to invest a lot of time.

What advice would you like to give to future participants? (I worked: 36-38 timmar/vecka)

Take the course only if you can handle the worse case scenarios of poor grading by peers.

Is there anything else you would like to add?

Is there anything else you would like to add? (I worked: 36-38 timmar/vecka)

None.

SPECIFIC QUESTIONS

RESPONSE DATA

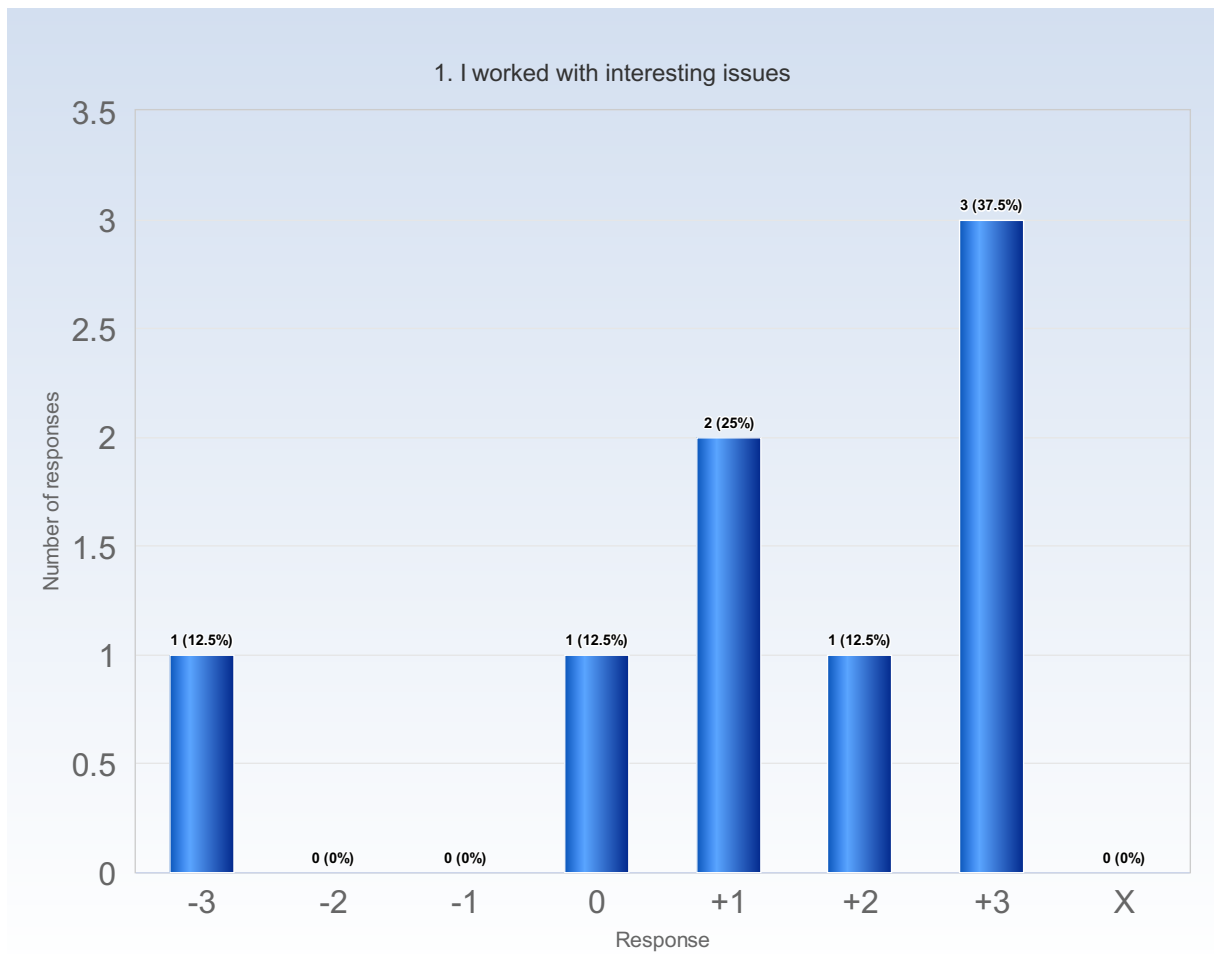
The diagrams below show the detailed response to the LEQ statements. The response scale is defined by:

