Report - EQ2401 - 2023-10-27

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 2023-03-21 - 2023-04-06, 6 out of 21 possible respondents (but only 17 where active students). Standard KTH LEQ, see attached. Meeting students in connection to classroom teaching and oral project examination. Students are also asked to comment courses in their program integrated course like "The sustainable information and network engineer."

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

13 lectures to give an overview of the theory and give examples. 8 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 (Matlab) 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 5h 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 written exam score. Well solved and presented projects also give bonus points. Lecture slides and matlab examples etc are published on the course homepage. We also made available lecture video presentations that were produced during the pandemic.

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

The workload is considered to be appropriate.Students make explicit comments about it in the evaluation.

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 results were really good. Many students were engaged in the projects during the course and delivered good solutions. 13 out of 17 active students attempted to do most of the homework assignments. This means many also had bonus points to add to their exam score. 18 did the exam in March and 89% passed many with higher grades. 4 did the exam in June and 3 passed (out of two that attempted to improve their grades).

STUDENTS´ANSWERS TO OPEN QUESTIONS
What does students say in response to the open questions?

See the attached course evaluation report.

SUMMARY OF STUDENTS' OPINIONS
Summarize the outcome of the questionnaire, as well as opinions emerging at meetings with students.

The grades given to the course are very high. We appreciate this a lot.

Course content is appreciated with mix of theory and still being able to see and apply it to near to real applications in the projects. Projects, lectures and tutorials are appreciated. The structure of the course is commended.

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 implementation of the course and the results are good.

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?

No imbalances due to gender or student background have been observed. The course is given good grades in the evaluation. No particular weakness identified.

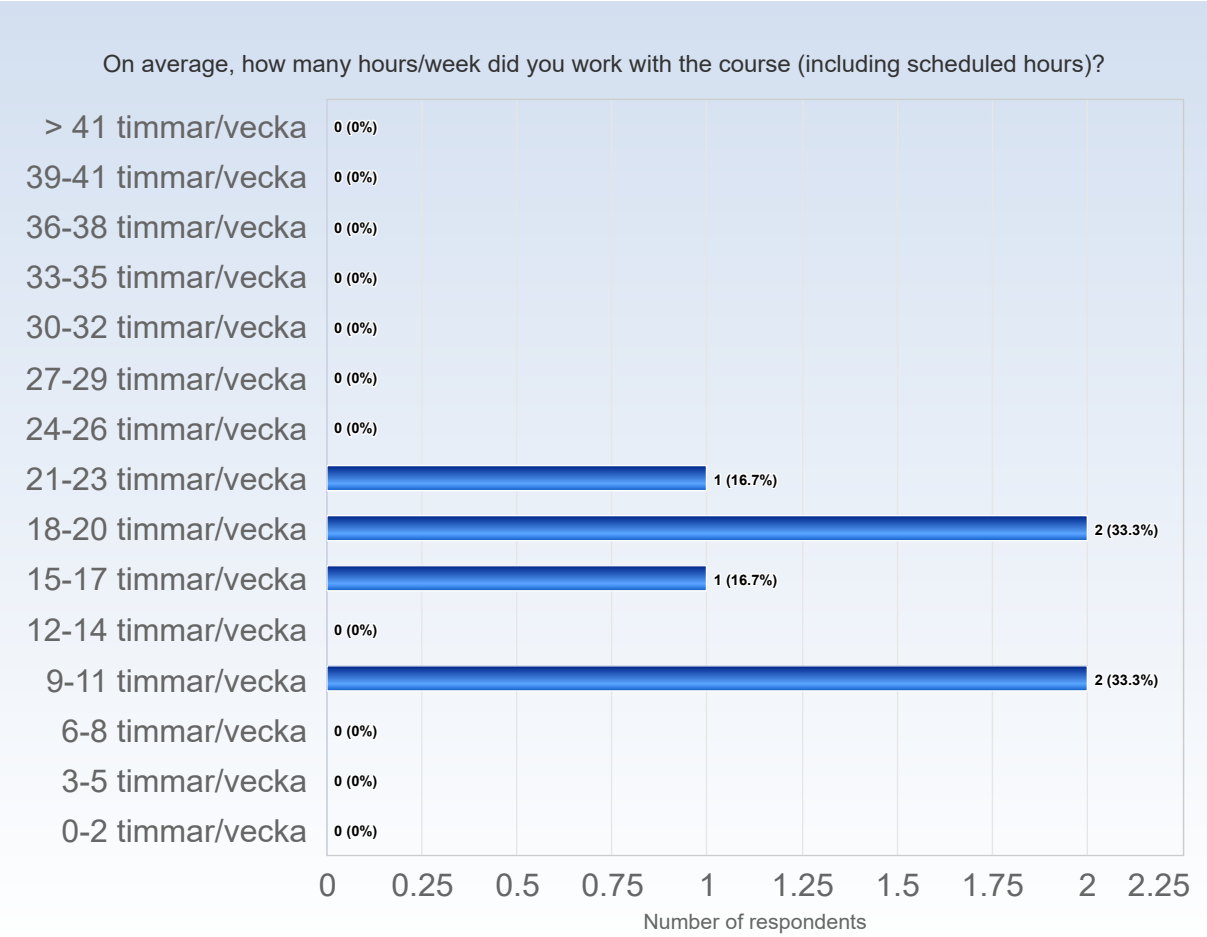
PRIORITIZED COURSE DEVELOPMENT
What aspects of the course should be developed primaily? How can these aspects be developed in short and long term?

Ordinary revisions of the course in all parts. New projects, perhaps one also including Kalman filtering.

EQ2401 - 2023-03-20

Antal respondenter: 21
Antal svar: 6
Svarsfrekvens: 28,57 %

ESTIMATED WORKLOAD



Comments

Comments (I worked: 9-11 timmar/vecka)
Got sick during the course. Could not study much.

Comments (I worked: 15-17 timmar/vecka)
The course load seemed appropriate and the pace of content was certainly suitable. There was enough room to read the lecture notes etc.

Comments (I worked: 18-20 timmar/vecka)
The workload was adjusted to the content given in the course and allows for studying and even some extra deepening in some concepts.

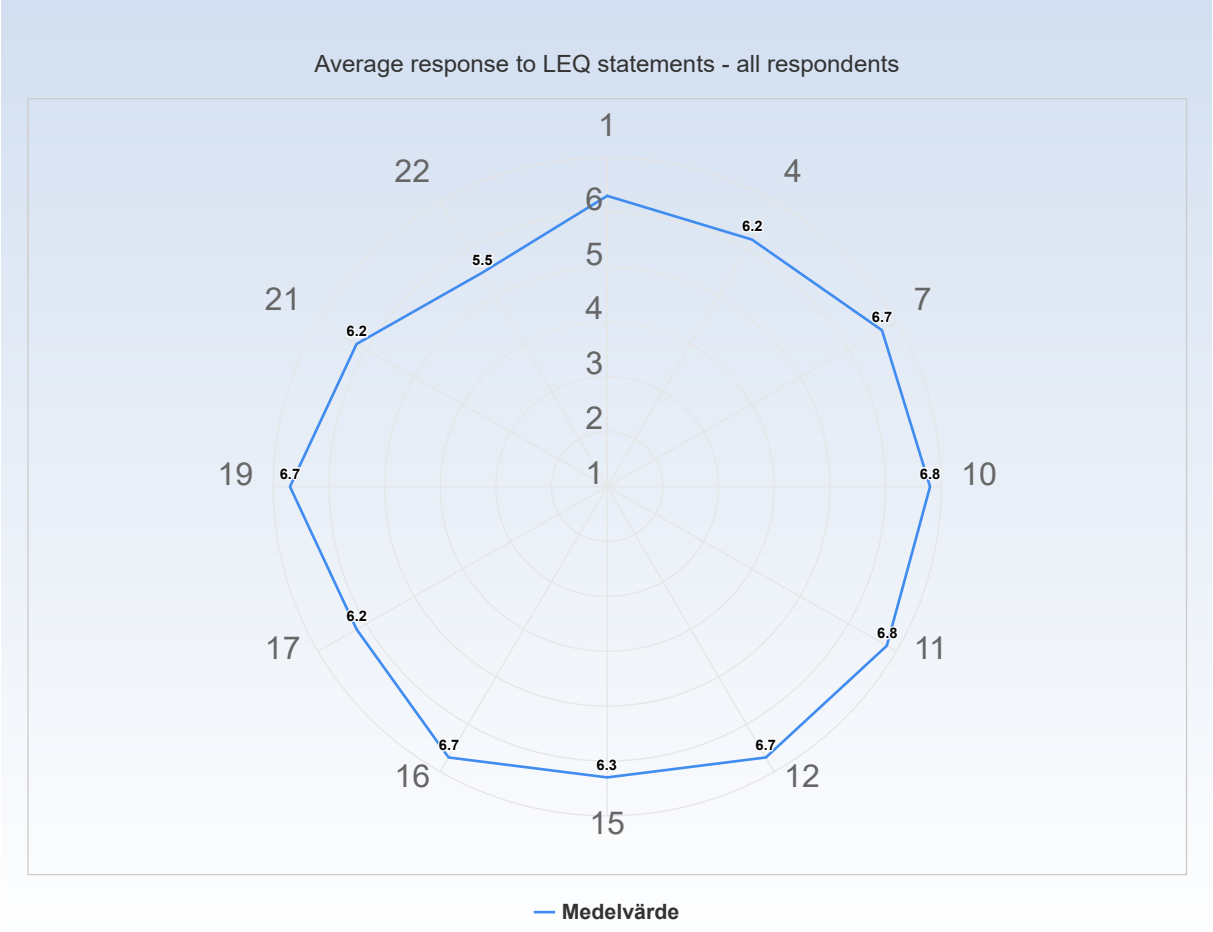
Comments (I worked: 21-23 timmar/vecka)
3 hours per day to study this course is sufficient for me to pass

