Report - EQ2401 - 2019-07-04

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, magnus.jansson@ee.kth.se

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 STUDENT'S 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?

According to the course evaluation the average load is rather less than more compared to the expected level. My interpretation of this is that the load is about right. Students with a good background knowledge manage the required tasks in a rather straightforward manner.

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 are overall great. Again, students with a good background knowledge manage the required tasks in a rather straightforward manner and receive good grades.

OVERALL IMPRESSION OF THE LEARNING ENVIRONMENT

What is your overall impression of the learning environment in the polar diagrams, for example in terms of the students' experience of meaningfulness, comprehensibility and manageability? If there are significant differences between different groups of students, what can be the reason?

The response is overall relatively good.

ANALYSIS OF THE LEARNING ENVIRONMENT
Can you identify some stronger or weaker areas of the learning environment in the polar diagram - or in the response to each statement - respectively? Do they have an explanation?

The lowest scores are given to questions:
5 I felt togetherness with others on the course,
15 I could practice and receive feedback without being graded,
20 I had opportunities to influence the course activities

Comments:
Regarding 5: Students in the course usually come from 3-4 different backgrounds, essentially meaning different master programs or exchange students. There are both national and international students. In this sense there is a built in division of students. The students work in groups of two in the projects and they are free to select their own partner, so we do not enforce any mixing of students. The total class is not big and from the classroom I do not feel any discomfort between students or student groups. The lack of a high score on this question is probably because no activities are included for team building of the full class.

Regarding 15: I think the response is natural given that all activities are graded in one way or the other (see course design above). The grading of homework assignments are deliberately made quite generously exactly with this in mind; the completion of the assignments and the general feedback on them should be important and not the actual bonus point given. Projects are a bit similar.

Regarding 20: Again, I think the response to this question is quite natural and expected. The only choice the students can make is whether to do the homework or not (except for choosing to attend lectures, tutorial sessions, or the timing of when to perform the projects of course). On the other hand the students responded positively that the course activities helped them to achieve the goals efficiently (question 12).

ANSWERS TO OPEN QUESTIONS
What emerges in the students' answers to the open questions? Is there any good advice to future course participants that you want to pass on?

Organization is good.
Projects are really good. Good way of assessment (oral presentation + demo). However, some students say they want more feedback.
Homework assignments are good. Feedback could be improved.
Tutorial sessions should be improved.

Good advice: Follow the course actively.

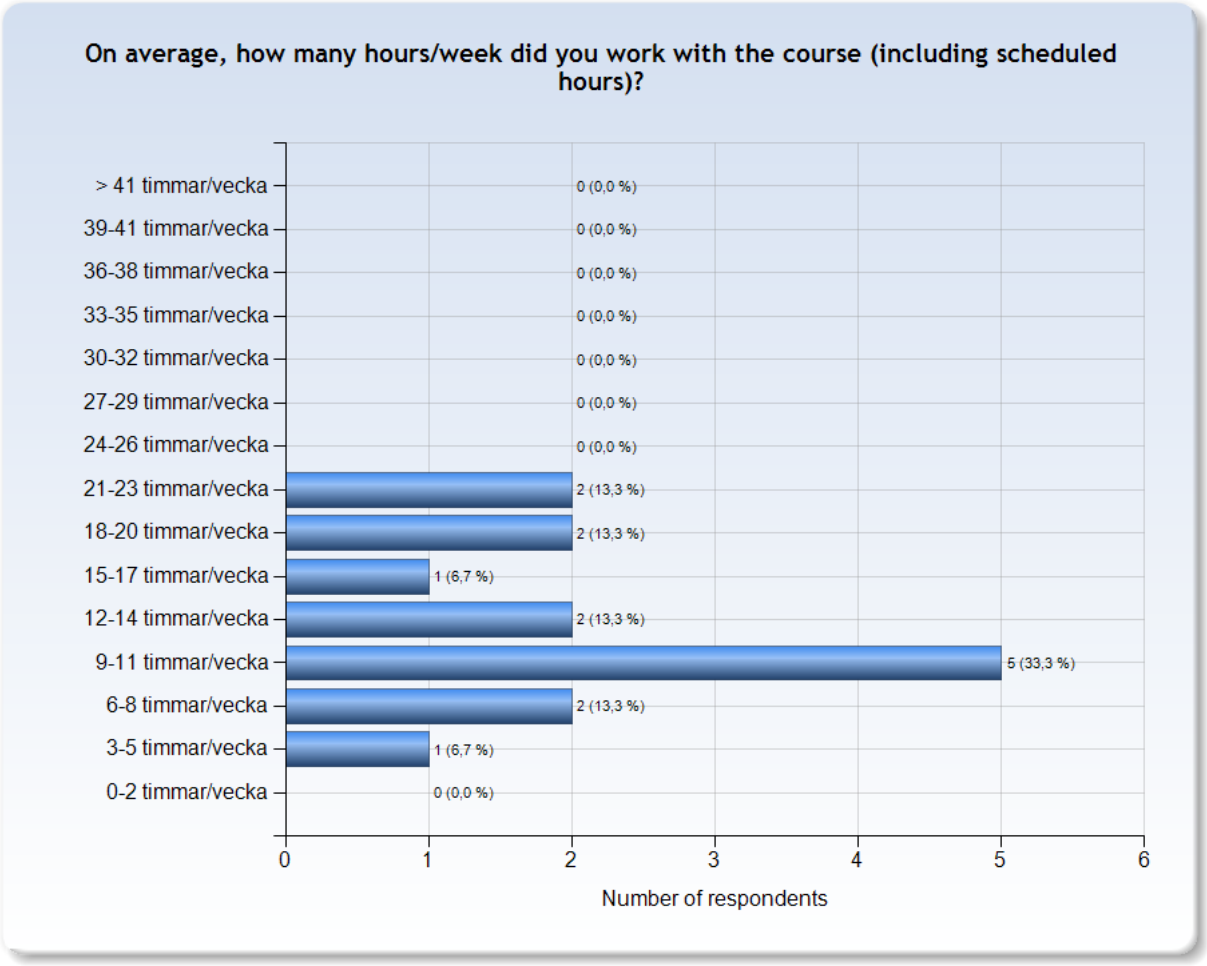
PRIORITY COURSE DEVELOPMENT
What aspects of the course should primarily be developed? How could these aspects be developed in the short or long term?

Better instructions to the tutorial assistant. Think of increasing interaction in lectures and tutorials.
More feedback on project solutions and home assignments.

EQ2401 - 2019-03-11

Antal respondenter: 27
Antal svar: 15
Svarsfrekvens: 55,56 %

ESTIMATED WORKLOAD



Comments

Comments (I worked: 6-8 timmar/vecka)
I think too abstruse to understand with the mathematics formula along. If there are more block diagrams, it would be better. More explanation on lab exercise would be good for student to start

Comments (I worked: 9-11 timmar/vecka)
More computer exercises where we solve relevant problems, but during computer sessions where we get instructions and help if needed.
I didn't go to many of the exercise sessions because I didn't find them very helpful. The time spent on the course each week mainly consisted of going to the lectures as well as doing the weekly homework. The projects also required some time of course. I did not spend time solving exercise questions on my own, except when studying for the exam.