-3 = No, I strongly disagree with the statement

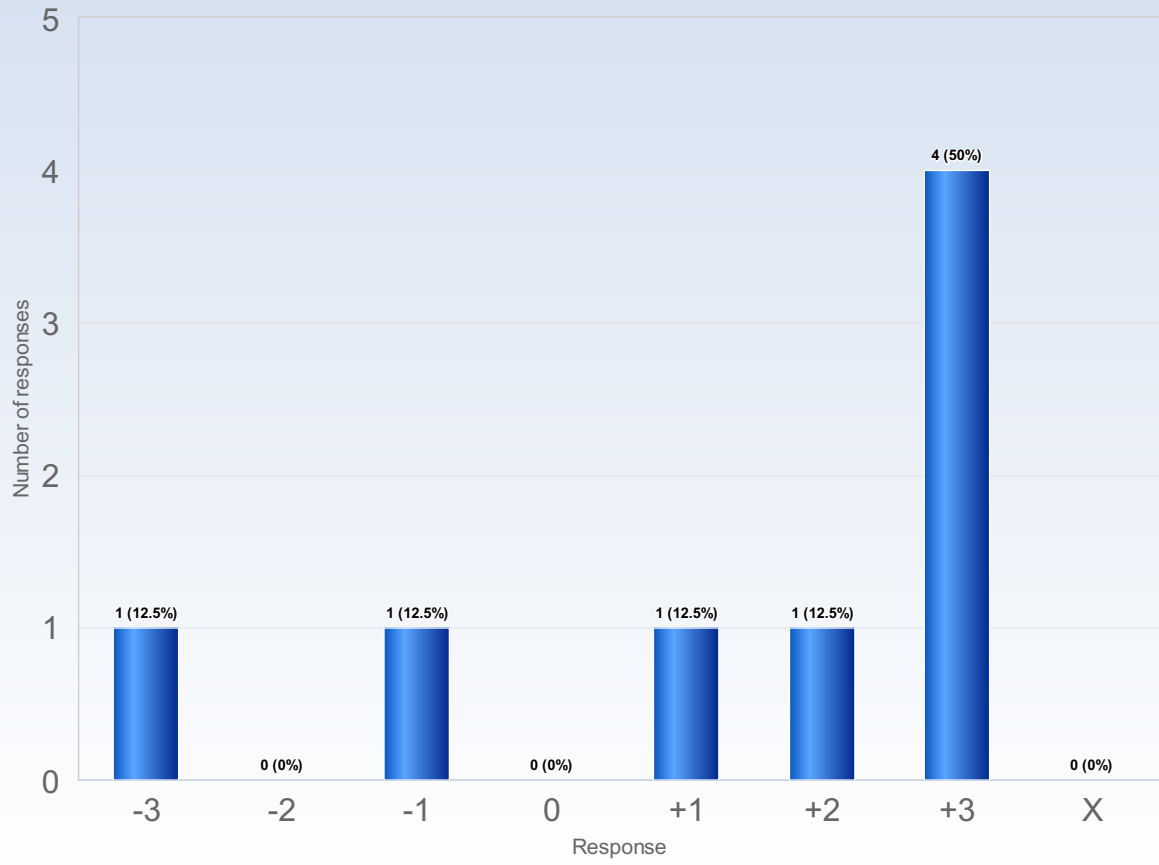
0 = I am neutral to the statement

+3 = Yes, I strongly agree with the statement

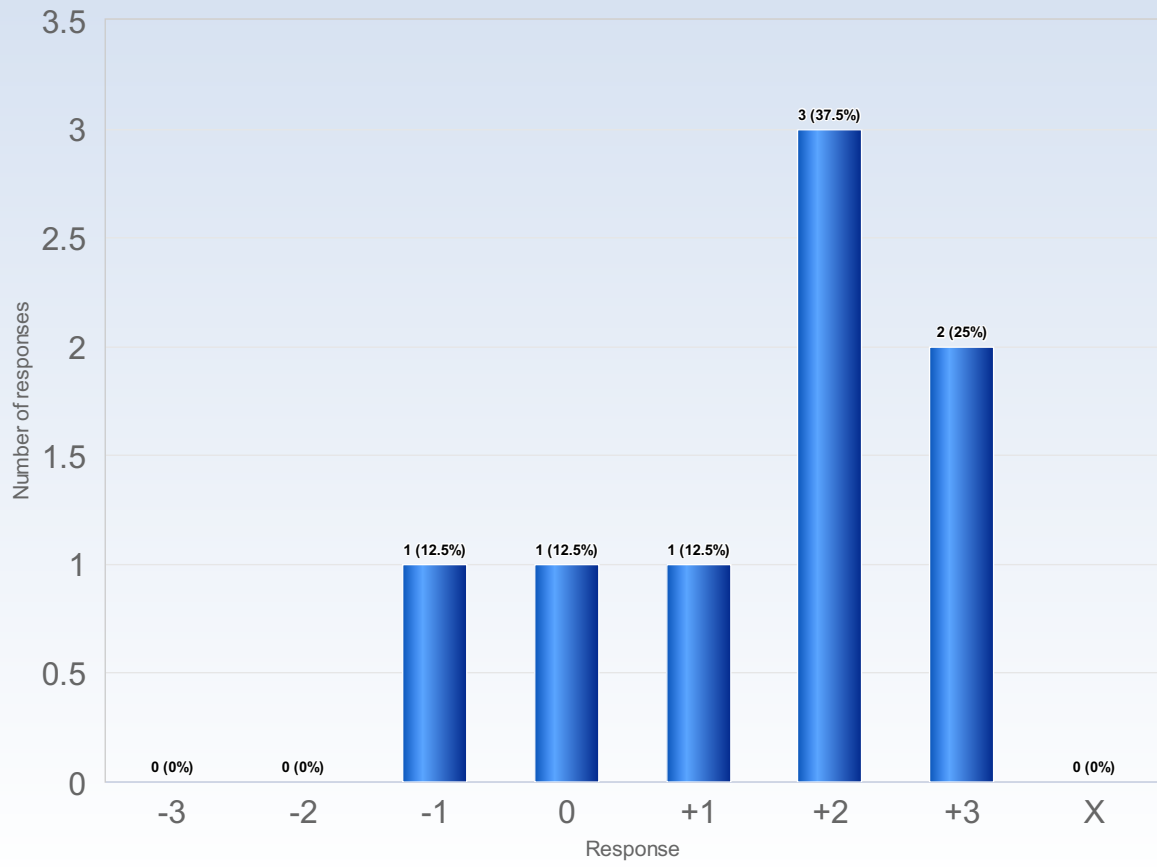
X = I decline to take a position on the statement



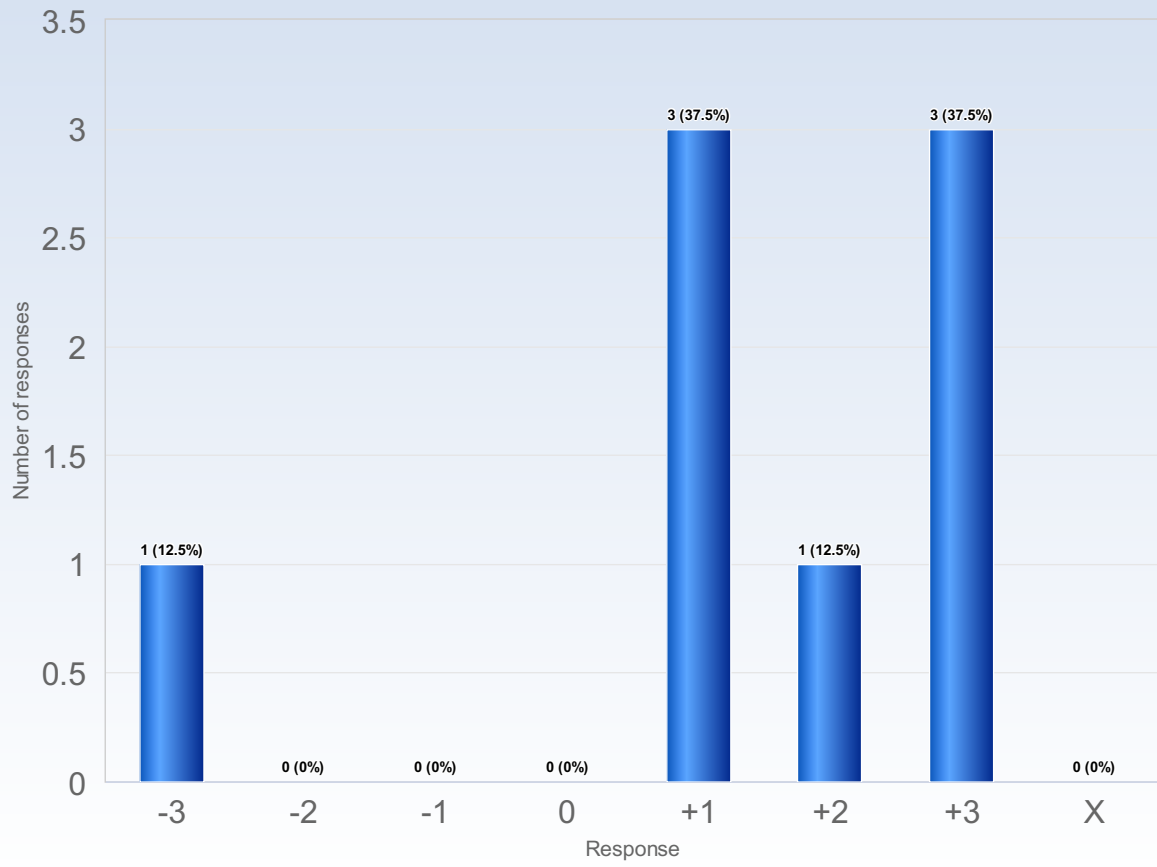
2. I explored parts of the subject on my own



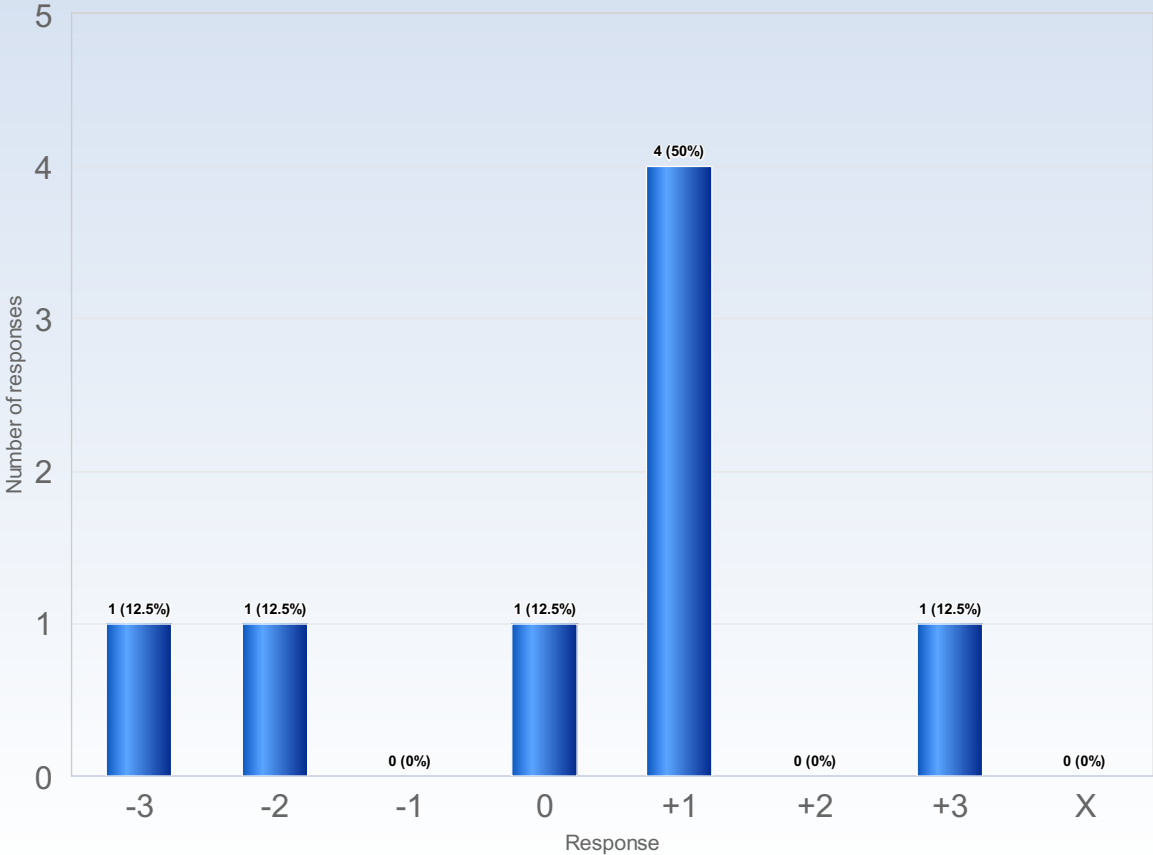
3. I was able to learn by trying out my own ideas