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

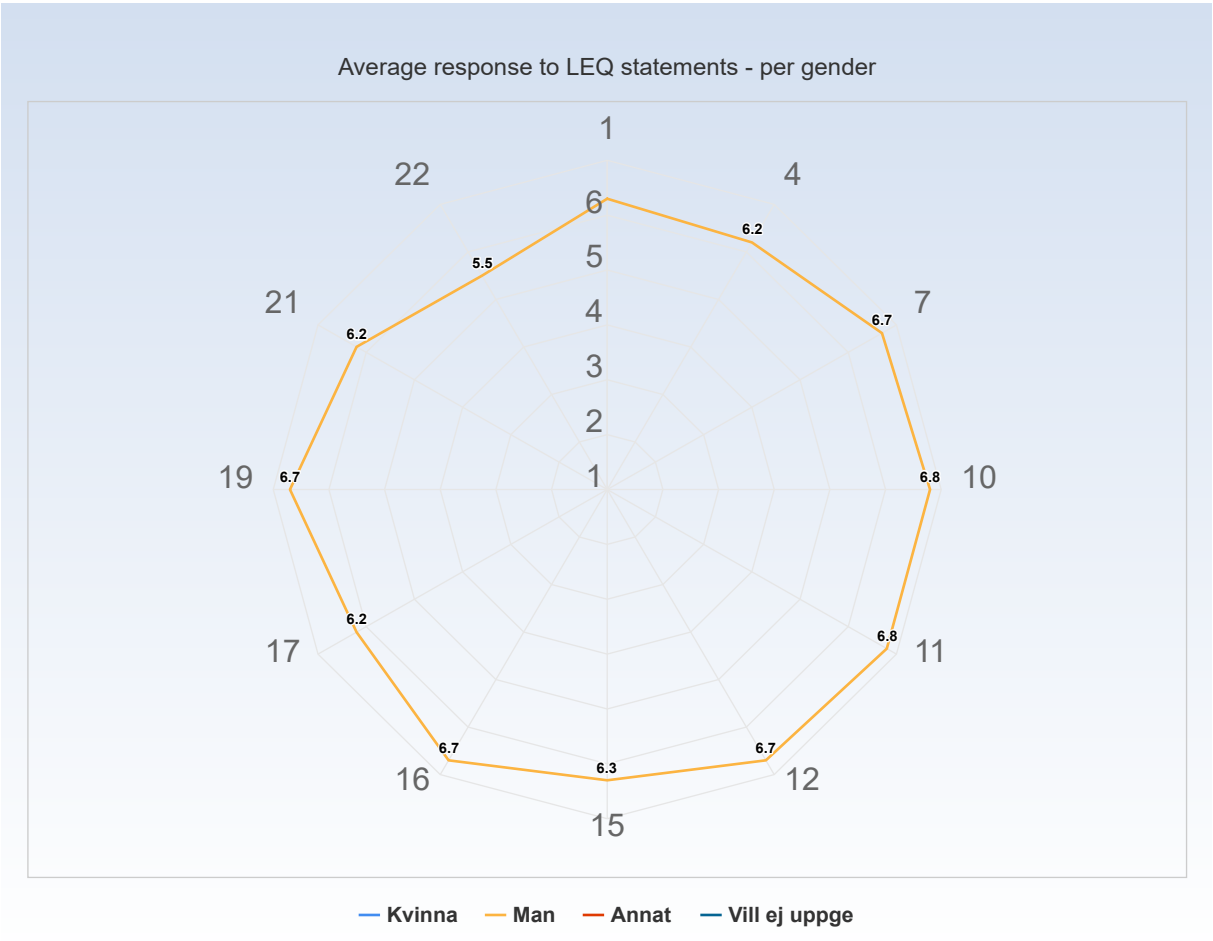
Bain, K. (2004). *What the Best College Teachers Do*, Chapter 5, pp. 98-134. Cambridge: Harvard University Press.

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.

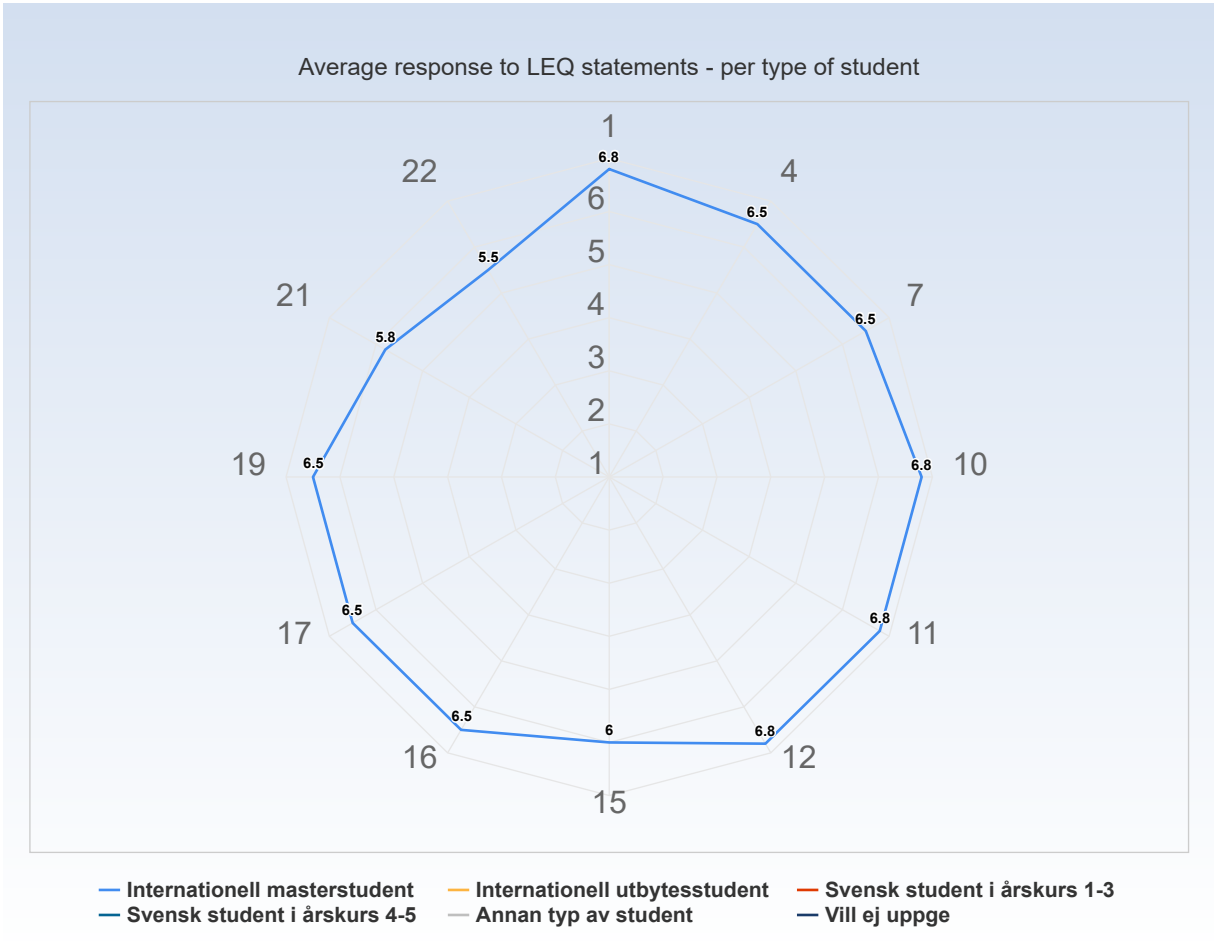
Kember, K. & McNaught, C. (2007). *Enhancing University Teaching: Lessons from Research into Award-Winning Teachers*, Chapter 5, pp. 31-40. Abingdon: Routledge.