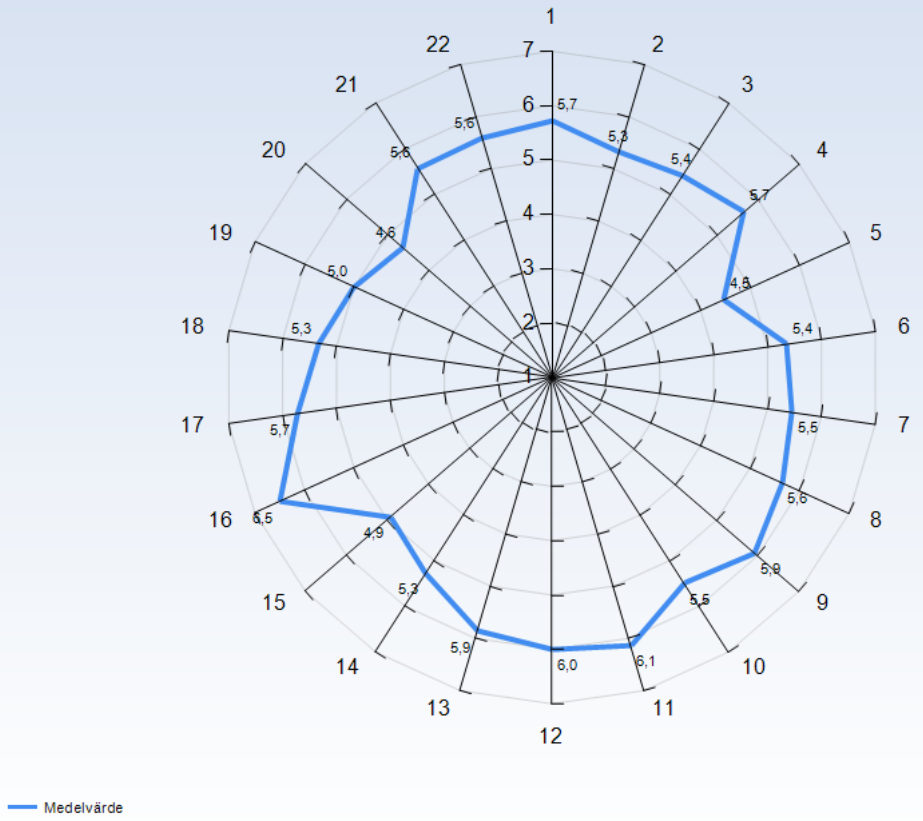
LEARNING EXPERIENCE

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

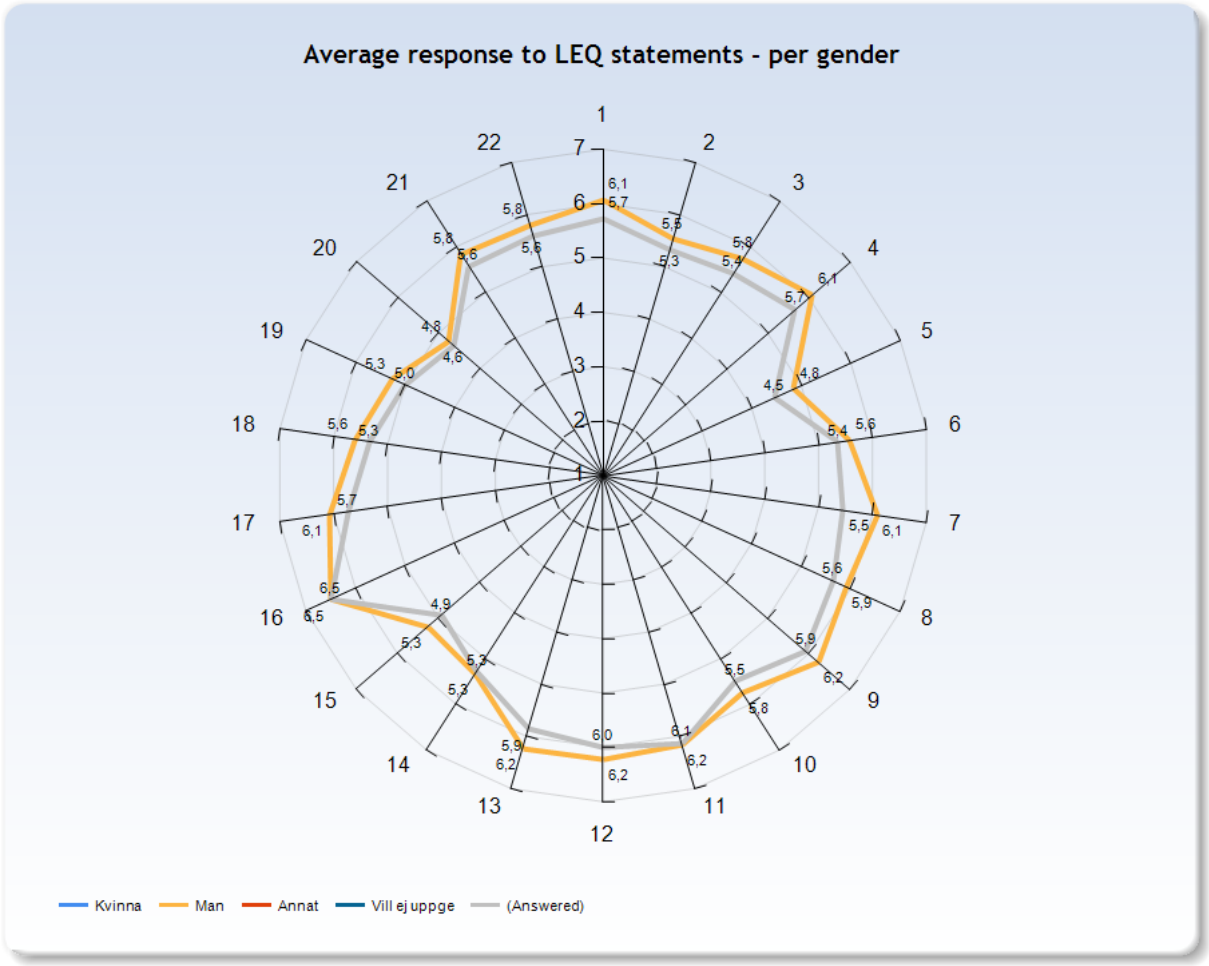
Bain, K. (2004). *What the Best College Teachers Do*, Chapter 5, pp. 98-134. Cambridge: Harvard University Press.

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
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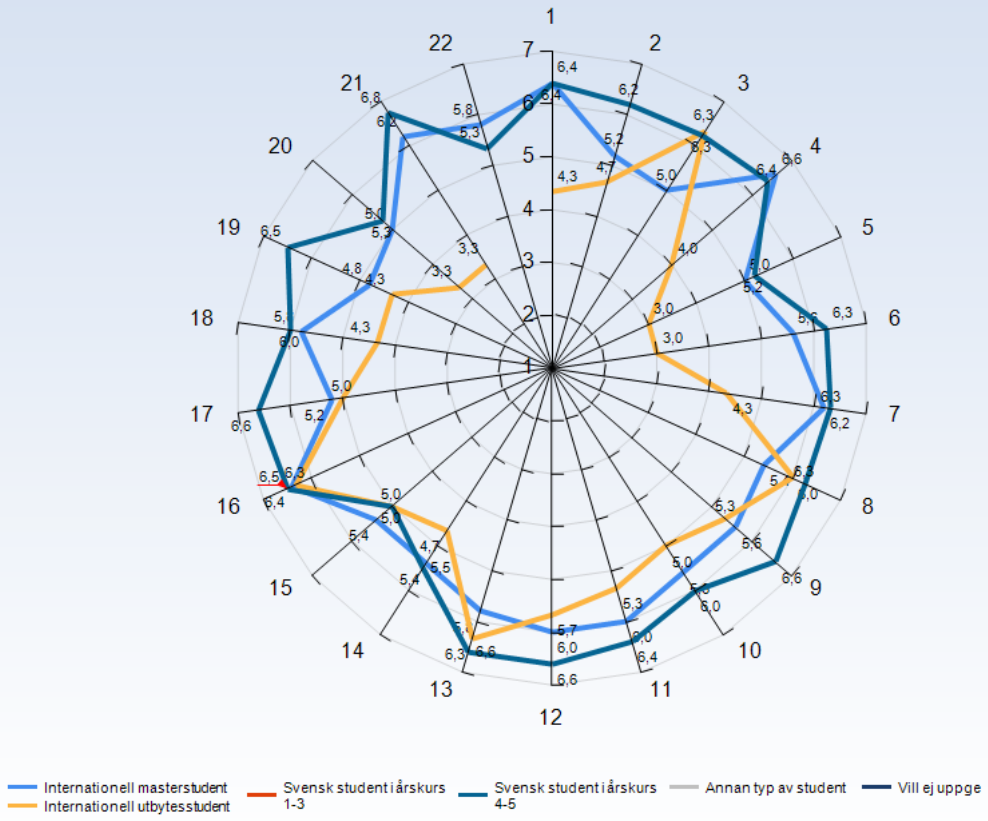
(Answered)

Comments

Average response to LEQ statements - per type of student



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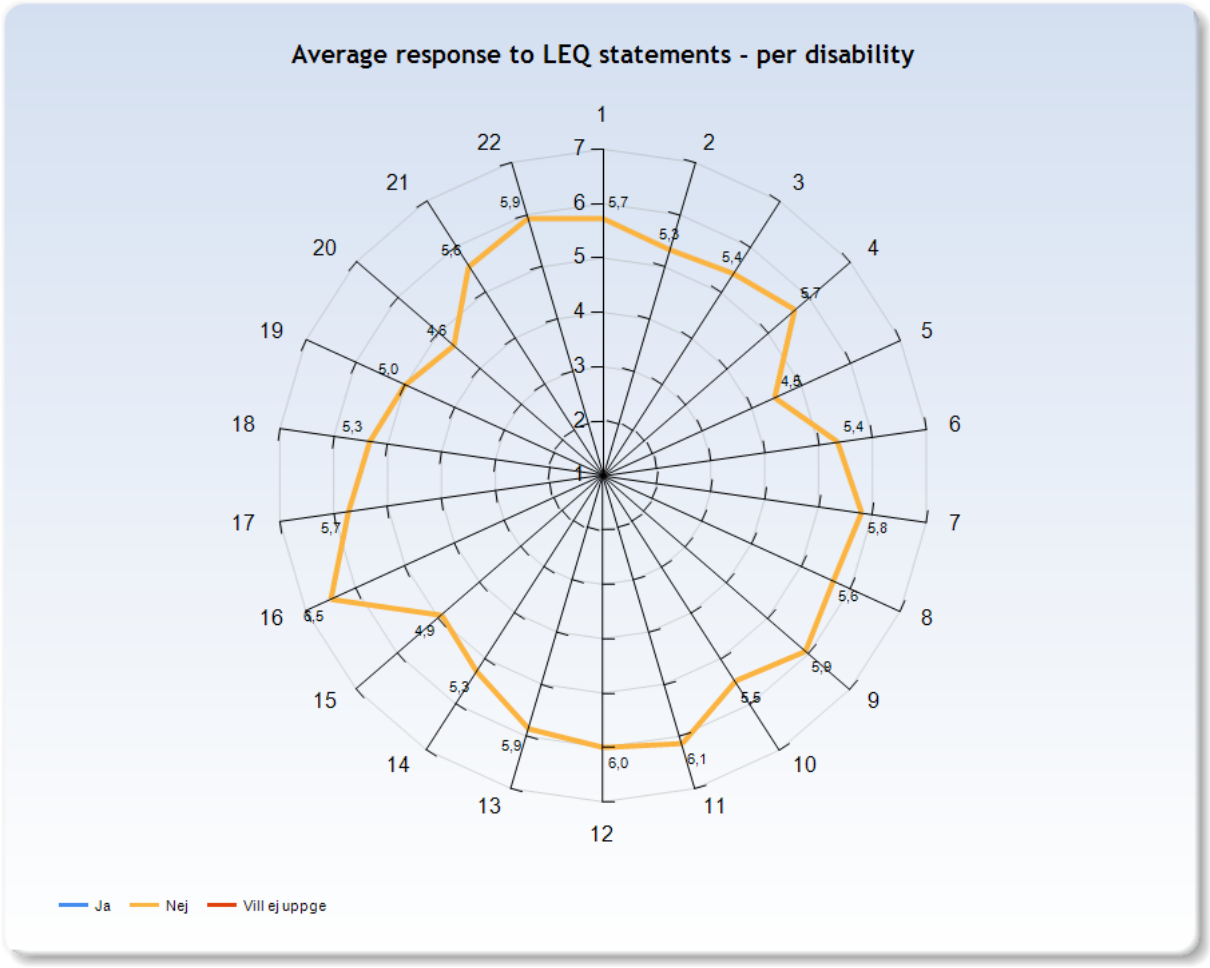
Average response to LEQ statements - per disability
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22
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Comments