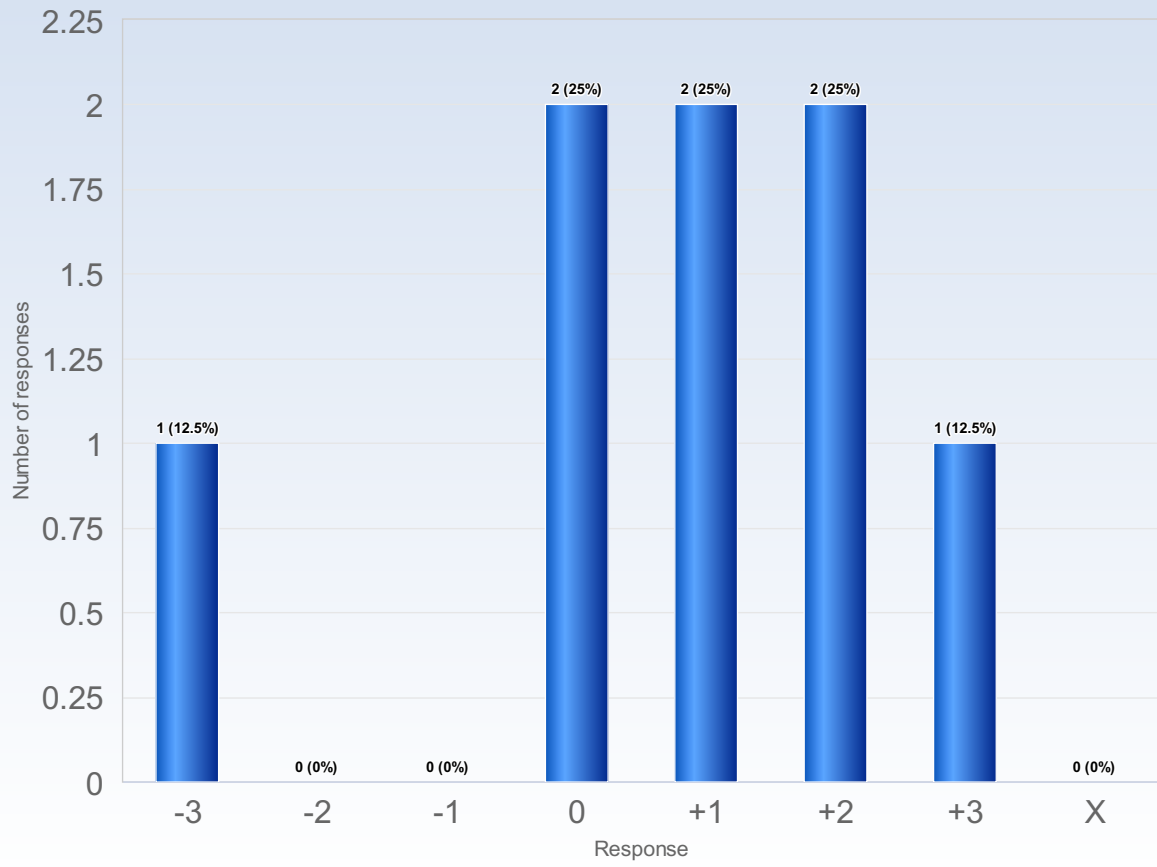
4. The course was challenging in a stimulating way



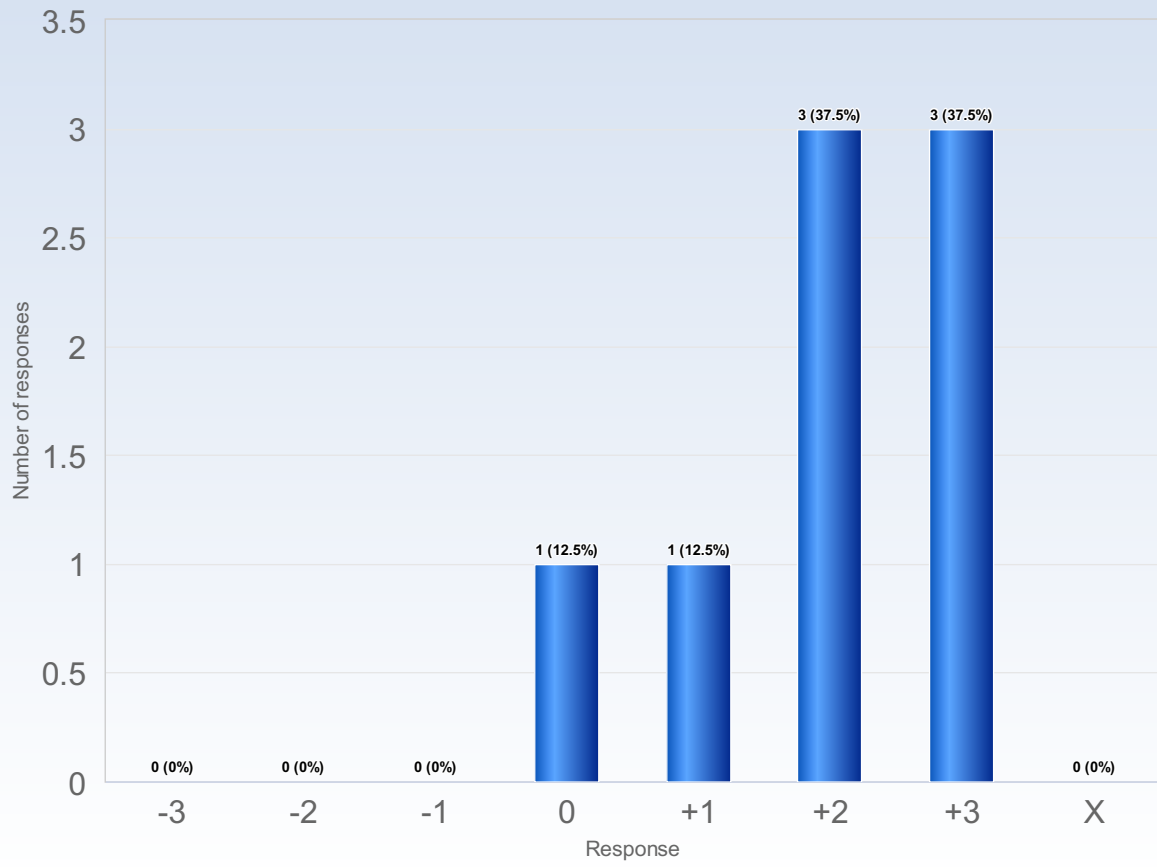
5. I felt togetherness with others on the course



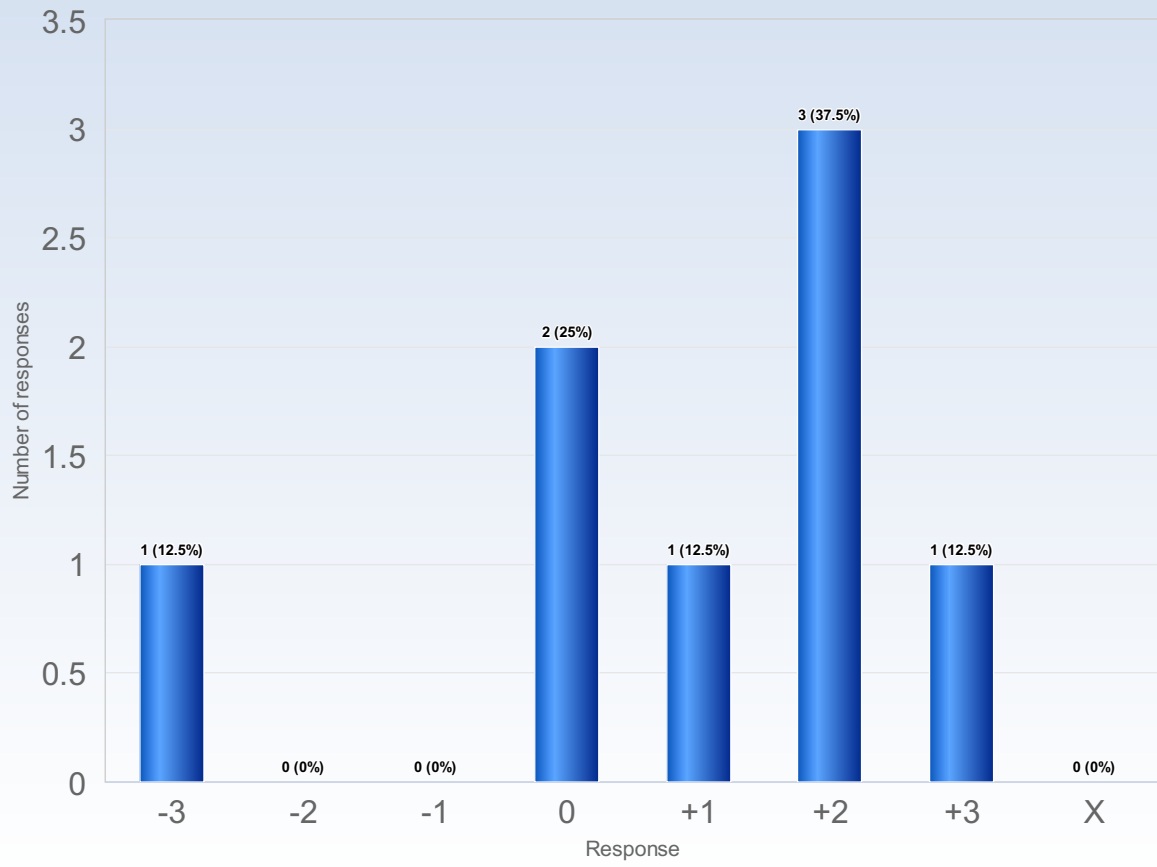
6. The atmosphere on the course was open and inclusive