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



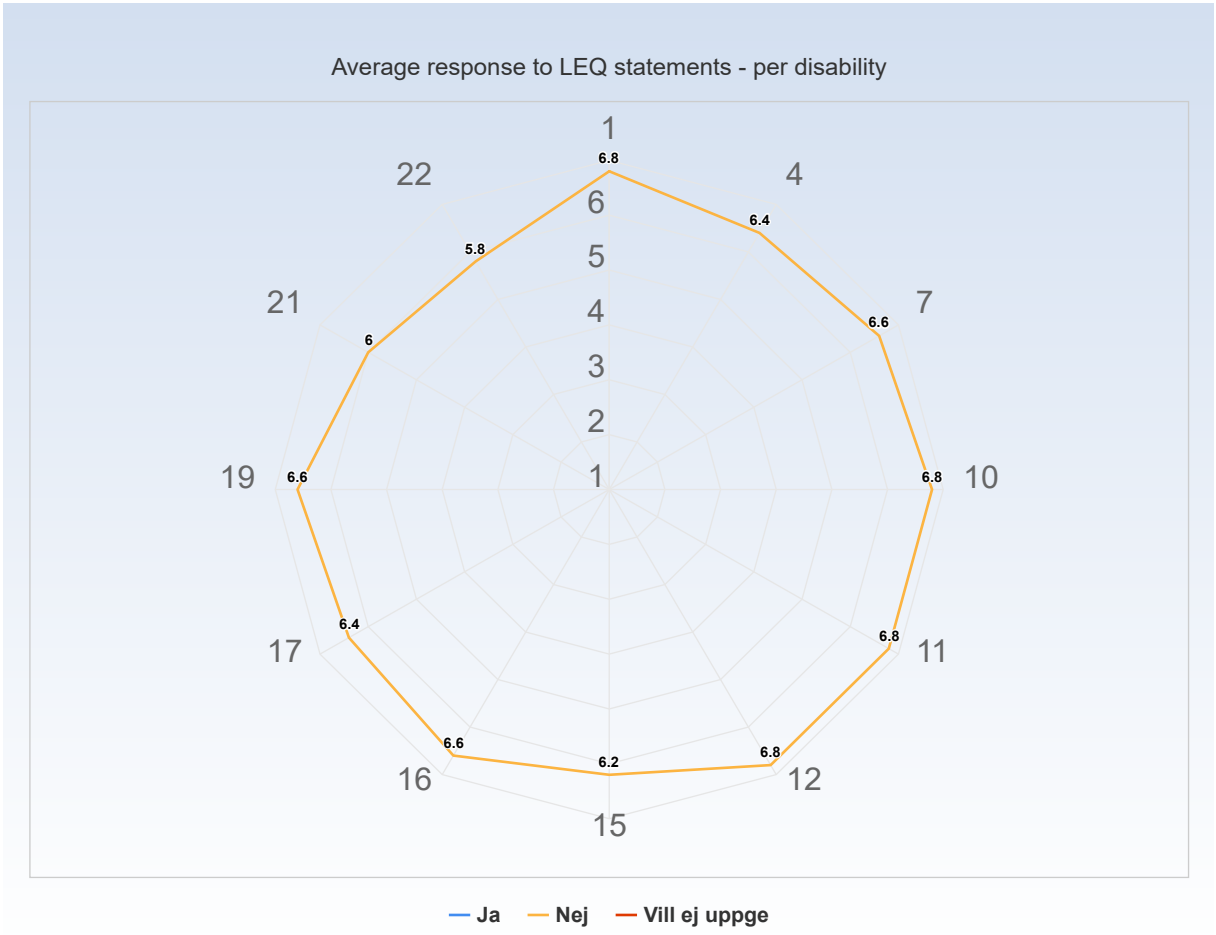
Comments

Comments (I am: Man)
everybody is assessed fairly regardless the gender



Comments

Comments (I am: Internationell masterstudent)
everybody is assessed fairly regardless where they come from



GENERAL QUESTIONS

What was the best aspect of the course?

What was the best aspect of the course? (I worked: 9-11 timmar/vecka)
Kalman filtering theory.
To learn together with coursemate. Good lecturer. Quite interesting projects.

What was the best aspect of the course? (I worked: 15-17 timmar/vecka)
The pace of the course was great and there was an appropriate progression of information. That makes it accessible to build up the knowledge and see how things relate to each other. I particularly liked the homework assignments to help stay on track and receive a small bonus.

What was the best aspect of the course? (I worked: 18-20 timmar/vecka)
It is well structured and leaves the students enough time to understand the math behind the concepts taught. The study material (especially the lecture notes) is very good.

What was the best aspect of the course? (I worked: 21-23 timmar/vecka)
The teacher feedback is most helpful aspect for me understanding the material.

What would you suggest to improve?

What would you suggest to improve? (I worked: 9-11 timmar/vecka)
Maybe a small intro to the labs during the lectures e.g introduce the problem and remind students of what the relevant theory is.

What would you suggest to improve? (I worked: 15-17 timmar/vecka)
Perhaps a few more leads on the projects (mainly the first one) in general and how to improve from the basic solution. That would have helped with getting started and getting an overview of what the extra work could look like.

What would you suggest to improve? (I worked: 18-20 timmar/vecka)
Maybe include a more practical implementation of the Kalman filter, as it is not used in the projects.

What would you suggest to improve? (I worked: 21-23 timmar/vecka)
It is a little bit strange for me knowing that the student list in canvas is so many but only less than the same 7 people that always come to the class. And then, in the exam, 20 students suddenly showed up. I know that may be in-class-oriented learning is not a trend anymore but I love to see that all students (at least 75%) always come to the class because the material is actually interesting. May be, the teacher could add another special-and-interesting material that is not put in Canvas and teach it in the class.

What advice would you like to give to future participants?

What advice would you like to give to future participants? (I worked: 9-11 timmar/vecka)
Do the homeworks. I was not able to due to health issues and it made it harder to pass the exam.
Tips to pass the course (spending about 10 hours per week): Try to find a study buddy. Try your best on the homeworks and watch related recorded lectures. If you understand the homeworks, it is a very good perparation for the exam. Start early with the projects, use computer exercises as a help. Tips to get higher grade: study more and make sure to have sufficient prerequisites before taking the course.

What advice would you like to give to future participants? (I worked: 15-17 timmar/vecka)
Do the homework assignments (they are not too time-consuming) and make sure you understand the concepts (you'll thank yourself during exam preparation). The lecture notes are very readable.

What advice would you like to give to future participants? (I worked: 18-20 timmar/vecka)
Take the homeworks seriously and use to challenge your understanding of the key concepts.

What advice would you like to give to future participants? (I worked: 21-23 timmar/vecka)
Start earlier! Even study the old exam first if possible, together with material. It will also be helpful to study the computer exercises as soon as possible to succeed doing the project.