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 presentation of project

What was the best aspect of the course? (I worked: 6-8 timmar/vecka)
I think that the key aspects of the course were the organization and the laboratories. The practices, the homeworks and the previous tests are a key factor to study the subject, and its correctly provided to the students. The laboratories target were fine, but the first one could have an audio where one could really appreciate the difference between applying the filters or not.
It improves my understand on signal processing.

What was the best aspect of the course? (I worked: 9-11 timmar/vecka)
Projects that we did were really engaging and interesting also, solving a "real world" problem and presenting results by a short oral presentation is an excellent way of working!
The homework assignments were helpful in making sure I did something each week. The projects assignments were challenging but fun.
The projects were very interesting and rewarding.
Project helps me understand many concepts.

What was the best aspect of the course? (I worked: 12-14 timmar/vecka)
I quite enjoyed learning the different filtering techniques/algorithms and being given examples of their practical applications. It was a good motivation.
The lessons were clear and the tutorials were helpful.

What was the best aspect of the course? (I worked: 18-20 timmar/vecka)
The projects were interesting and a great way to learn and experiment.
I learned so many mathematic details about the algorithems, it helps me a lot in understanding the principle.

What was the best aspect of the course? (I worked: 21-23 timmar/vecka)
The material is very clear, and what I am supposed to learn is very clear. Both the intention of the course learning-wise and the particular demands of the final exams are easily understood. The projects together with the homework gives provides most of the practice that is needed in a very natural way.

What would you suggest to improve?

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

What would you suggest to improve? (I worked: 6-8 timmar/vecka)
The teacher assistant wasn't usefull, a better one would make the course better. Lectures could be more interactive, one could have never gone to the lectures and still approve the exam.
As stated previous comment

What would you suggest to improve? (I worked: 9-11 timmar/vecka)
Improving feedback on the projects, maybe having a lecture after the presentation where the "state of the art" solution is presented and how one should tune the algorithm to get such results! Also, I am sorry to say, but the teaching assistant in this course was one of the worst I have ever had, not as a person, but in terms of being a good teacher. The presentation technique was bad and it was difficult to hear what was said, however the worst part was that we did not get any extra reflection or tips on how different problems should be solved or thought about when solving, only rewritten solutions straight from the exercise compendium, which is not very helpful.
Nothing really, perhaps a lab with a LMS/RLS implementation could be fun.
Kalyan filter and RLS is hard to understand, could you provide us with more resources or examples so that we could know it better?

What would you suggest to improve? (I worked: 12-14 timmar/vecka)
I would recommend more exercise sessions (2 per week, for example) and maybe some of those could be about the computer exercises. That way we would be better prepared for the projects. If there could also be solutions for the homework assignments released after the deadlines that would be useful to understand how to solve the exercises we get wrong.

What would you suggest to improve? (I worked: 18-20 timmar/vecka)
Better feedback on the projects.
tell students the exercise questions before the tutorial

What would you suggest to improve? (I worked: 21-23 timmar/vecka)
I wish there was some feedback on the projects. Considering how open-ended the tasks were (which was a good thing in my opinion), determining what we could have done better is hard. It is clear from the points awarded that at least the first project had some areas which could use improvement. If it was that more work should have been put into alternative algorithms, or if the project contained wrong assumptions or inferences (just two examples), makes a big difference with regards to how I put what I learned during the project into context.

What advice would you like to give to future participants?

What advice would you like to give to future participants? (I worked: 3-5 timmar/vecka)
keep an eye on the previous exams

What advice would you like to give to future participants? (I worked: 6-8 timmar/vecka)
The homeworks are pretty nice to keep the studies at day, but the practice excercise aren't.
Practice on previous exam question

What advice would you like to give to future participants? (I worked: 9-11 timmar/vecka)
Read the lecture notes, it's well written and you can use it on the exam!
Do the homeworks.
If possible, review the lectures and practice tutorial exercises in the process.

What advice would you like to give to future participants? (I worked: 12-14 timmar/vecka)
Attend the lectures (it is important for the projects) and do the homework assignments, as they make it easier to understand what parts of the material you need to study more (and the bonus points also help).

What advice would you like to give to future participants? (I worked: 18-20 timmar/vecka)
Follow the course and do the homeworks.
tell students the exercise questions before the tutorial

What advice would you like to give to future participants? (I worked: 21-23 timmar/vecka)
The first project was deceptively difficult for us when we worked on it. If I were to do it all again, I would allocate more time to that project.

Is there anything else you would like to add?

Is there anything else you would like to add? (I worked: 6-8 timmar/vecka)
I just want to say that the course is pretty well organized.
The instructions or guide in Matlab practice sheet not so clear

Is there anything else you would like to add? (I worked: 9-11 timmar/vecka)
No
Arranging more tutorials and giving more clues to the project would help us get better.