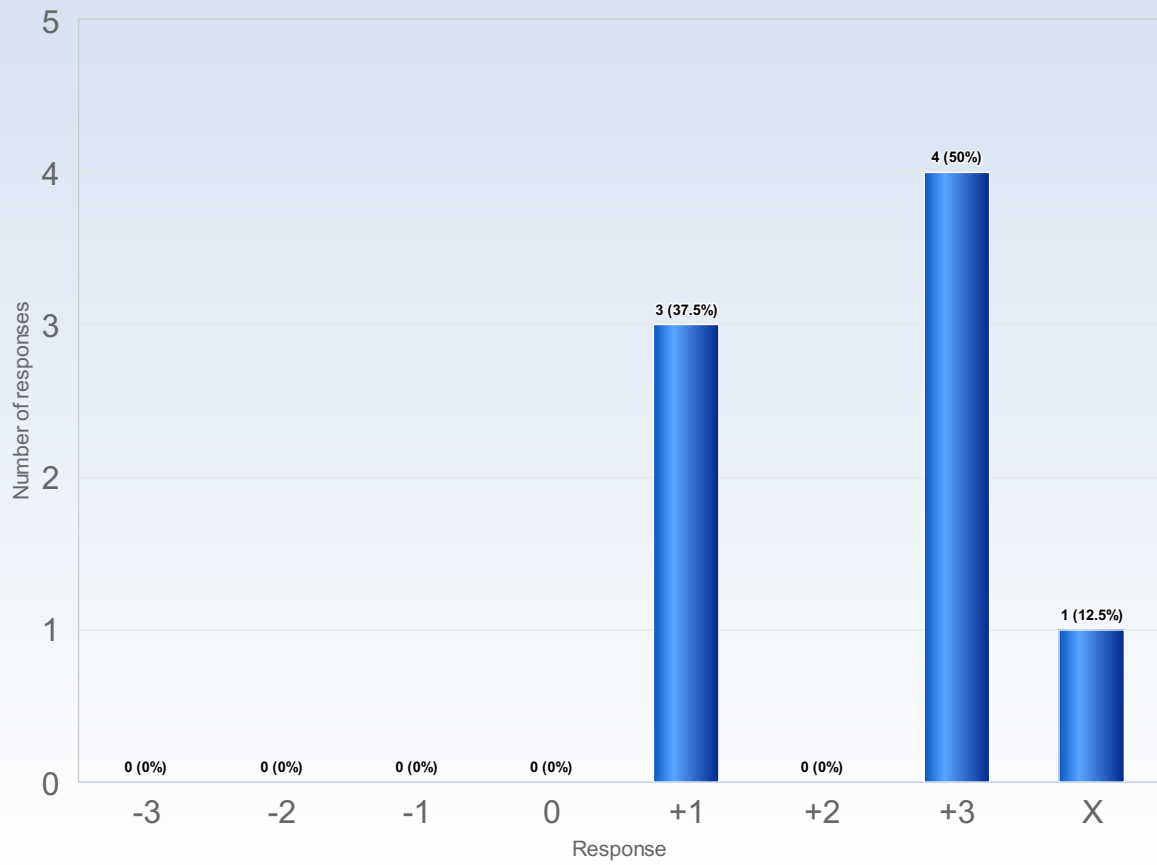
7. The intended learning outcomes helped me to understand what I was expected to achieve