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)
-

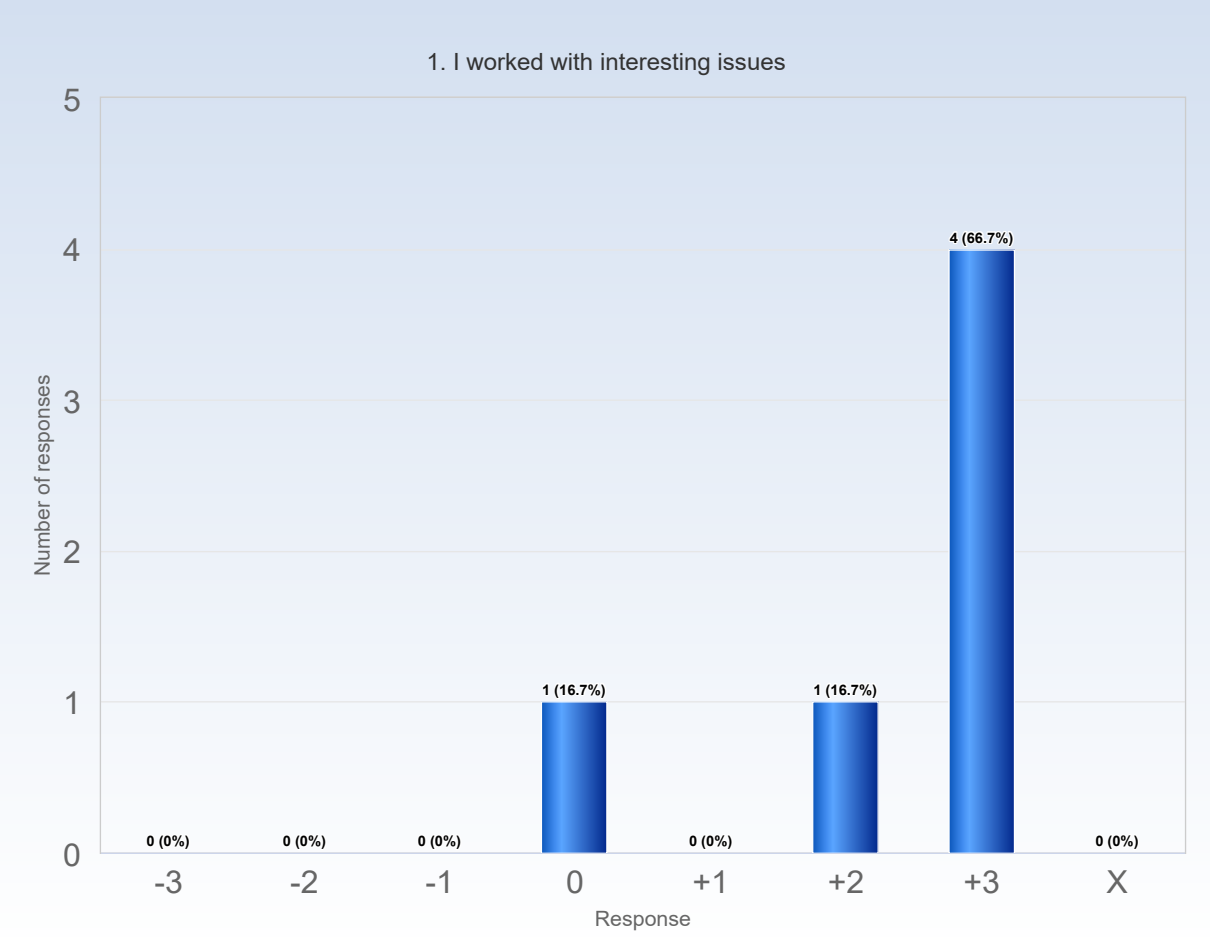
SPECIFIC QUESTIONS

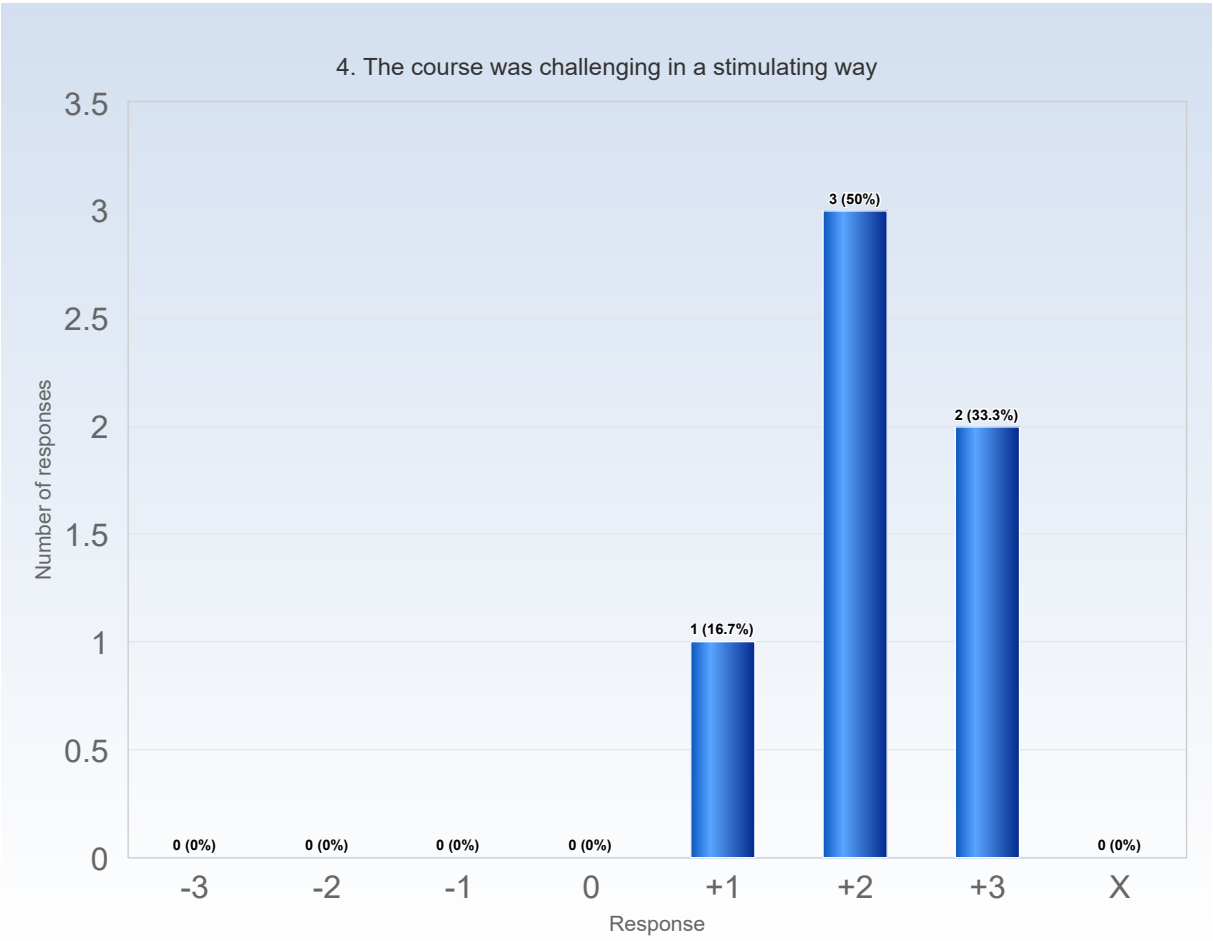
RESPONSE DATA

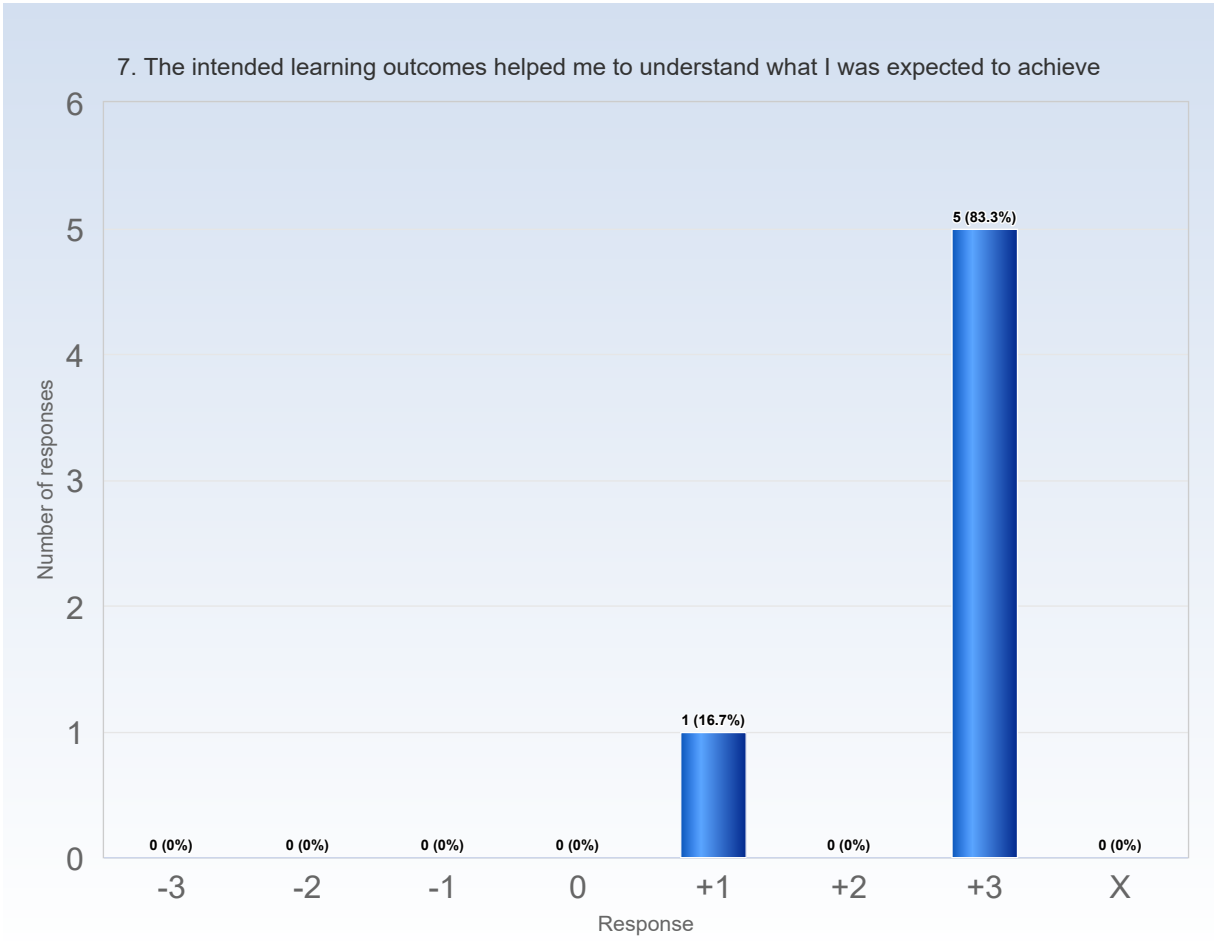
The diagrams below show the detailed response to the LEQ statements. The response scale is defined by:

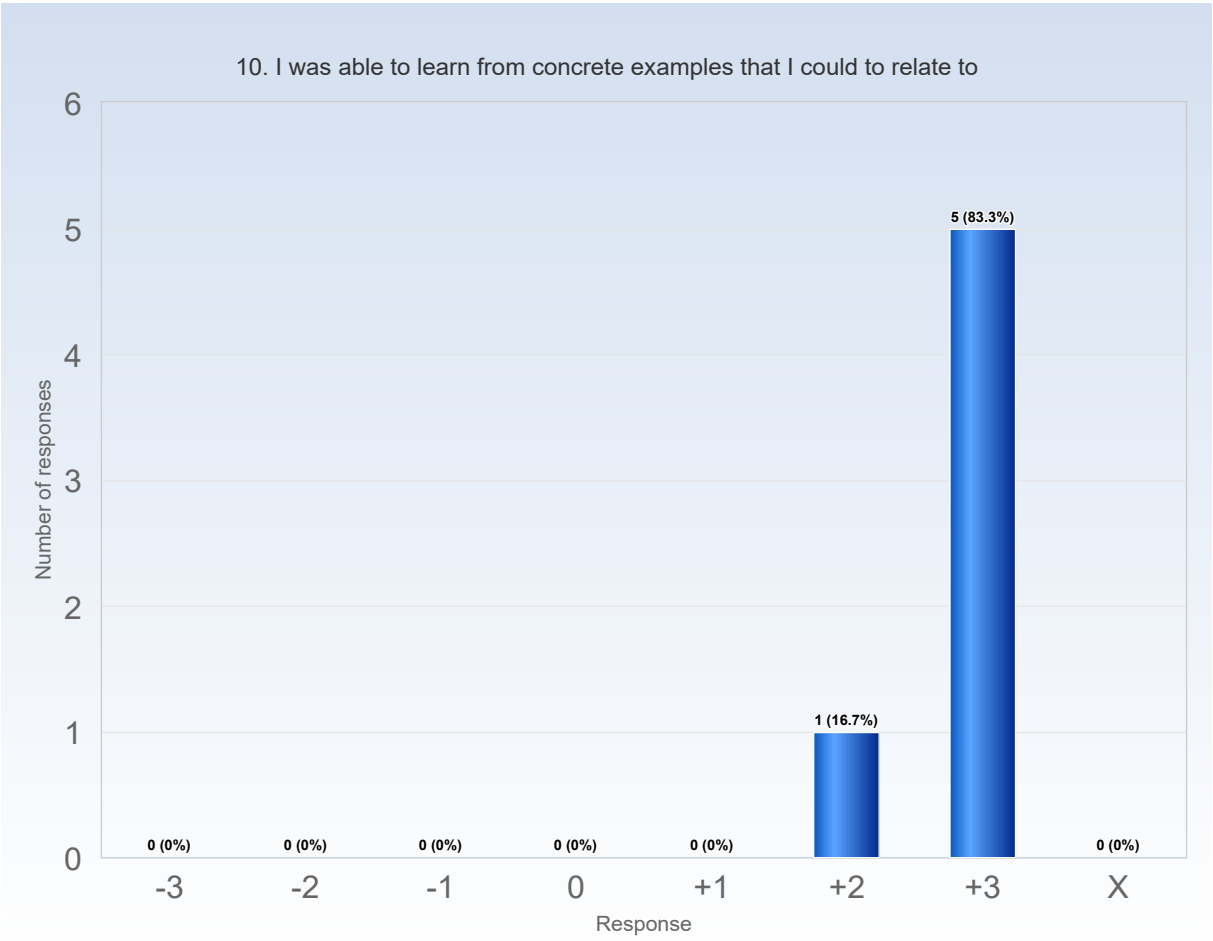
-3 = No, I strongly disagree with the statement
0 = I am neutral to the statement
+3 = Yes, I strongly agree with the statement

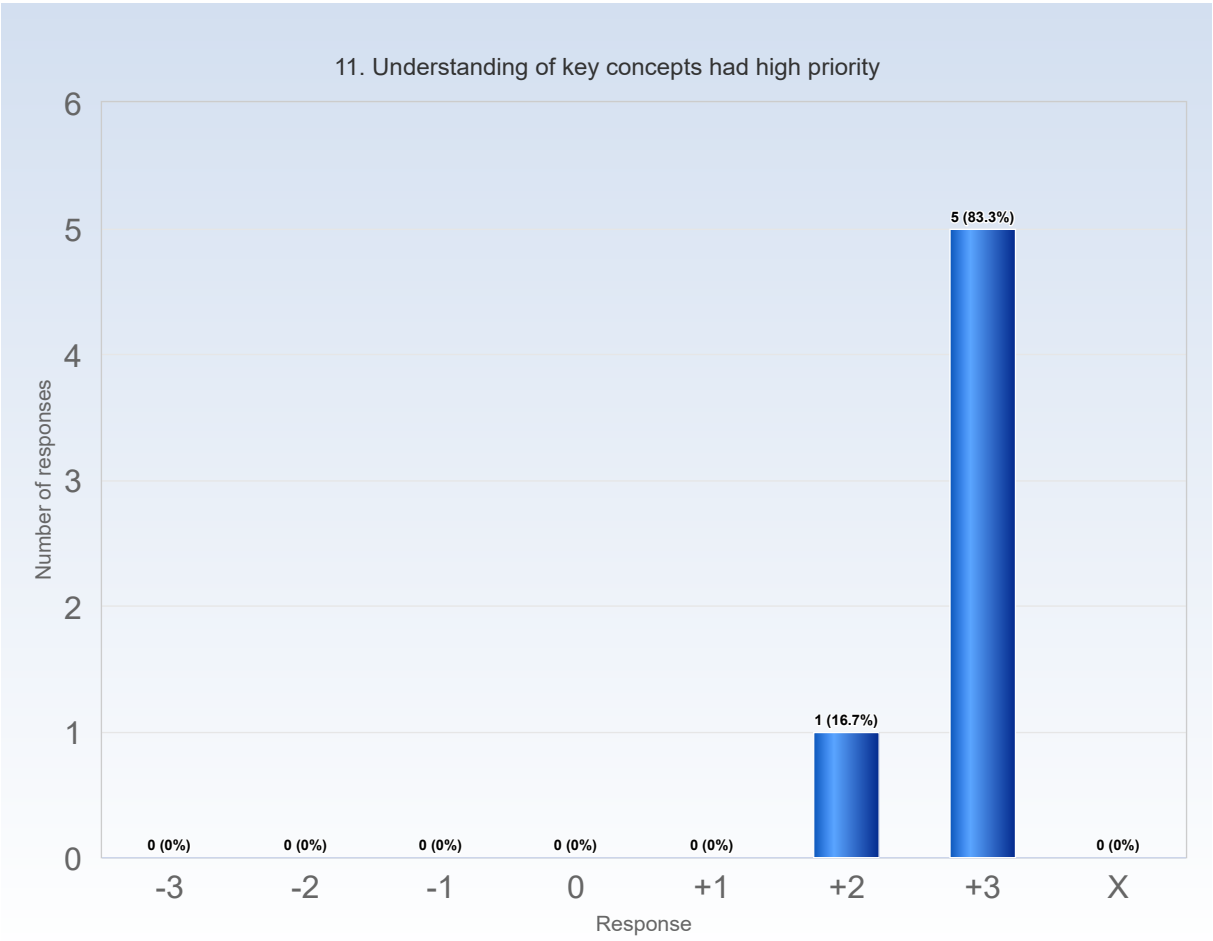
X = I decline to take a position on the statement