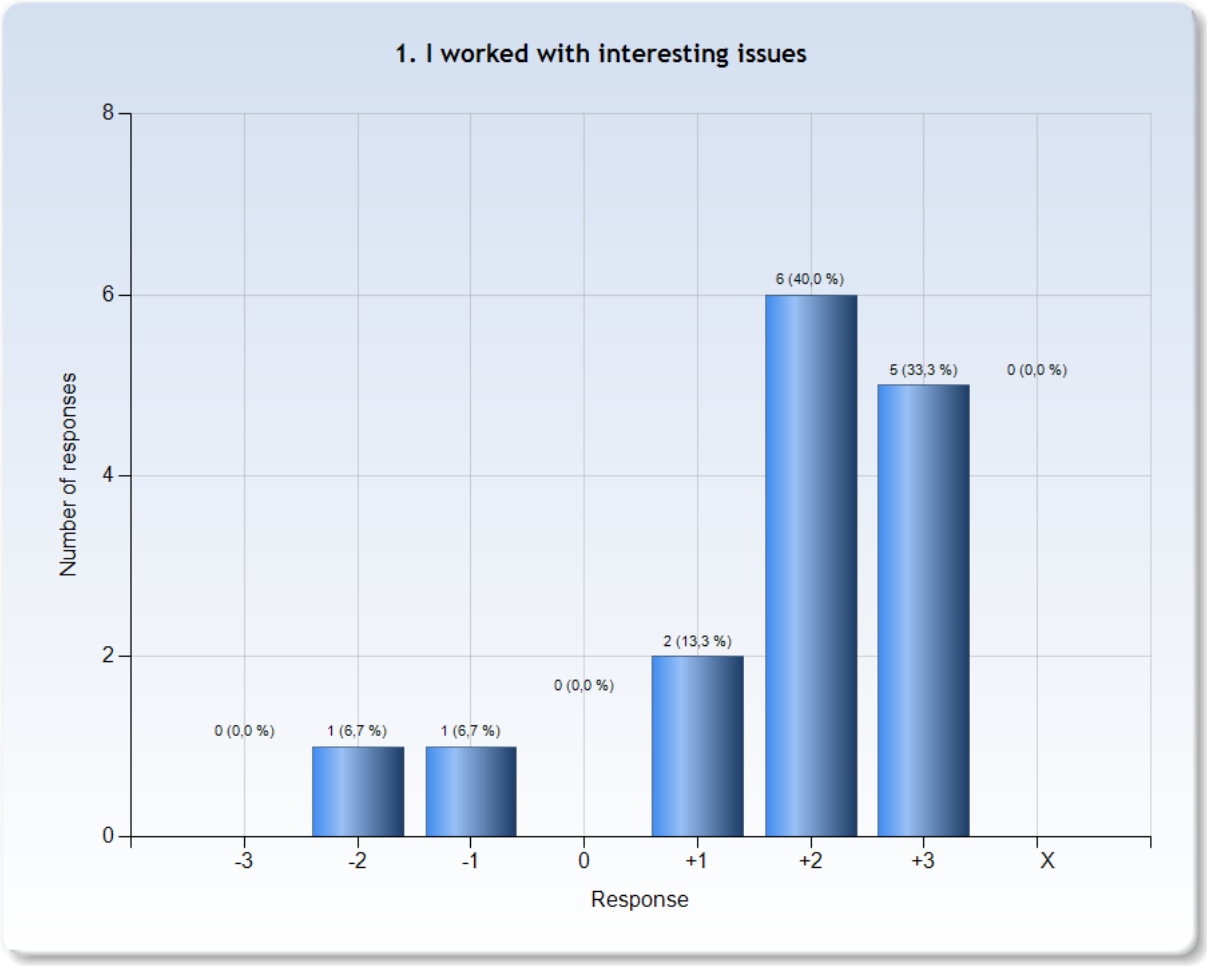
SPECIFIC QUESTIONS

RESPONSE DATA

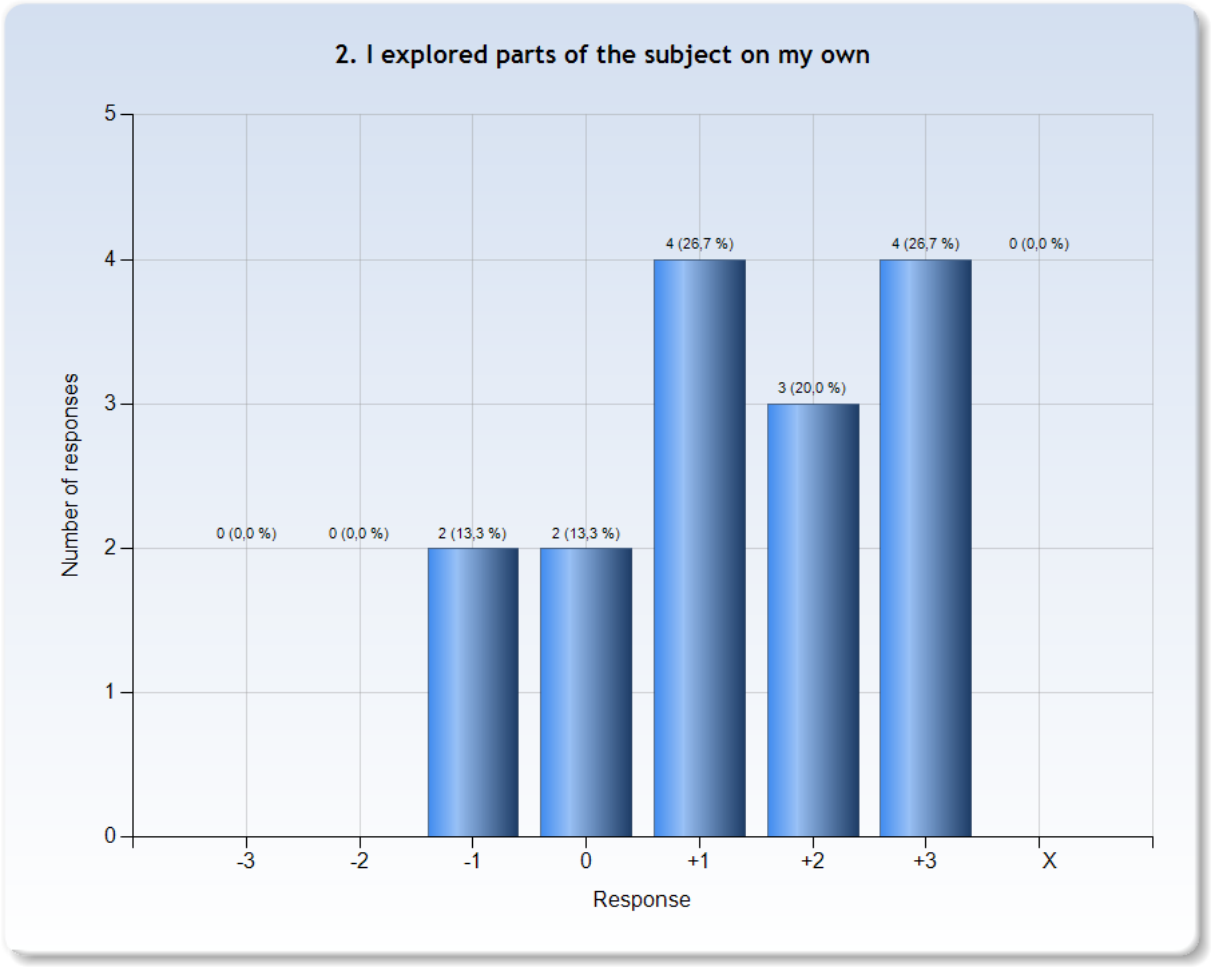
The diagrams below show the detailed response to the LEQ statements. The response scale is defined by:

-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

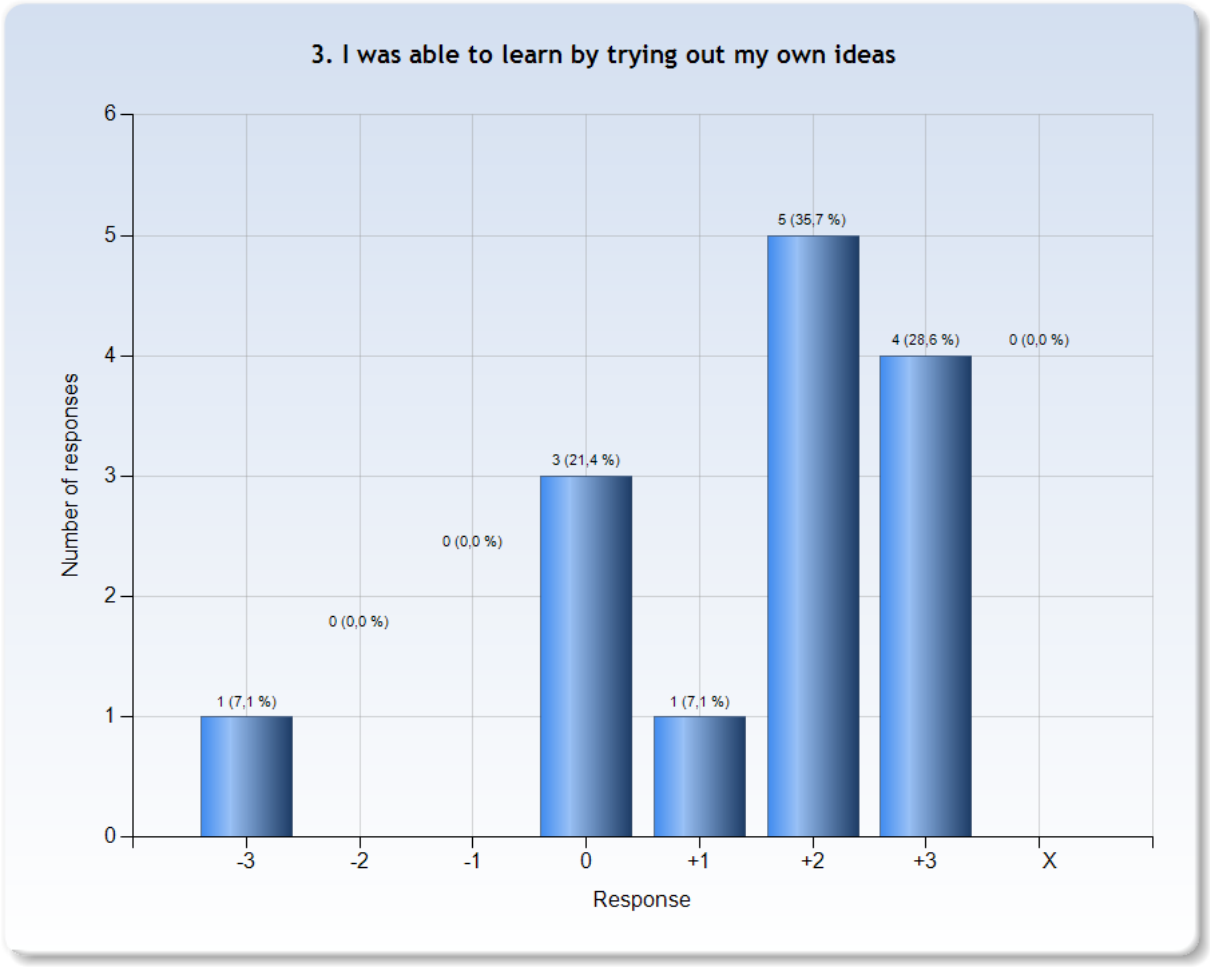


Comments

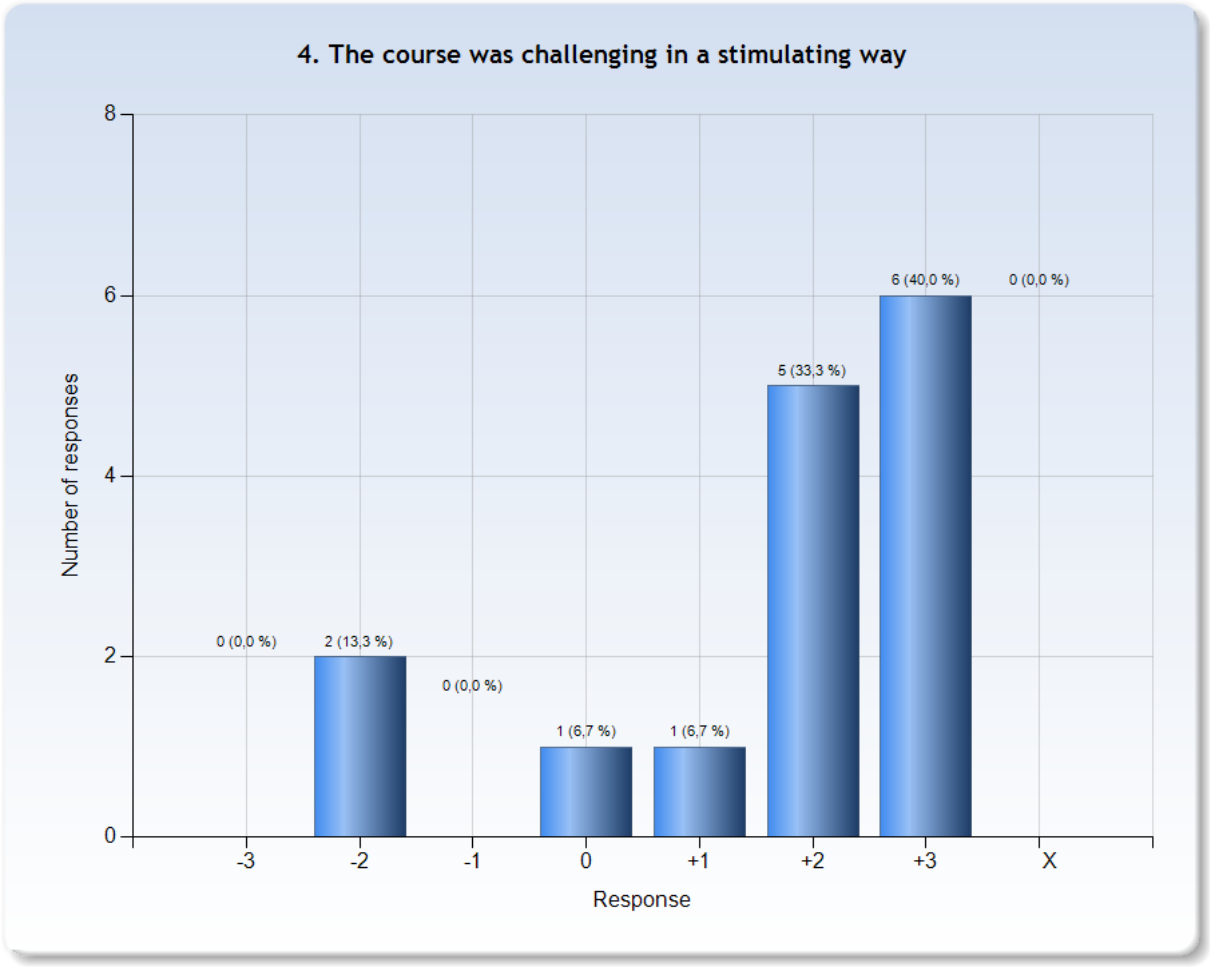


Comments

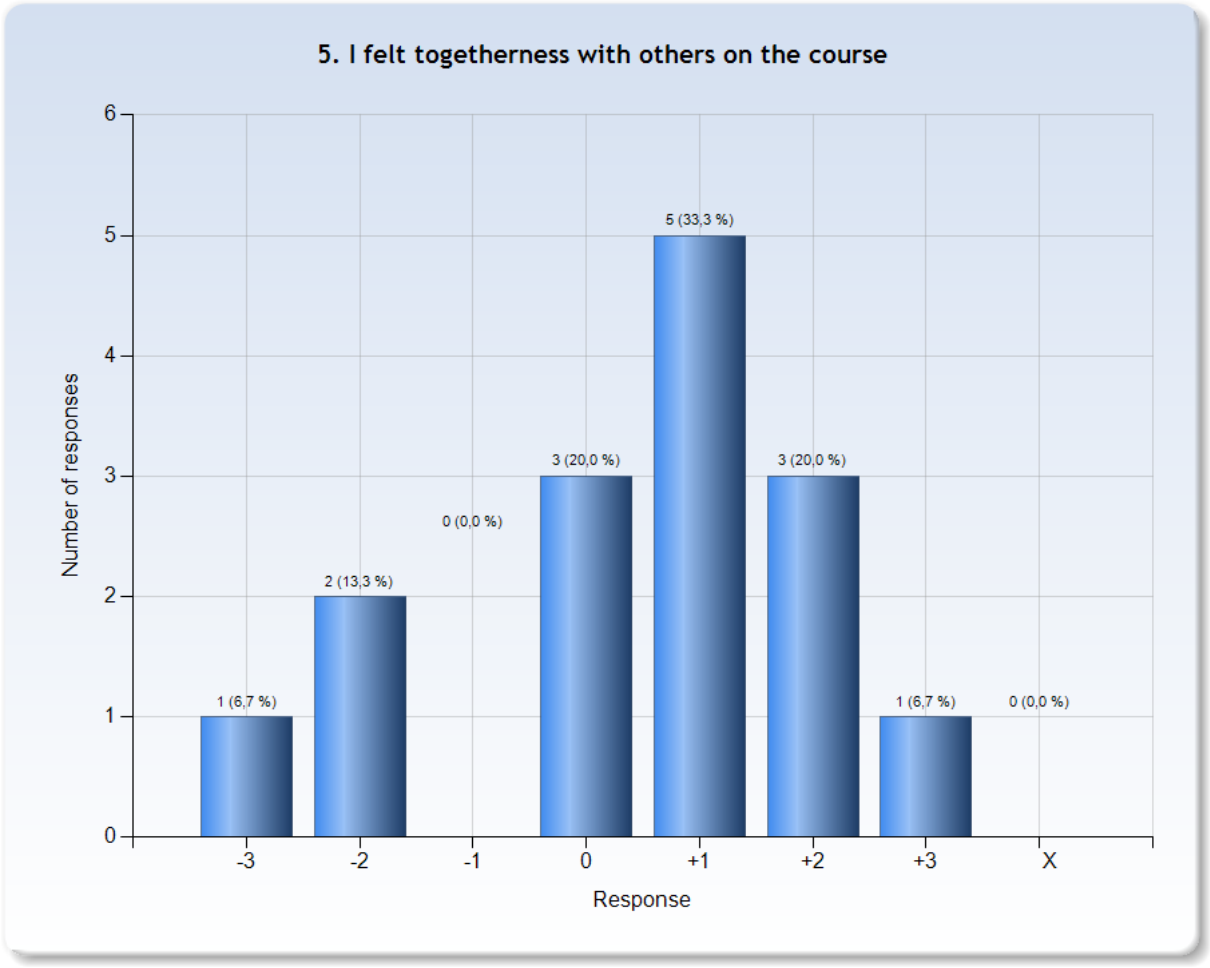
Comments (My response was: +1)
For the projects


3. I was able to learn by trying out my own ideas
Number of responses
Response
0
1
2
3
4
5
6
-3
-2
-1
0
+1
+2
+3
X
1 (7,1 %)
0 (0,0 %)
0 (0,0 %)
3 (21,4 %)
1 (7,1 %)
5 (35,7 %)
4 (28,6 %)
0 (0,0 %)

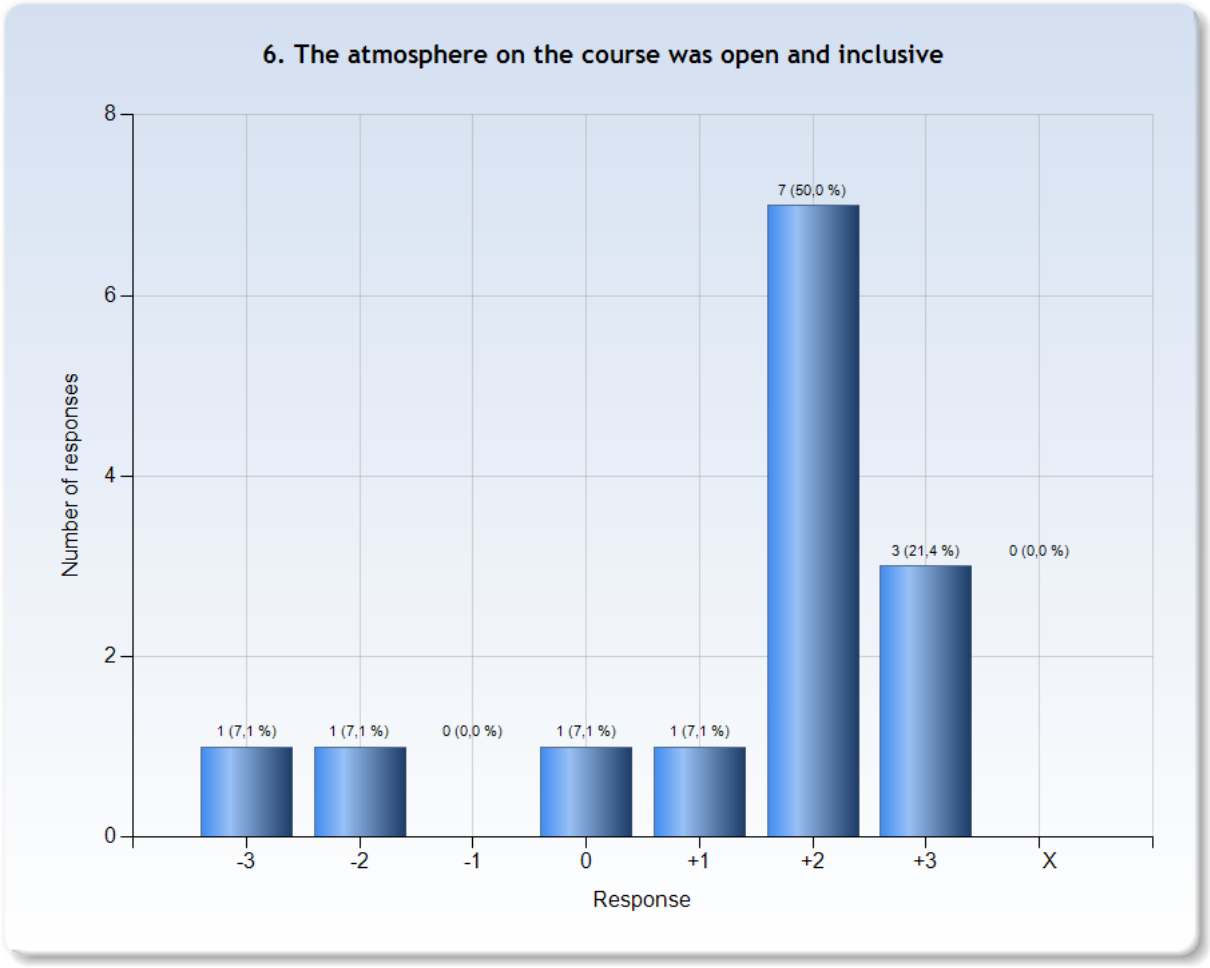
Comments


4. The course was challenging in a stimulating way
Number of responses
Response
0
2
4
6
8
-3
-2
-1
0
+1
+2
+3
X
0 (0,0 %)
2 (13,3 %)
0 (0,0 %)
1 (6,7 %)
1 (6,7 %)
5 (33,3 %)
6 (40,0 %)
0 (0,0 %)