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



9. I understood what the teachers were talking about

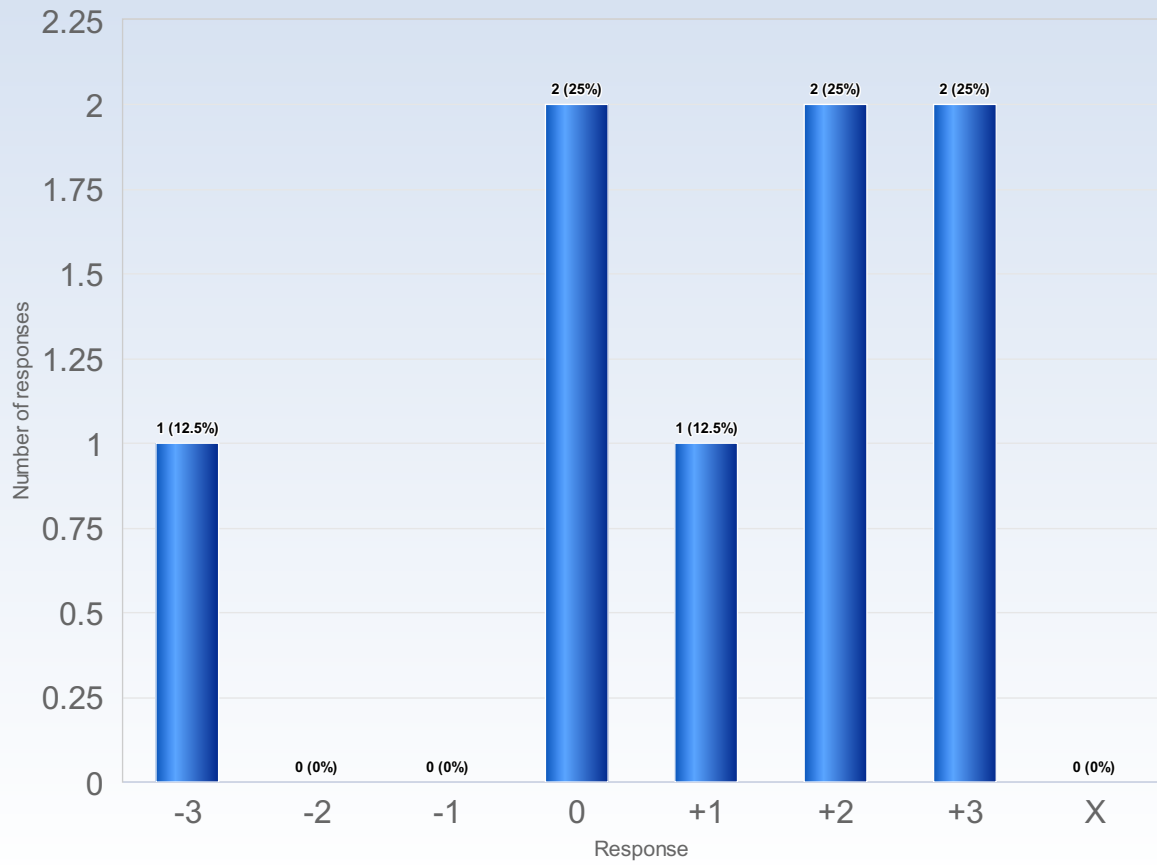


Comments

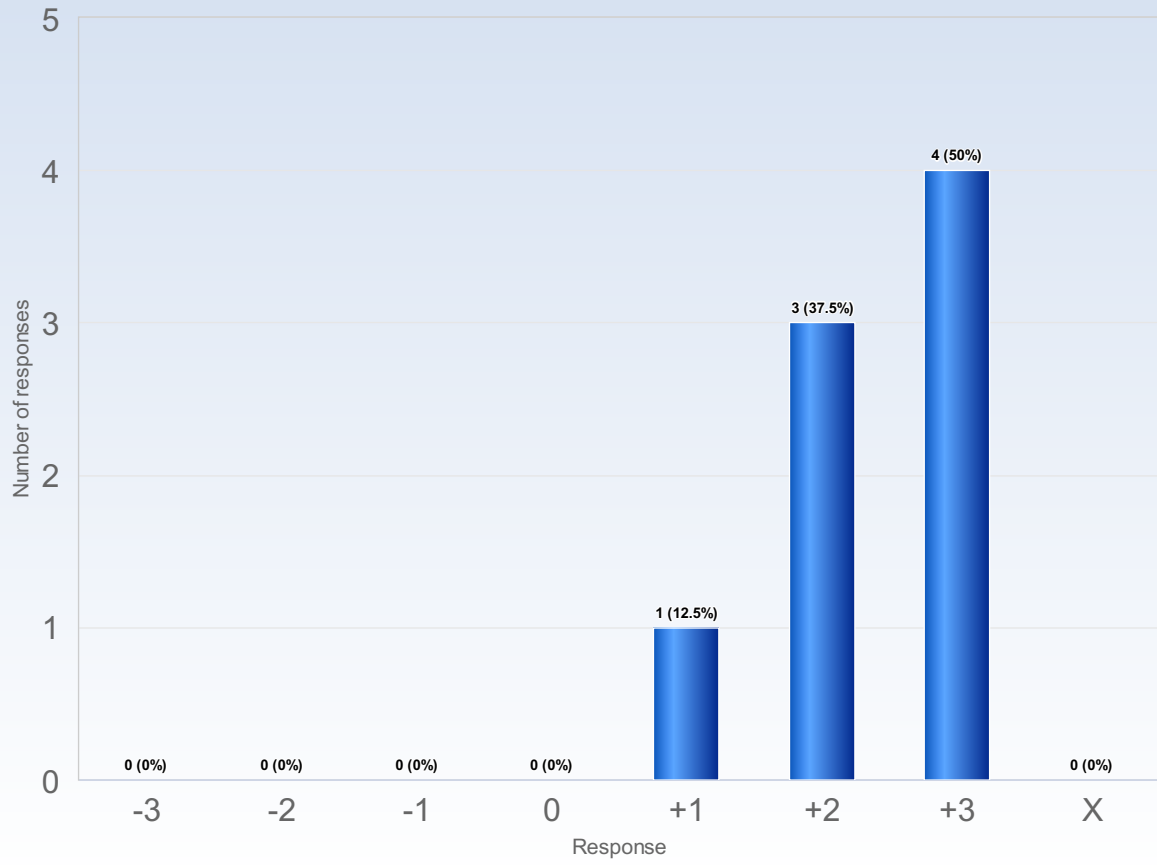
Comments (My response was: X)

I like self-study most of the time

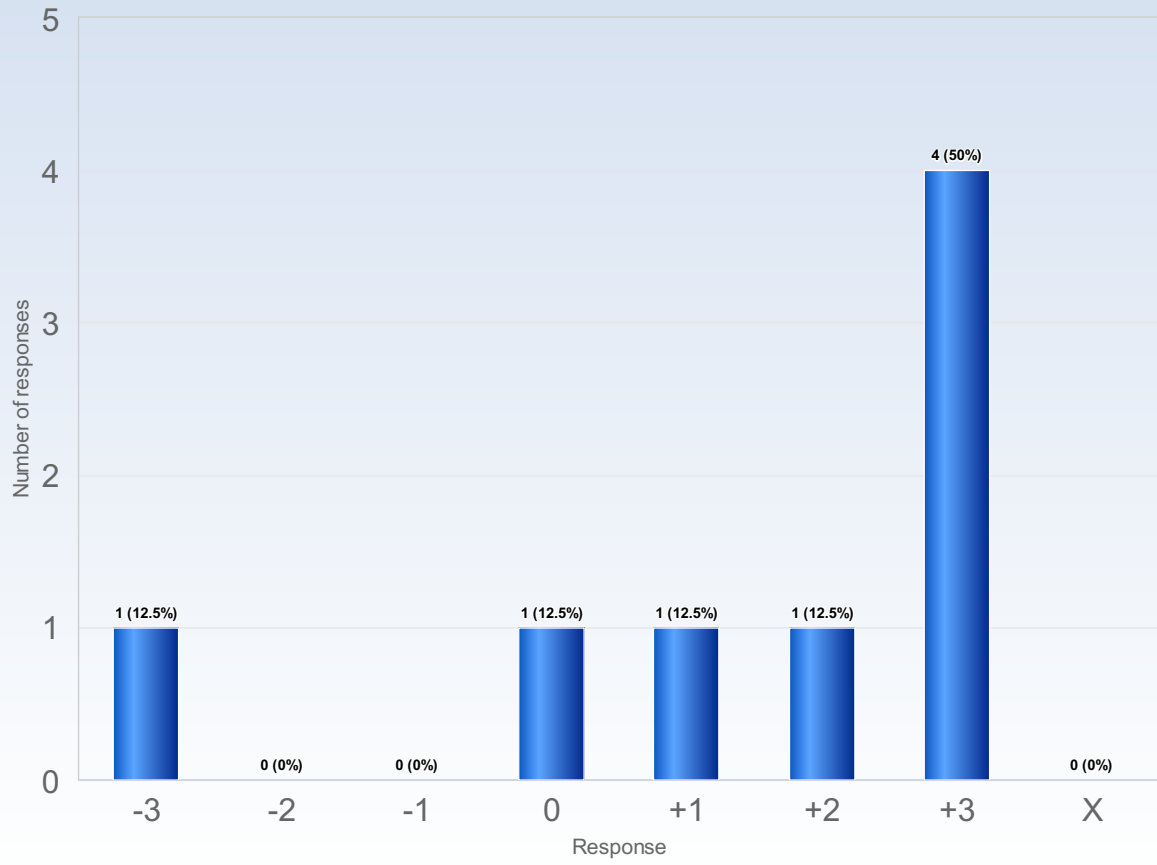
10. I was able to learn from concrete examples that I could relate to



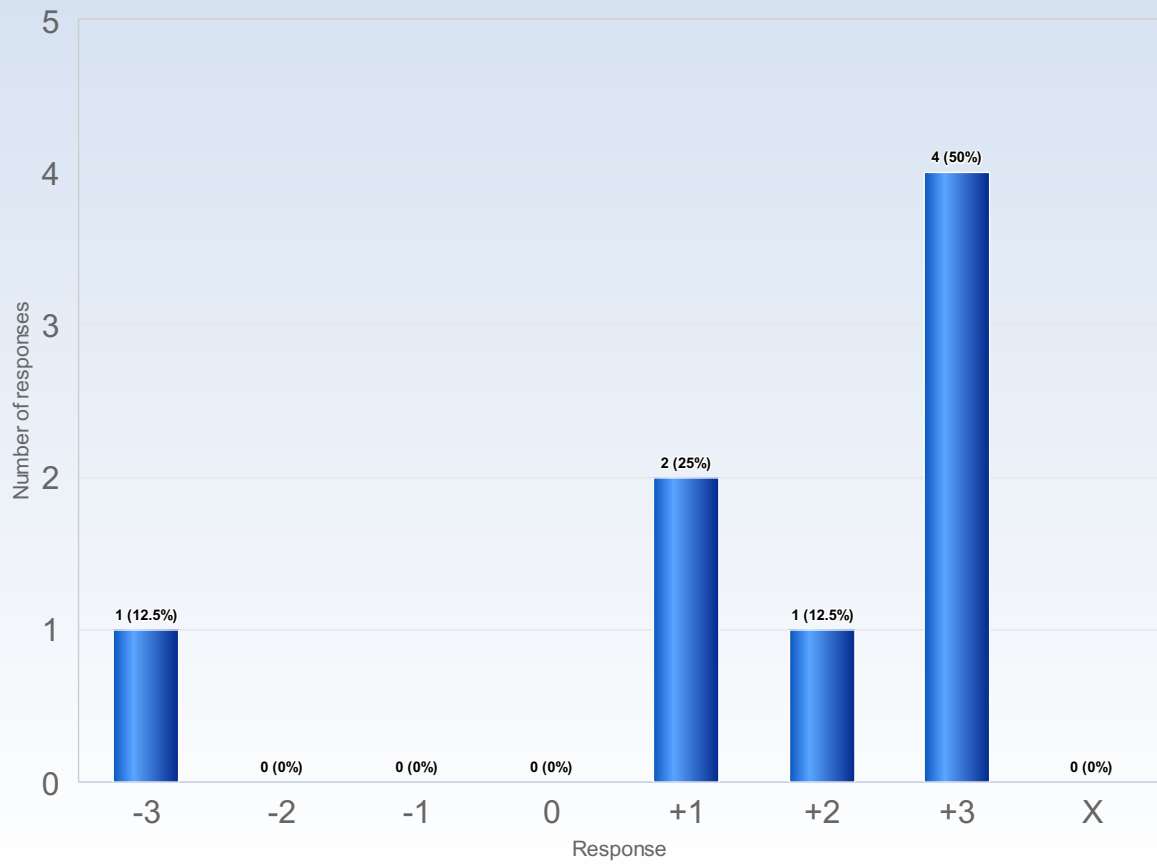
11. Understanding of key concepts had high priority