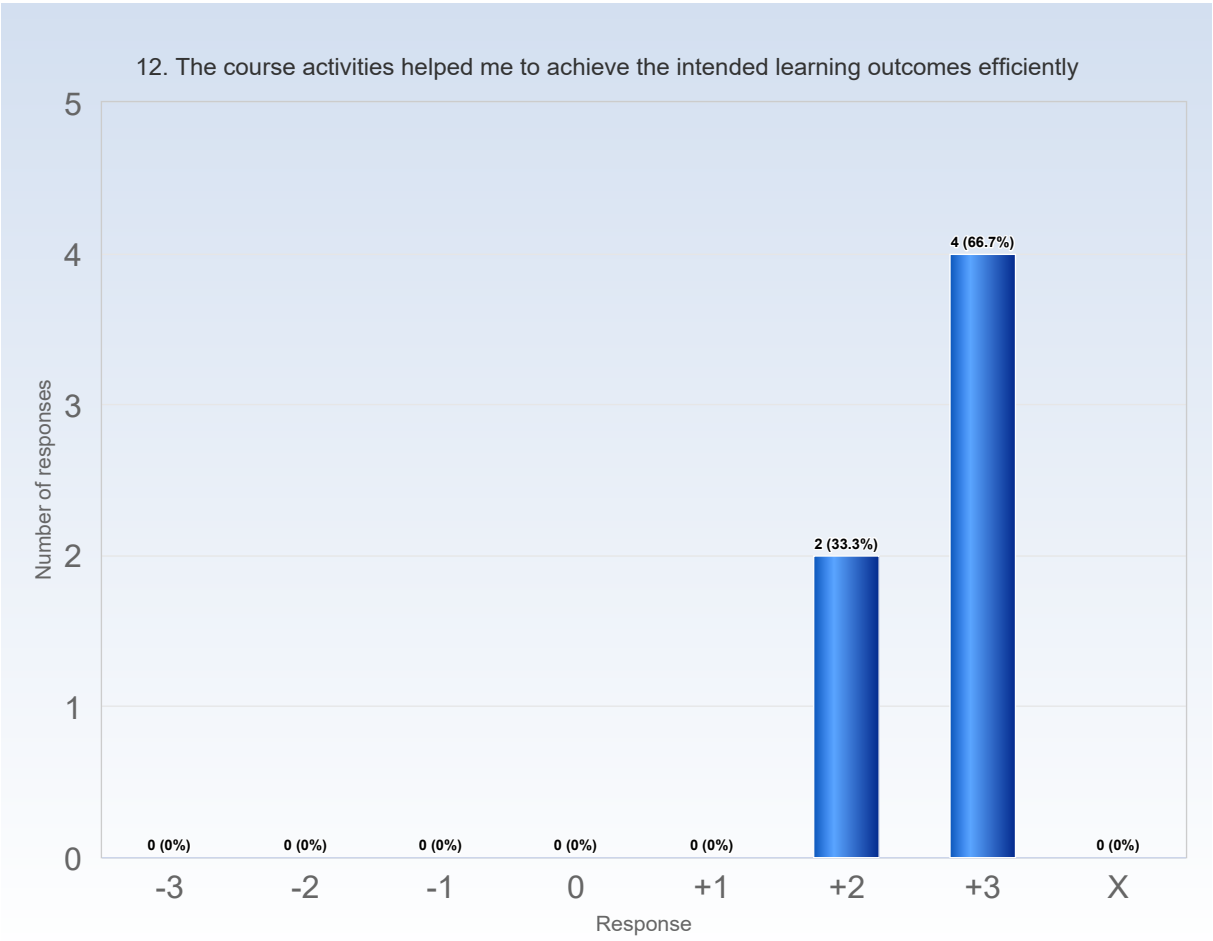



4. The course was challenging in a stimulating way
Number of responses
3.5
3
2.5
2
1.5
1
0.5
0
0 (0%)
0 (0%)
0 (0%)
0 (0%)
1 (16.7%)
3 (50%)
2 (33.3%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response

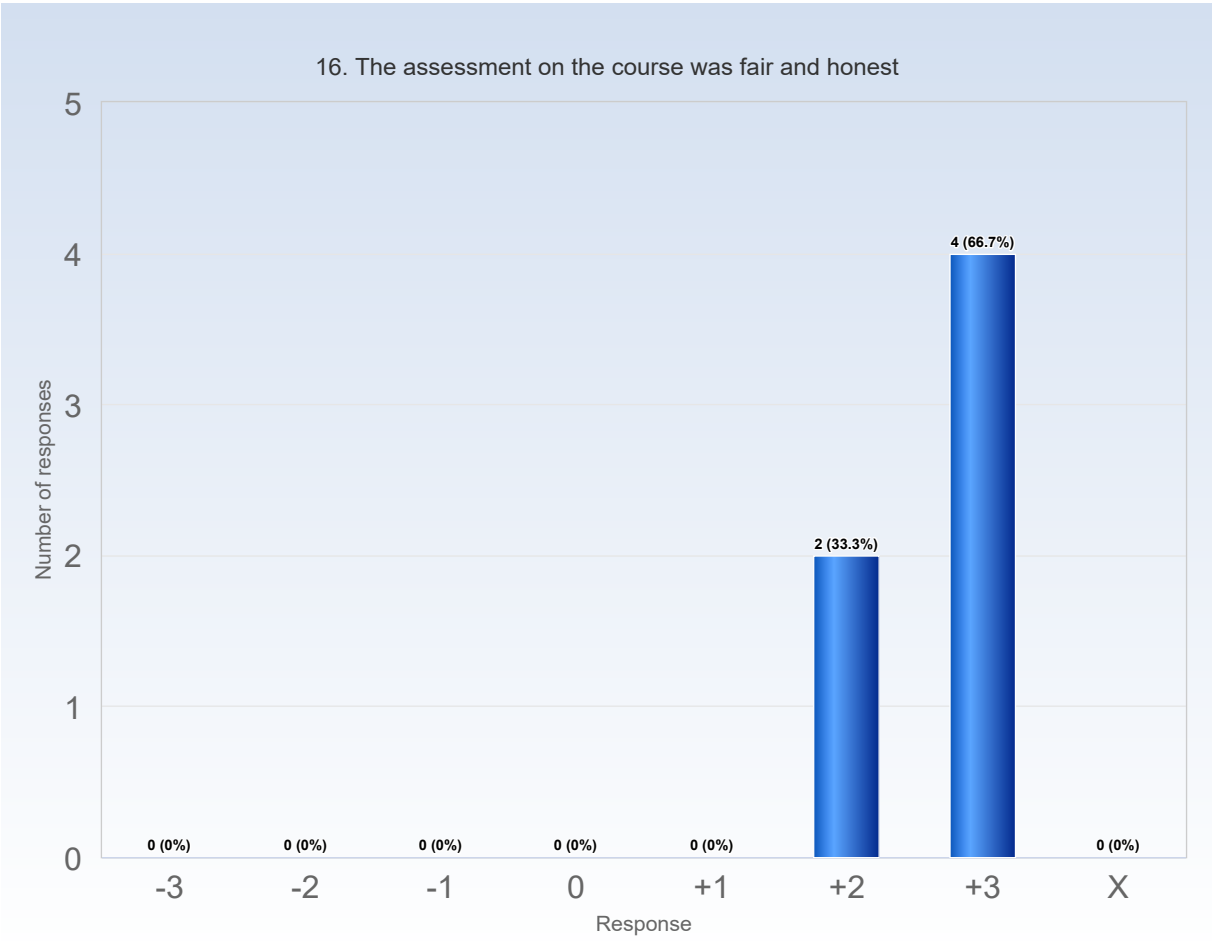

7. The intended learning outcomes helped me to understand what I was expected to achieve
Number of responses
6
5
4
3
2
1
0
0 (0%)
0 (0%)
0 (0%)
0 (0%)
1 (16.7%)
0 (0%)
5 (83.3%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response