Comments


5. I felt togetherness with others on the course
Number of responses
Response
0
1
2
3
4
5
6
-3
-2
-1
0
+1
+2
+3
X
1 (6,7 %)
2 (13,3 %)
0 (0,0 %)
3 (20,0 %)
5 (33,3 %)
3 (20,0 %)
1 (6,7 %)
0 (0,0 %)

Comments


6. The atmosphere on the course was open and inclusive
Number of responses
Response
8
6
4
2
0
1 (7,1 %)
1 (7,1 %)
0 (0,0 %)
1 (7,1 %)
1 (7,1 %)
7 (50,0 %)
3 (21,4 %)
0 (0,0 %)
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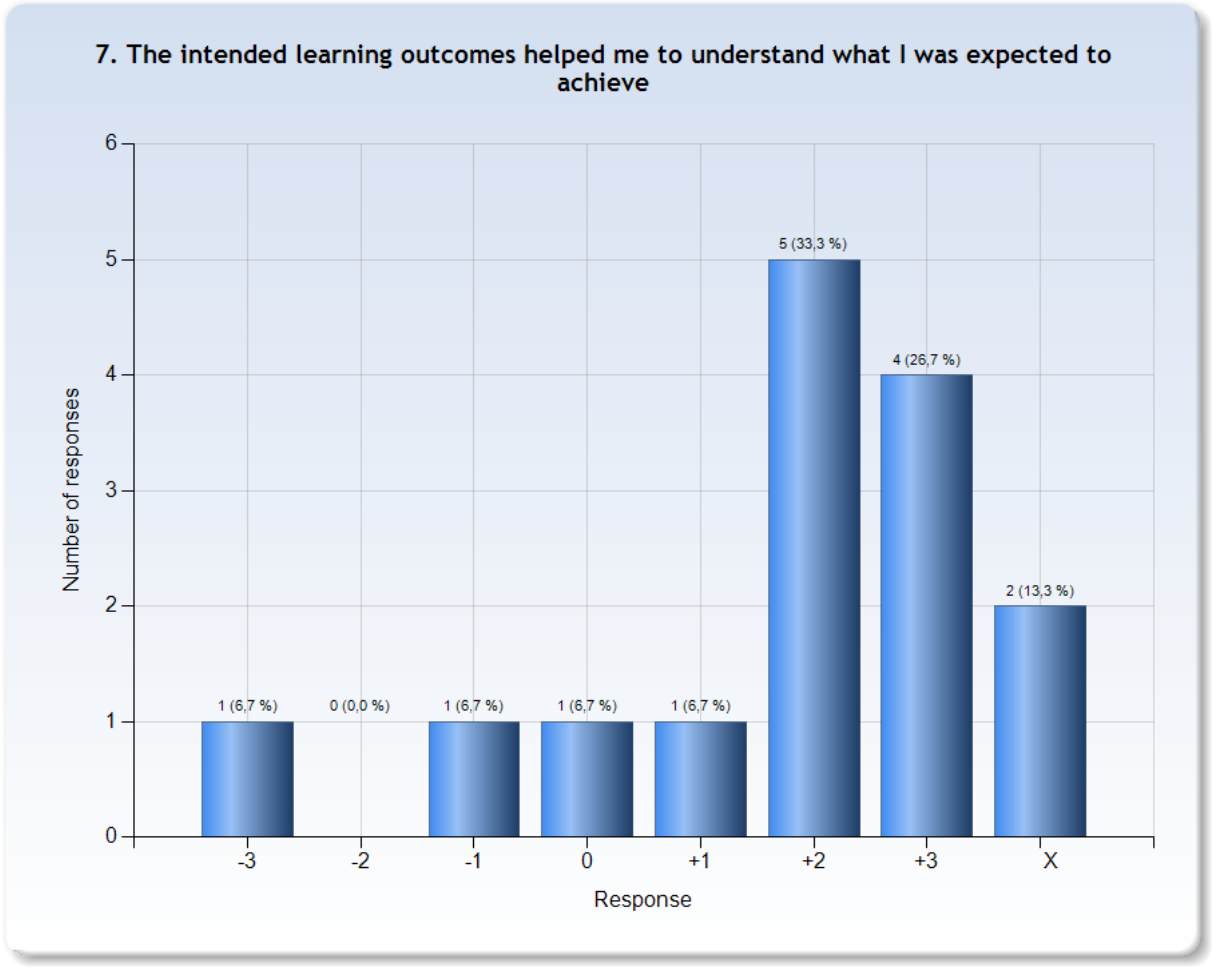
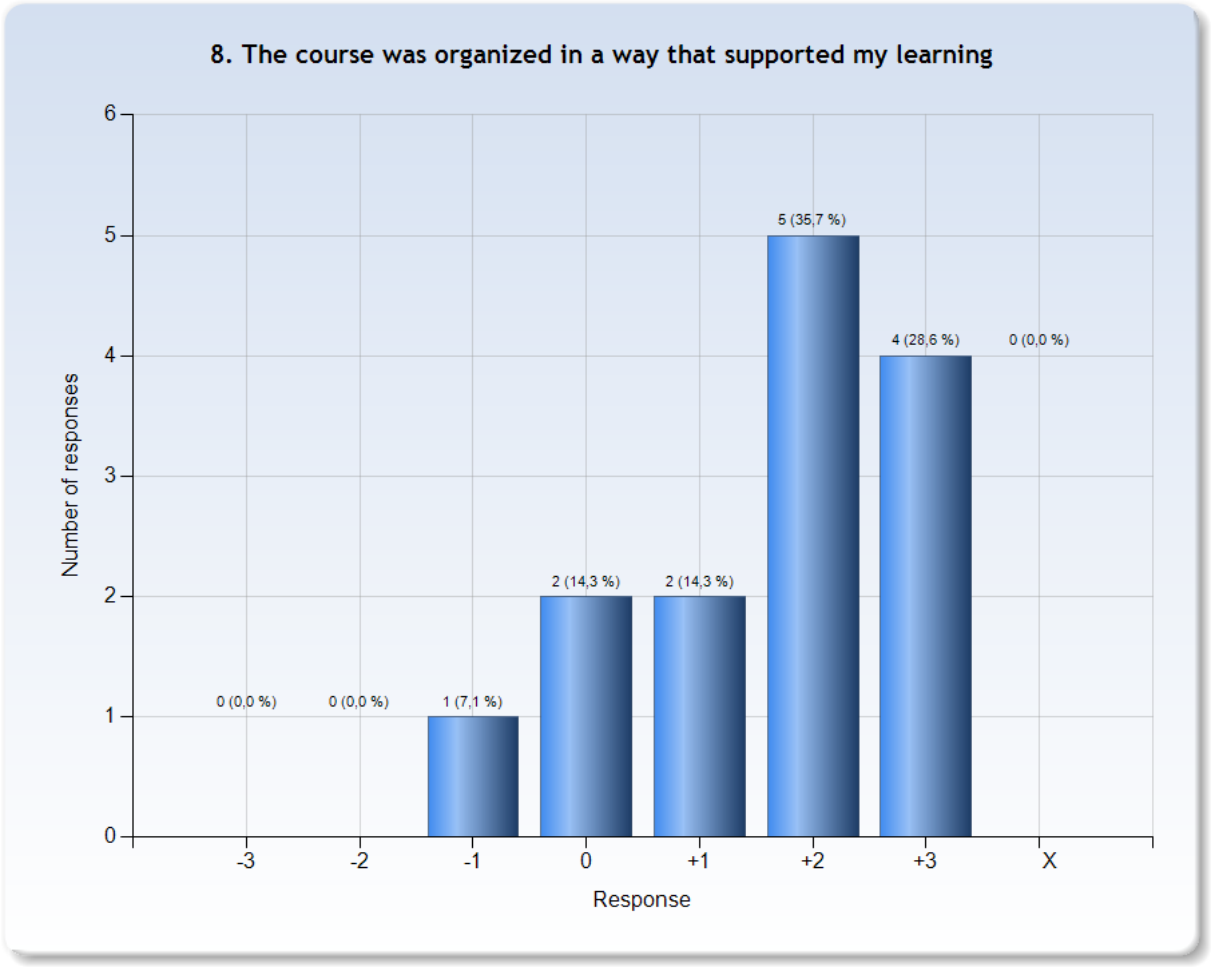
X