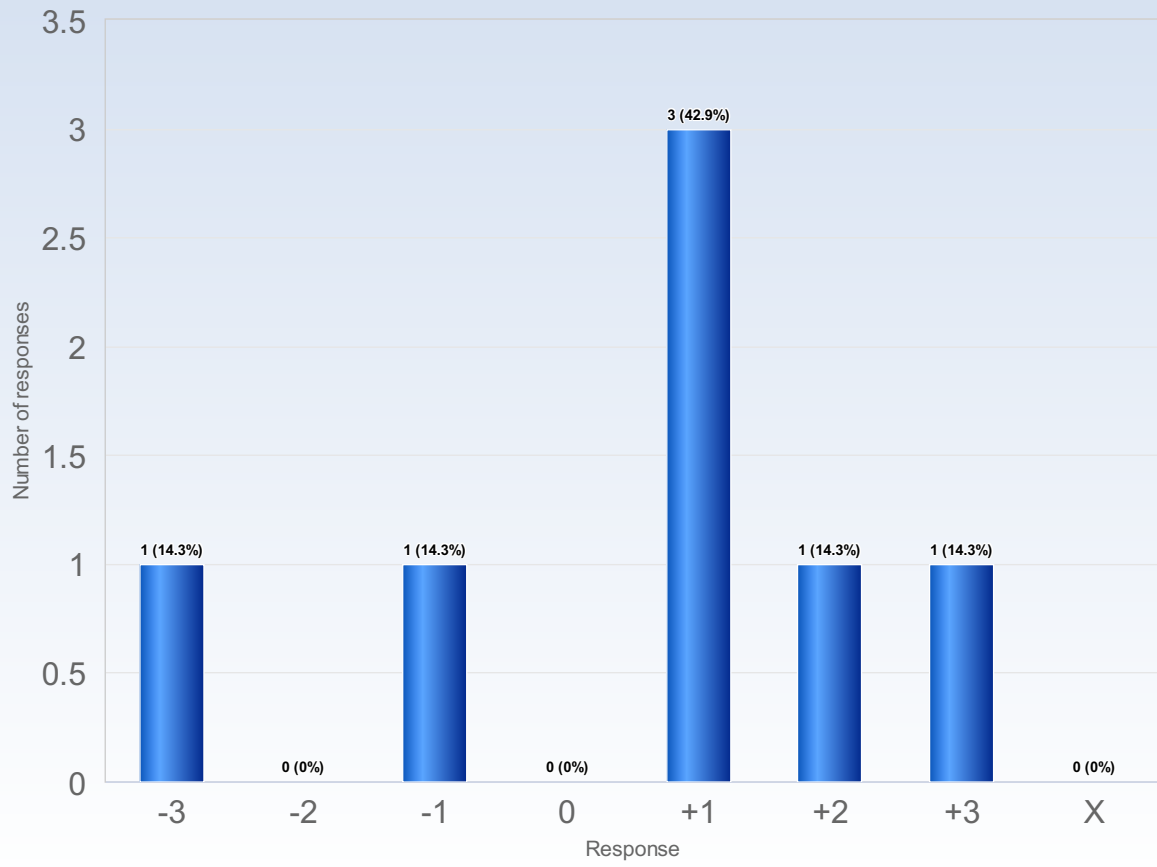
12. The course activities helped me to achieve the intended learning outcomes efficiently



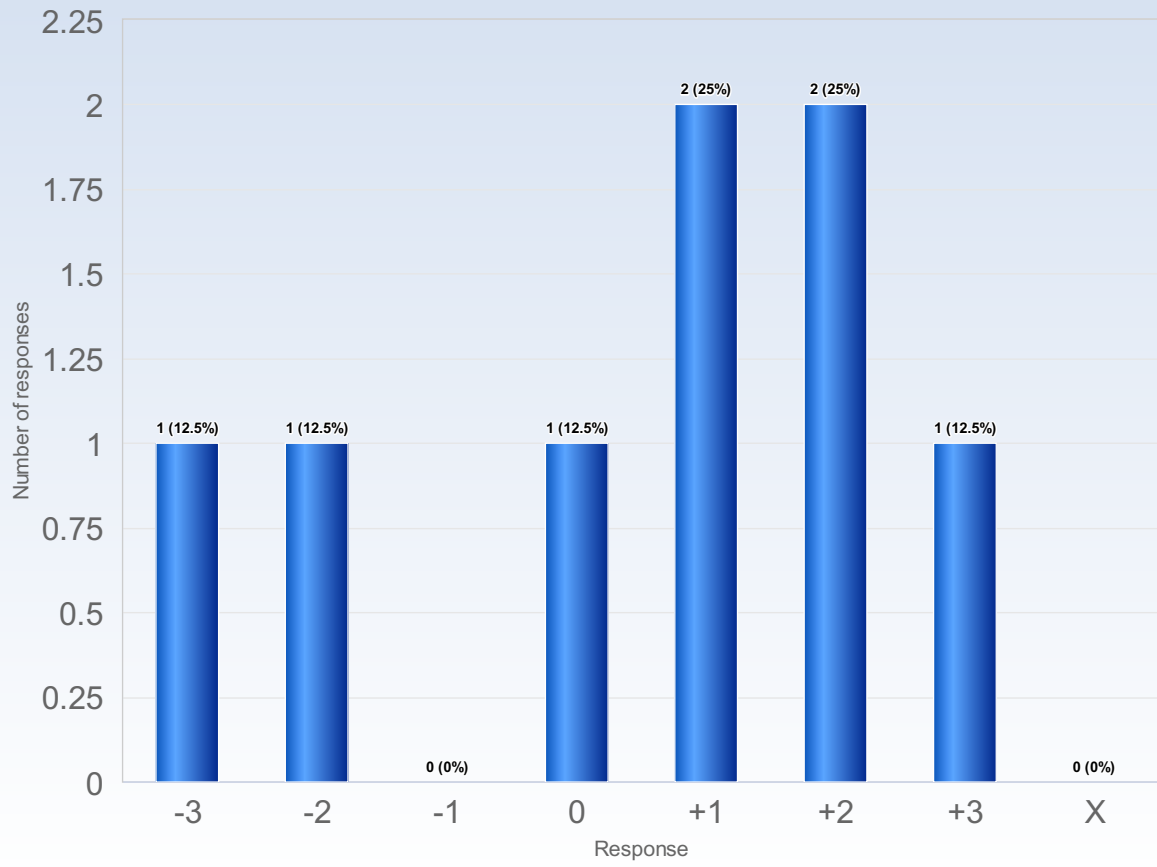
13. I understood what I was expected to learn in order to obtain a certain grade