10. I was able to learn from concrete examples that I could to relate to
Number of responses
6
5
4
3
2
1
0
0 (0%)
0 (0%)
0 (0%)
0 (0%)
0 (0%)
1 (16.7%)
5 (83.3%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response


11. Understanding of key concepts had high priority
Number of responses
6
5
4
3
2
1
0
0 (0%)
0 (0%)
0 (0%)
0 (0%)
0 (0%)
1 (16.7%)
5 (83.3%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response


12. The course activities helped me to achieve the intended learning outcomes efficiently
Number of responses
5
4
3
2
1
0
0 (0%)
0 (0%)
0 (0%)
0 (0%)
0 (0%)
2 (33.3%)
4 (66.7%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response


15. I was able to practice and receive feedback without being graded
Number of responses
5
4
3
2
1
0
0 (0%)
0 (0%)
0 (0%)
1 (16.7%)
0 (0%)
1 (16.7%)
4 (66.7%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response


16. The assessment on the course was fair and honest
Number of responses
5
4
3
2
1
0
0 (0%)
0 (0%)
0 (0%)
0 (0%)
0 (0%)
2 (33.3%)
4 (66.7%)
0 (0%)
-3
-2
-1
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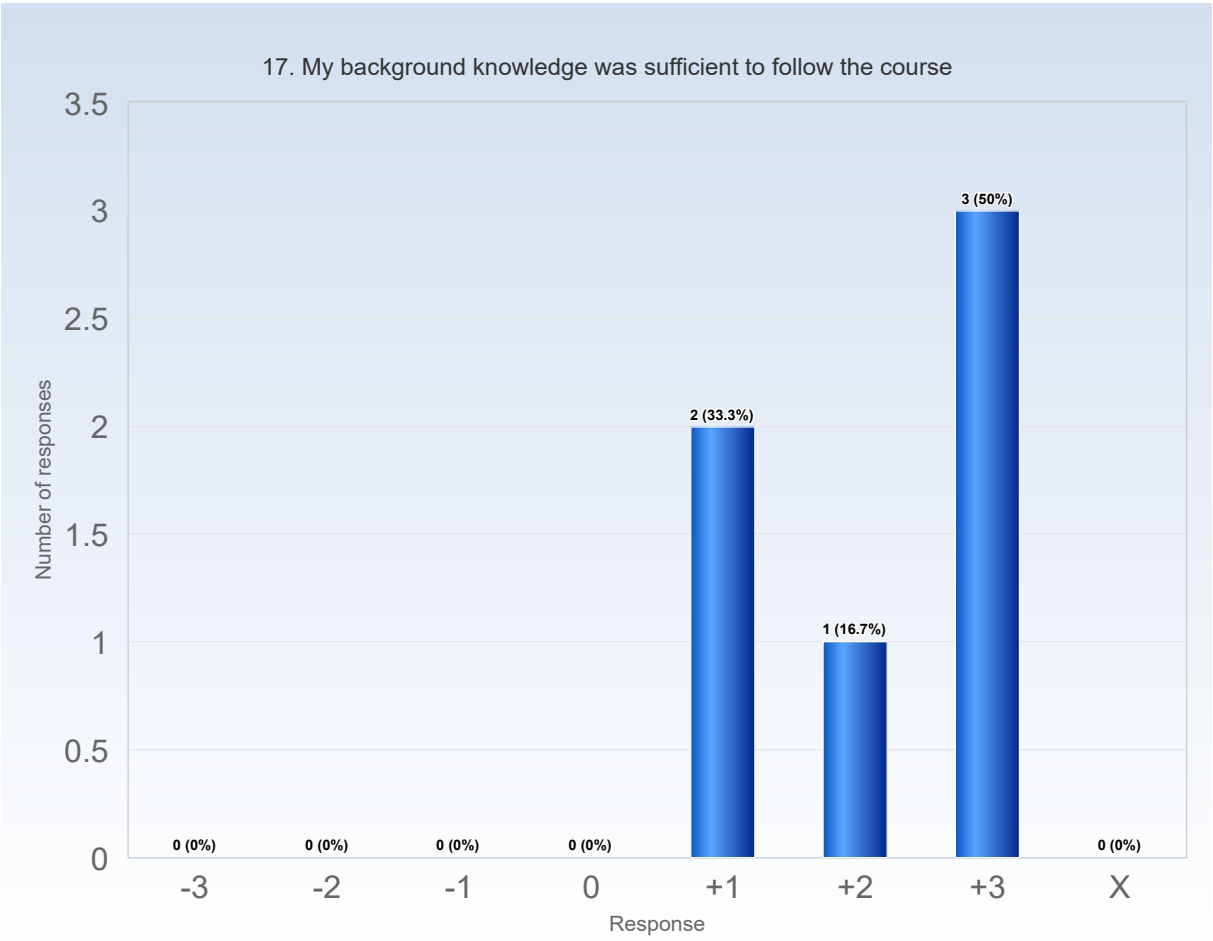
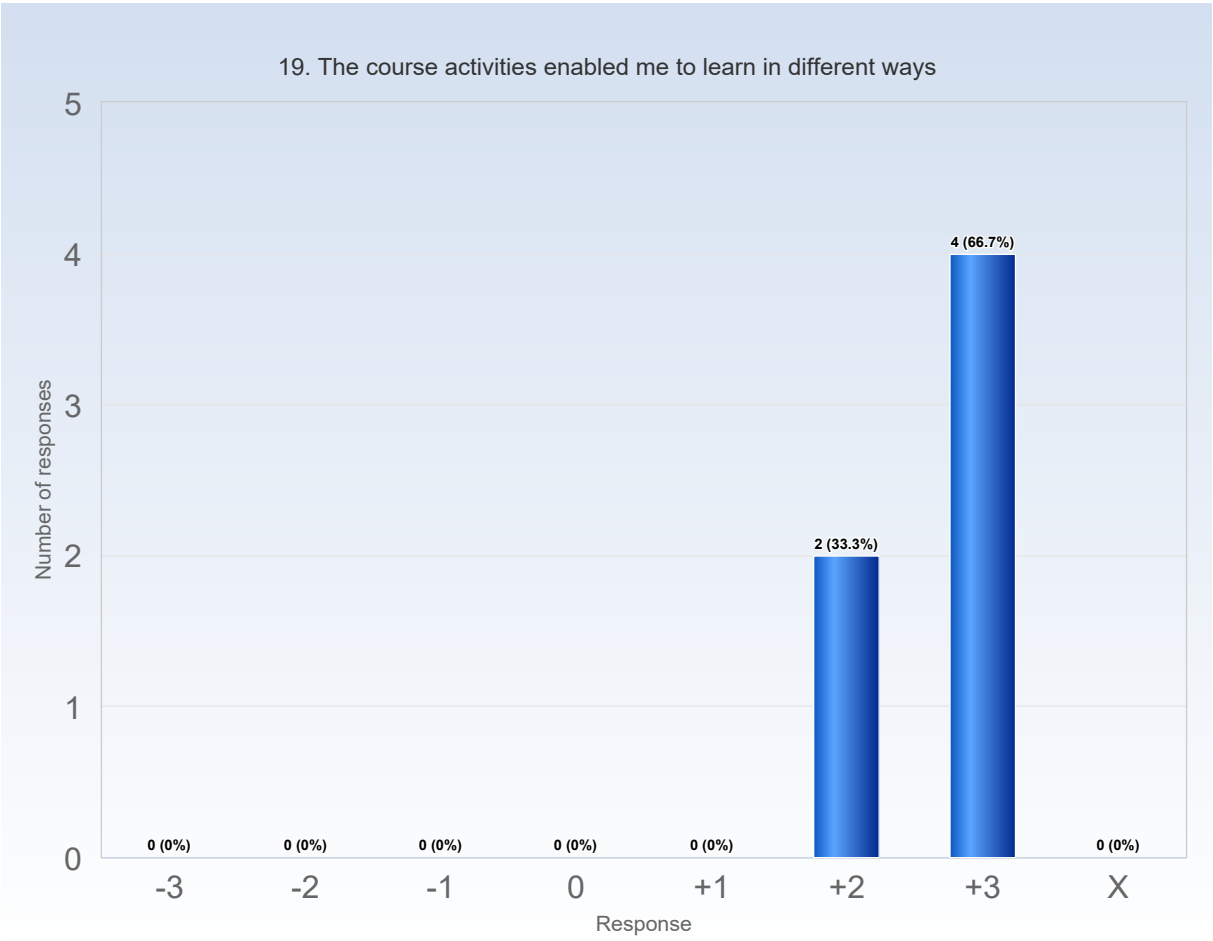
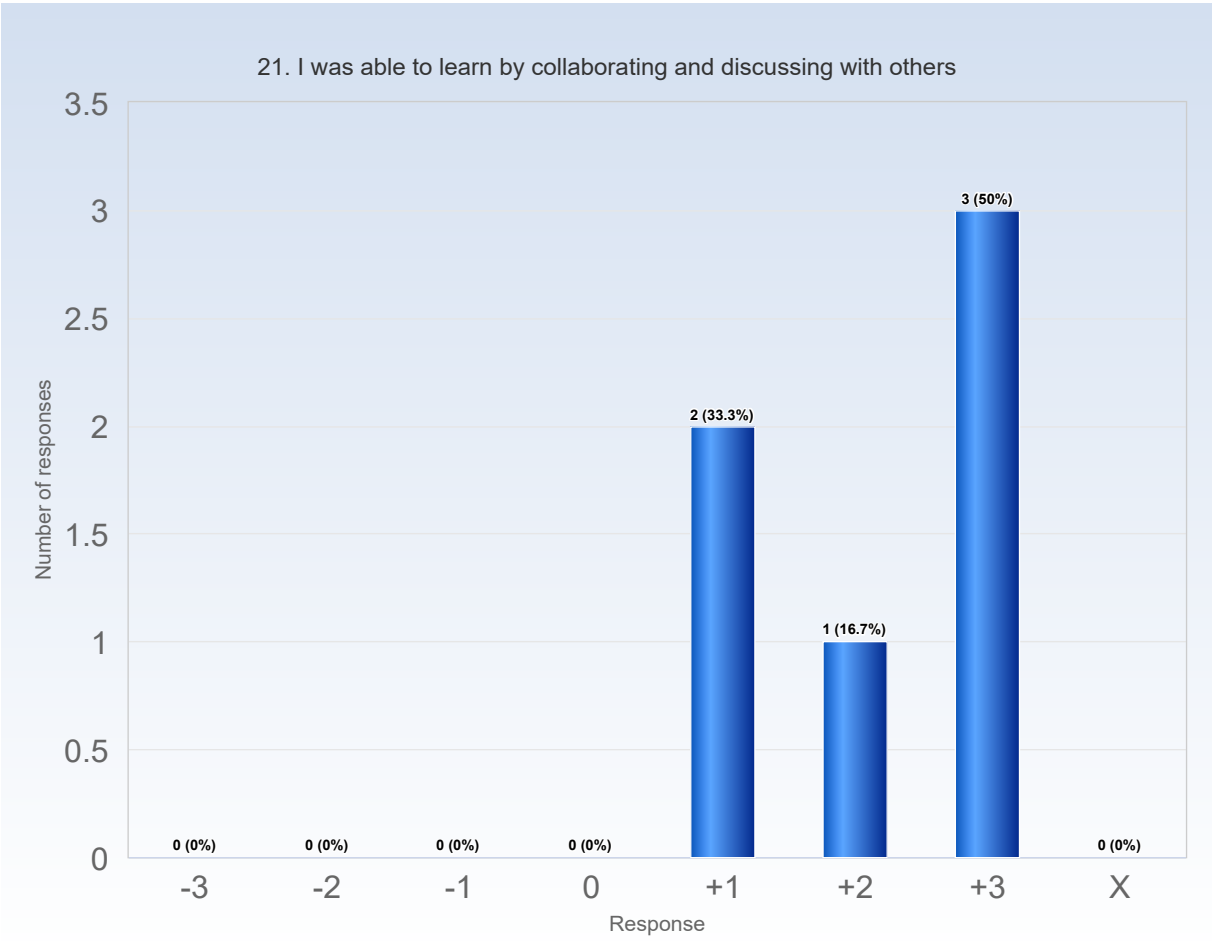
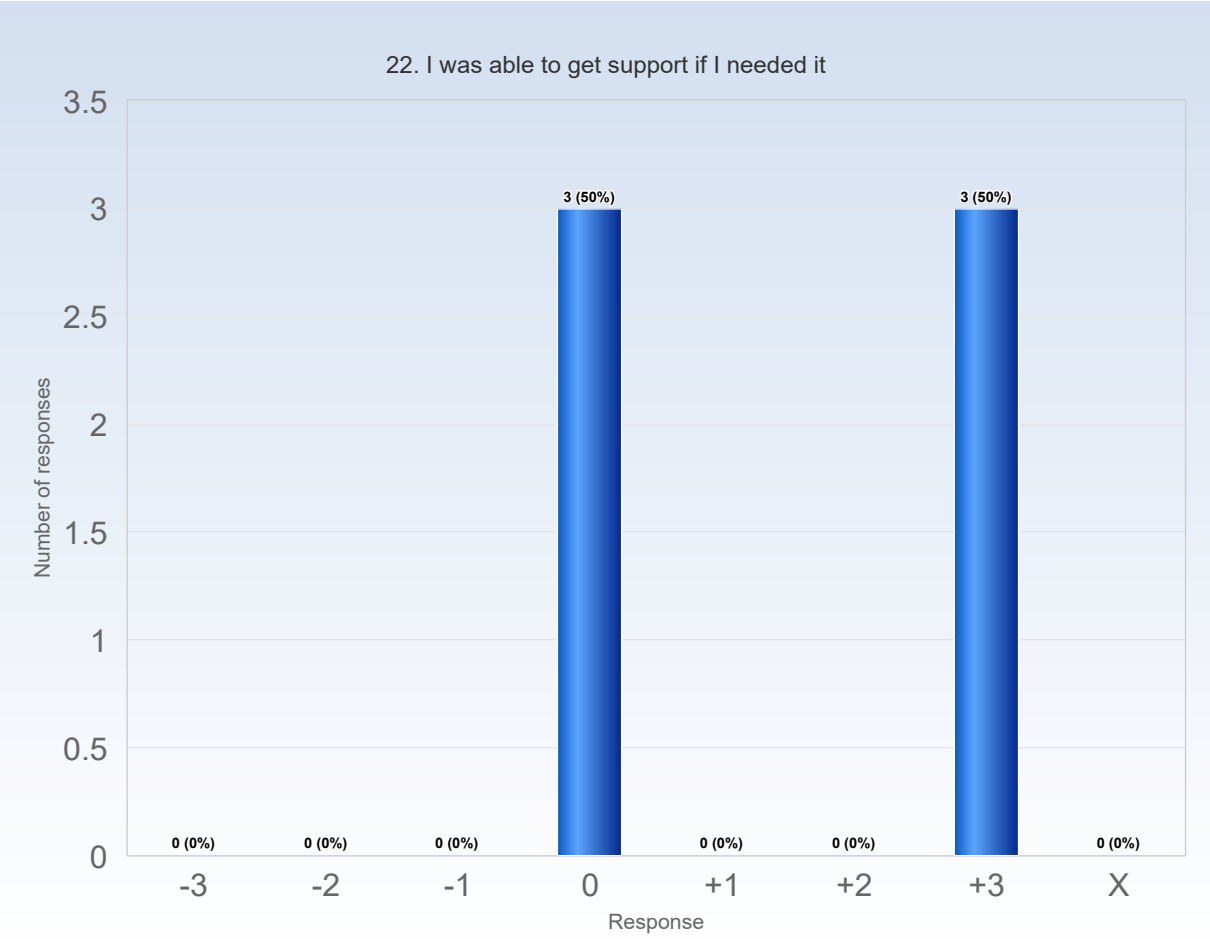
+1
+2
+3
X
Response


17. My background knowledge was sufficient to follow the course
Number of responses
3.5
3
2.5
2
1.5
1
0.5
0
0 (0%)
0 (0%)
0 (0%)
0 (0%)
2 (33.3%)
1 (16.7%)
3 (50%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response


19. The course activities enabled me to learn in different ways
Number of responses
5
4
3
2
1
0
0 (0%)
0 (0%)
0 (0%)
0 (0%)
0 (0%)
2 (33.3%)
4 (66.7%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response


21. I was able to learn by collaborating and discussing with others
Number of responses
3.5
3
2.5
2
1.5
1
0.5
0
0 (0%)
0 (0%)
0 (0%)
0 (0%)
2 (33.3%)
1 (16.7%)
3 (50%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response



Comments

Comments (My response was: 0)
I think so. Although the best help I got from my classmate.