Comments



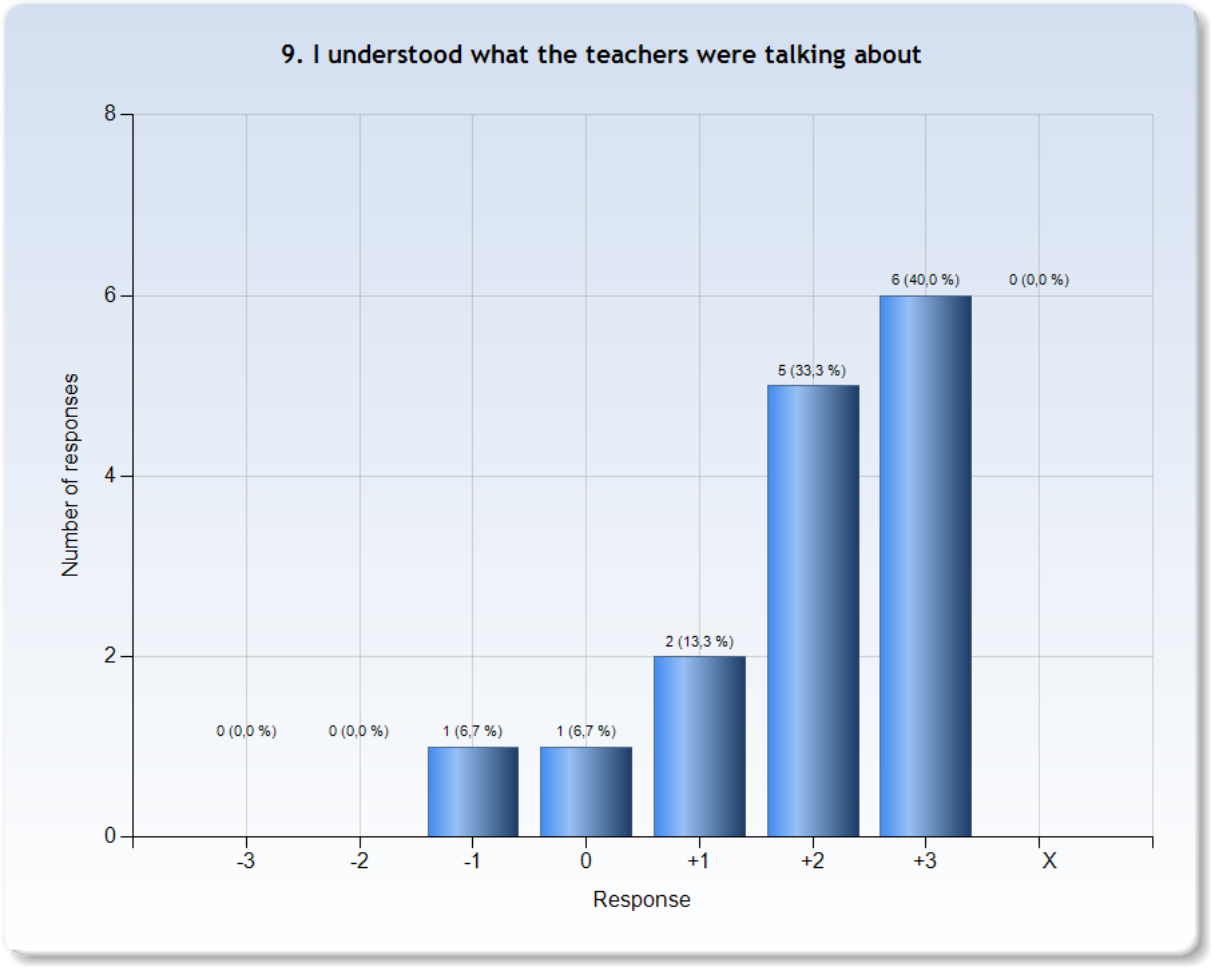
Comments

Comments (My response was: X)
I didn't really look at the intented learning outcomes before the course
Did not look at them

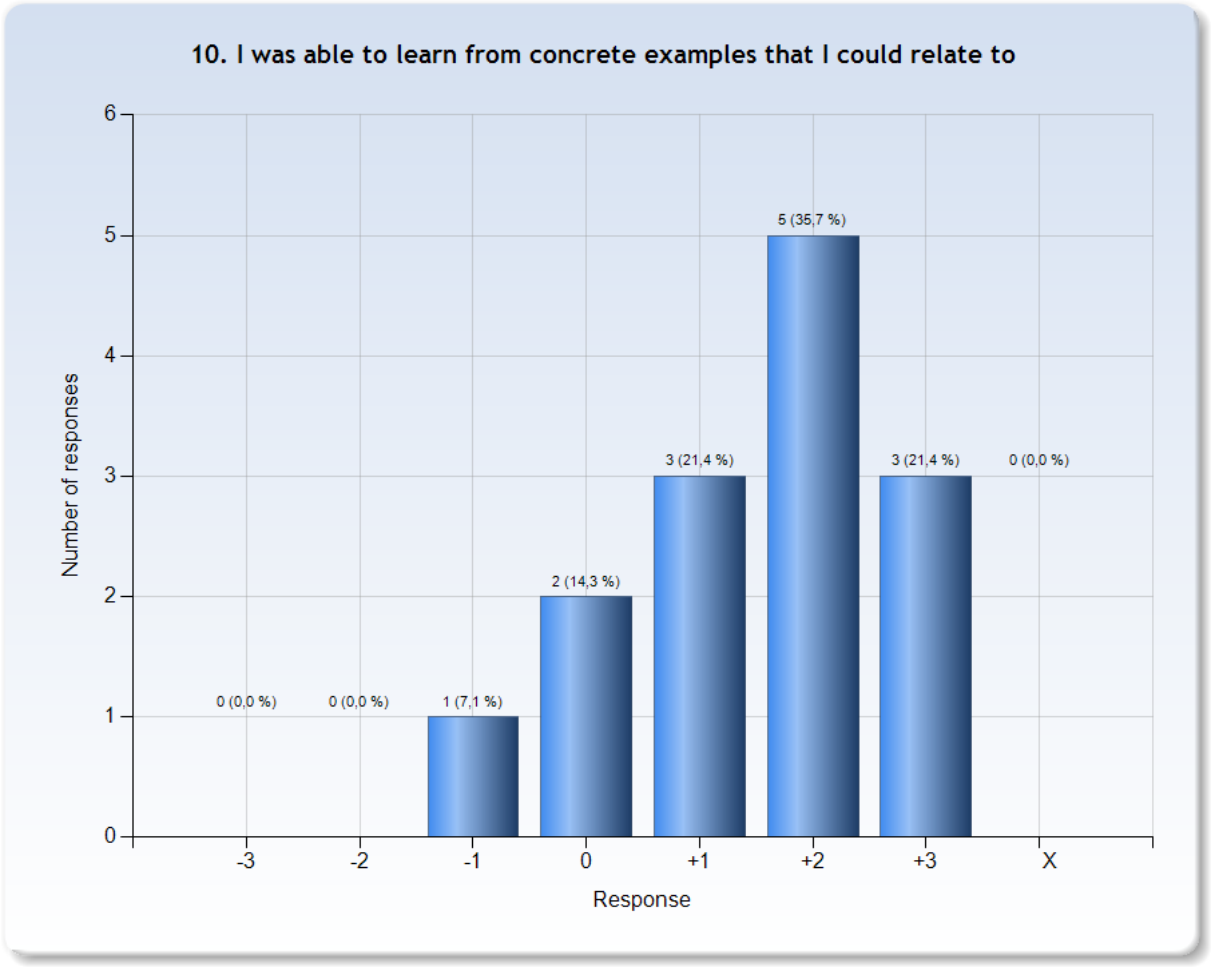


Comments

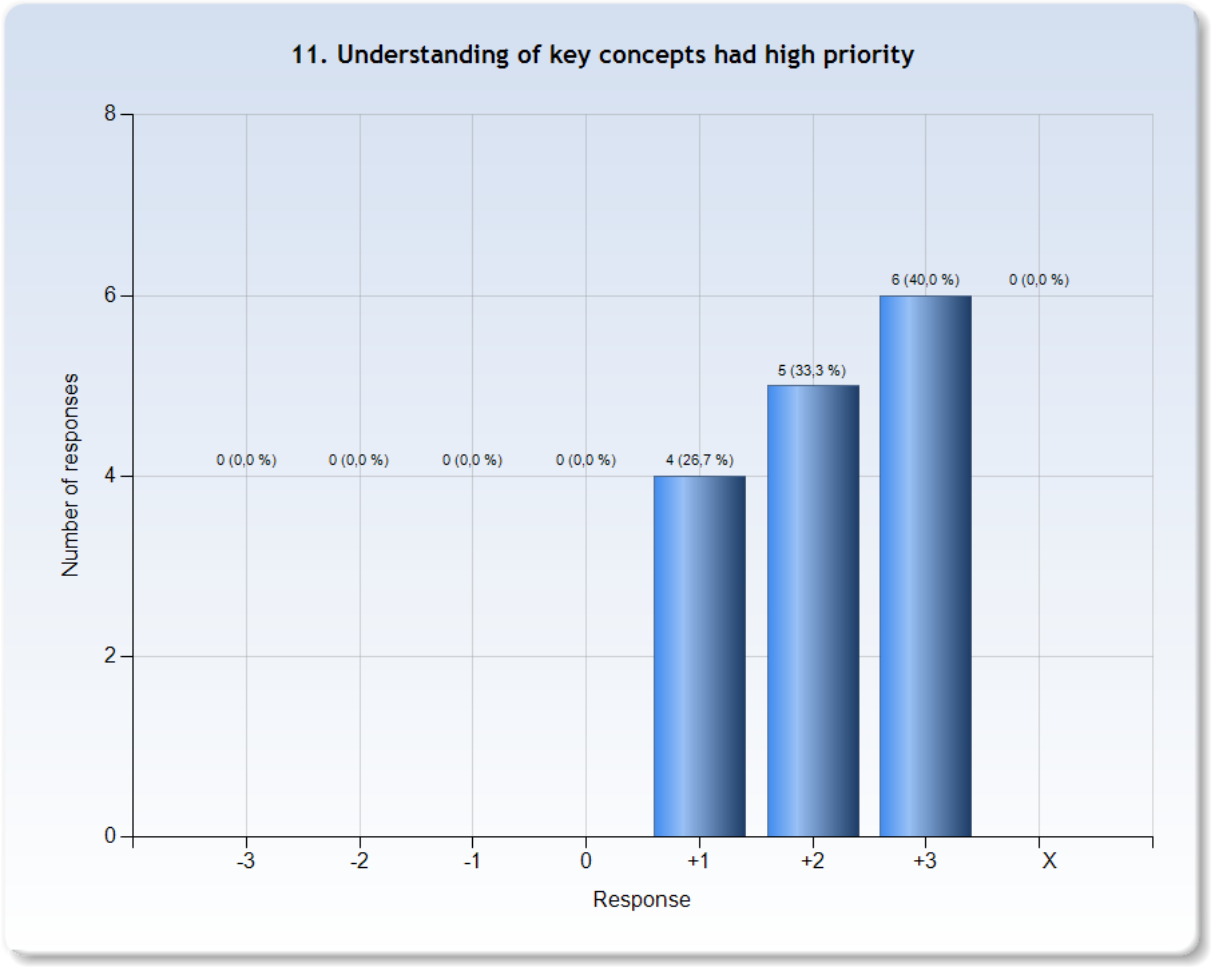
Comments (My response was: +3)
Liked the course organization