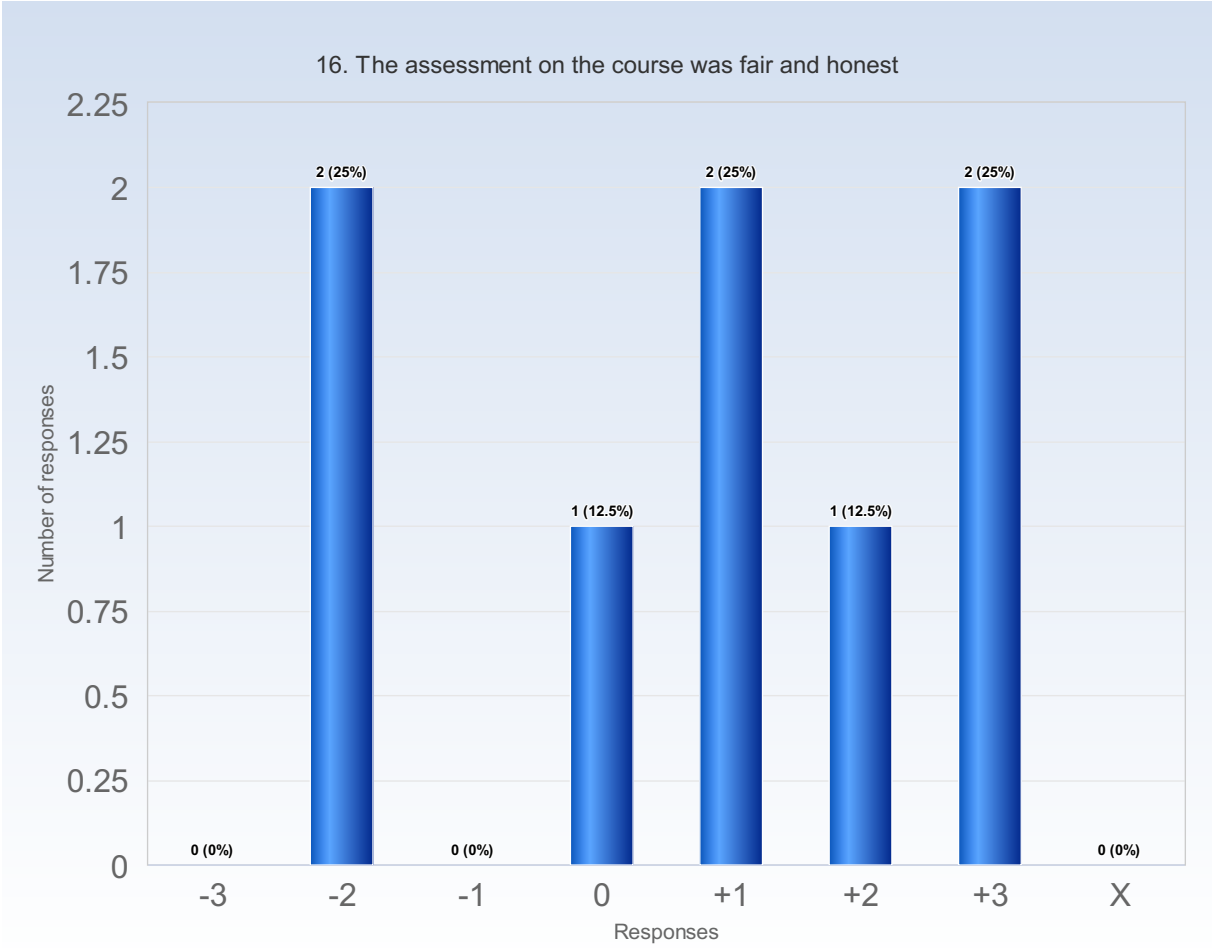


14. I received regular feedback that helped me to see my progress



15. I could practice and receive feedback without being graded

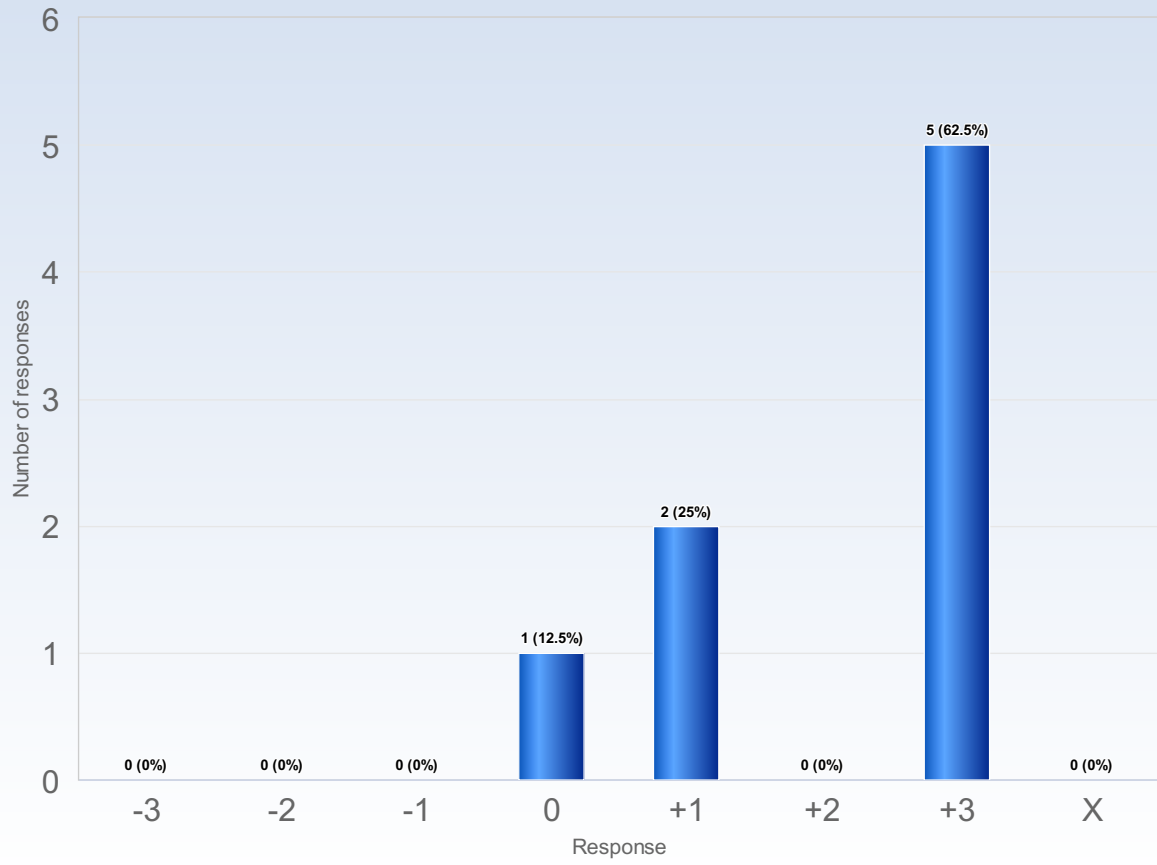




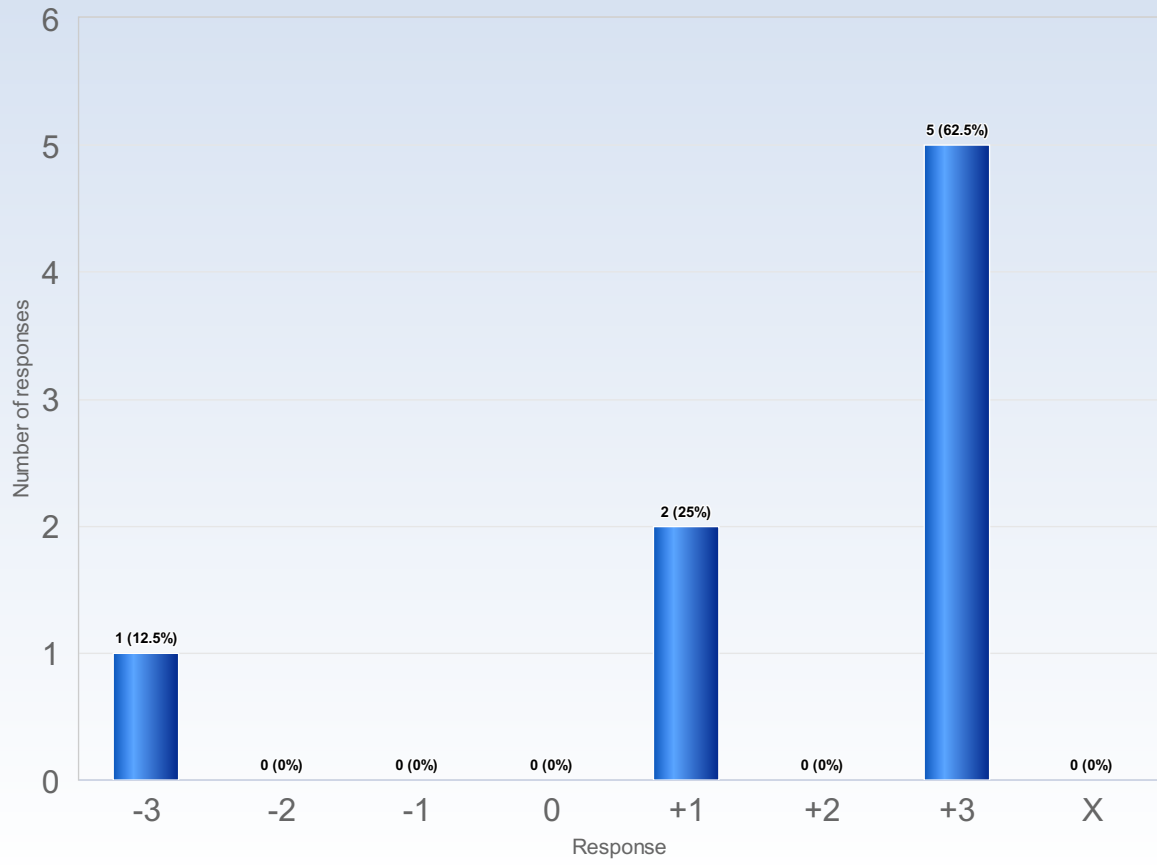
Comments

Comments (My response was: -2)
Peer grading was not fair most of the times. Marks were reduced for minor details, this only added pressure in order to be more careful for every next homework, which in turn, was time consuming. Peer graders are PhD students, hence they should fill little details themselves.

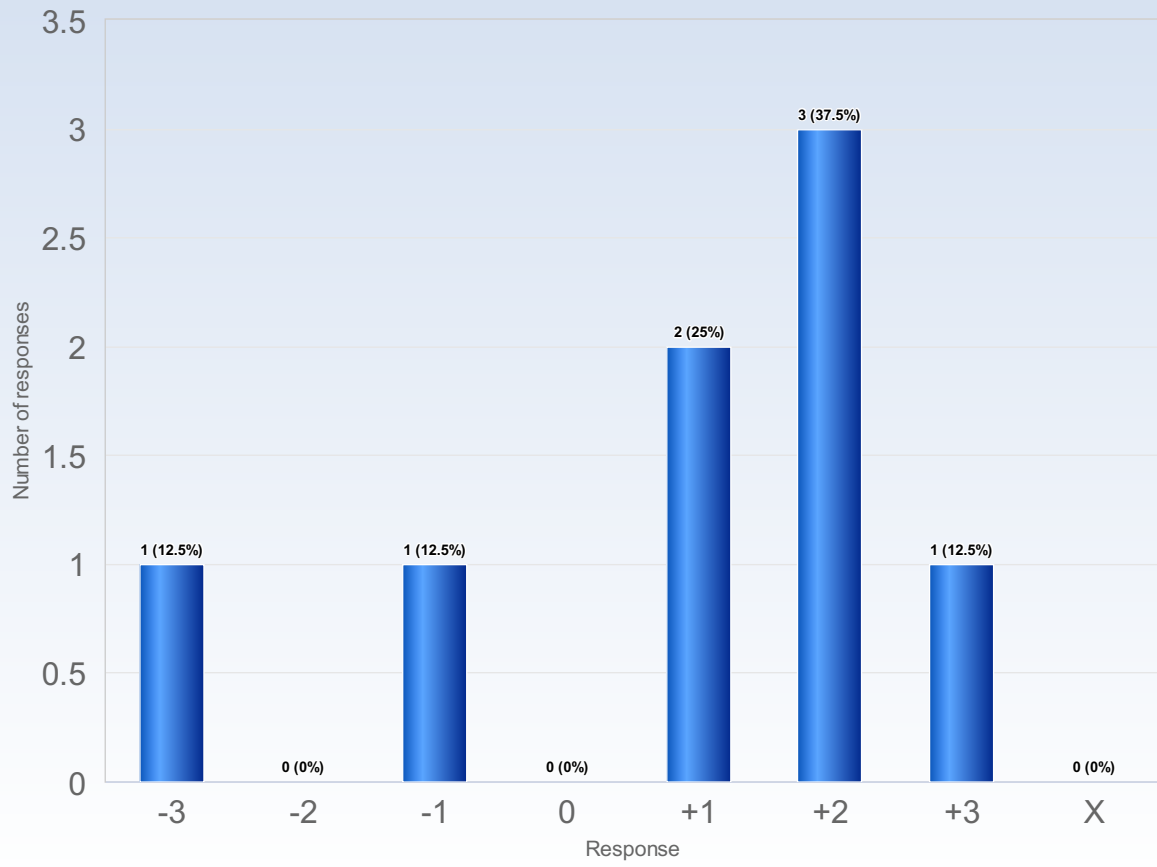
17. My background knowledge was sufficient to follow the course



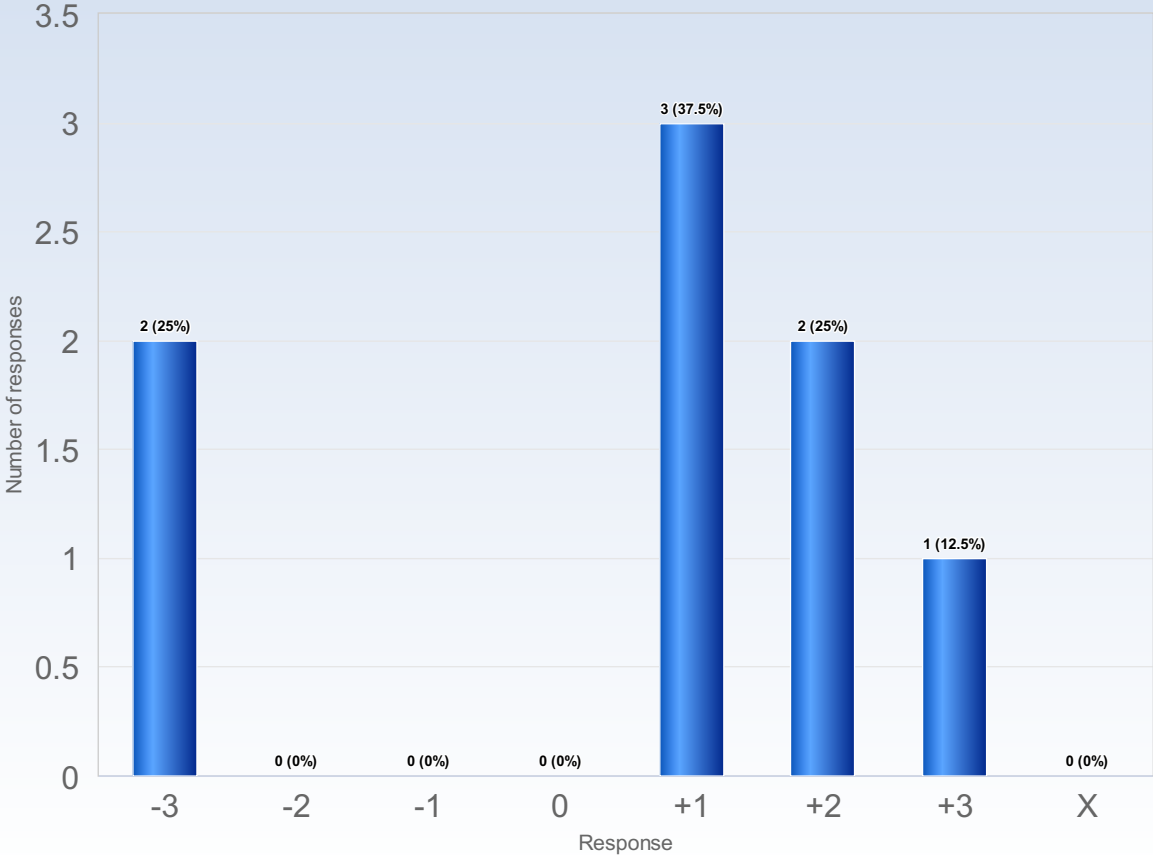
18. I regularly spent time to reflect on what I learned



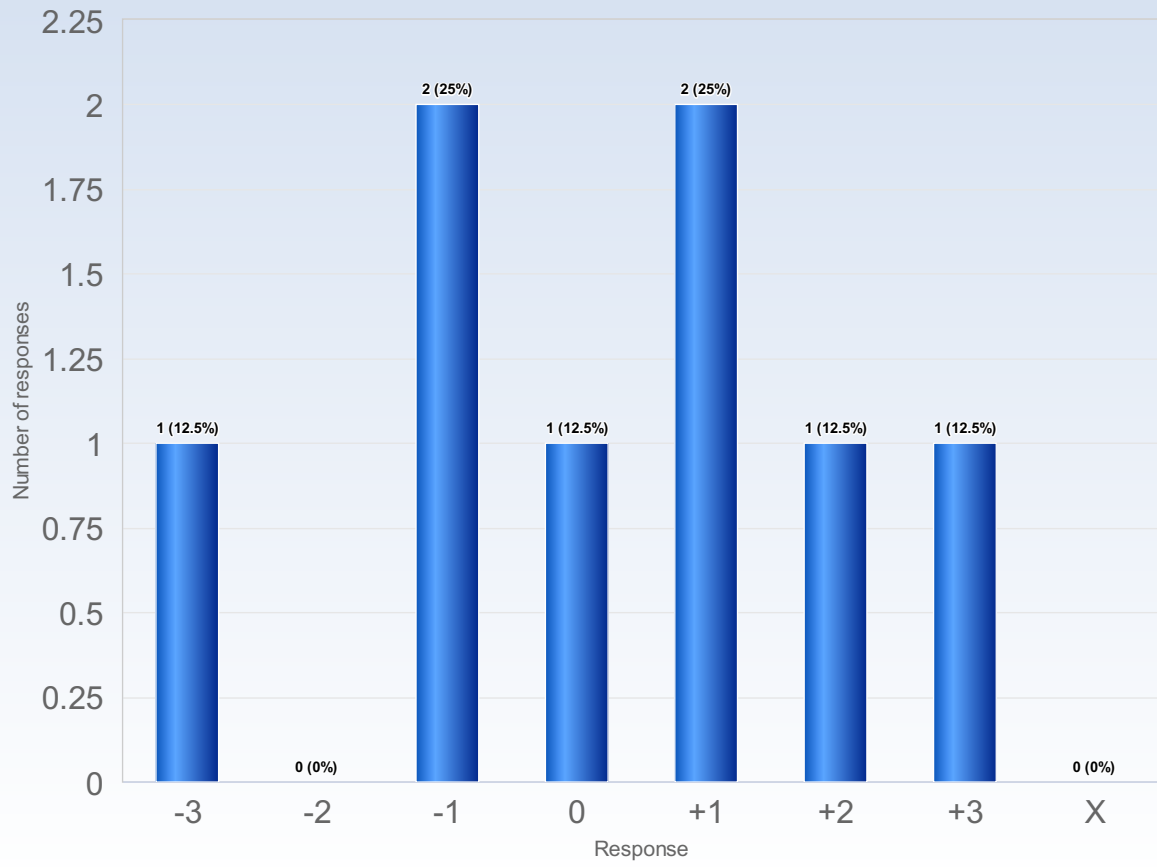
19. The course activities enabled me to learn in different ways



20. I had opportunities to influence the course activities



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



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