9. I understood what the teachers were talking about
Number of responses
Response
0
2
4
6
8
-3
-2
-1
0
+1
+2
+3
X
0 (0,0 %)
0 (0,0 %)
1 (6,7 %)
1 (6,7 %)
2 (13,3 %)
5 (33,3 %)
6 (40,0 %)
0 (0,0 %)

Comments

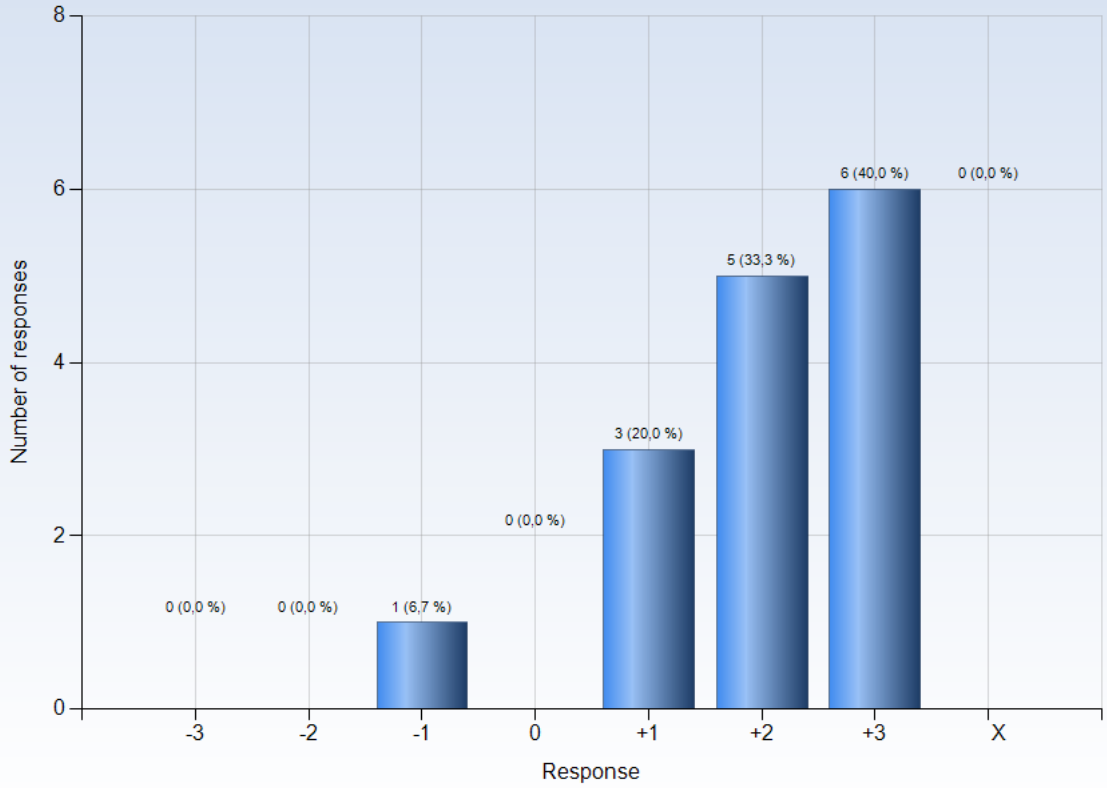

10. I was able to learn from concrete examples that I could relate to
Number of responses
Response
0
1
2
3
4
5
6
-3
-2
-1
0
+1
+2
+3
X
0 (0,0 %)
0 (0,0 %)
1 (7,1 %)
2 (14,3 %)
3 (21,4 %)
5 (35,7 %)
3 (21,4 %)
0 (0,0 %)

Comments


11. Understanding of key concepts had high priority
Number of responses
8
6
4
2
0
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
4 (26,7 %)
5 (33,3 %)
6 (40,0 %)
0 (0,0 %)
-3
-2
-1
0
+1
+2
+3
X
Response

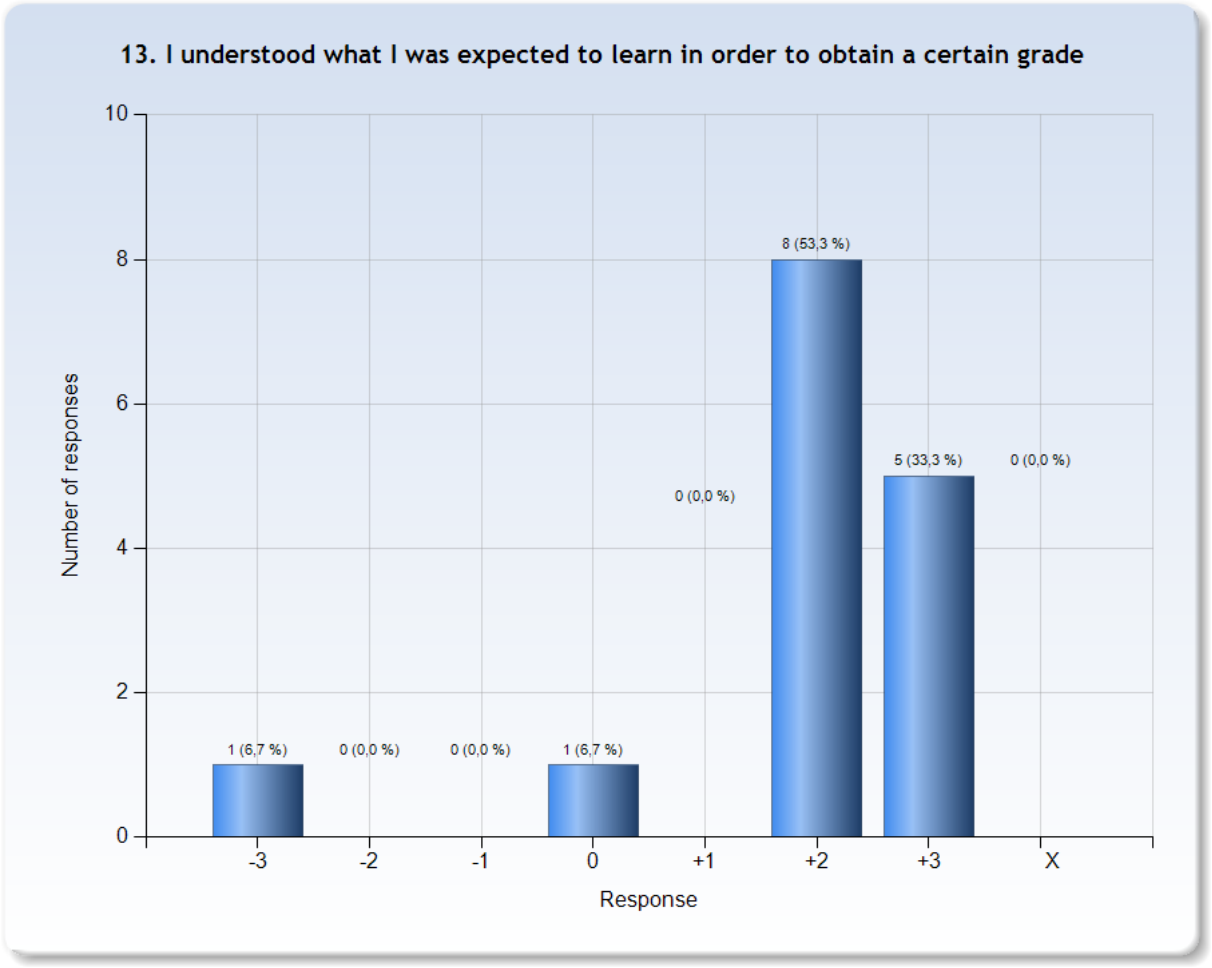
Comments

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

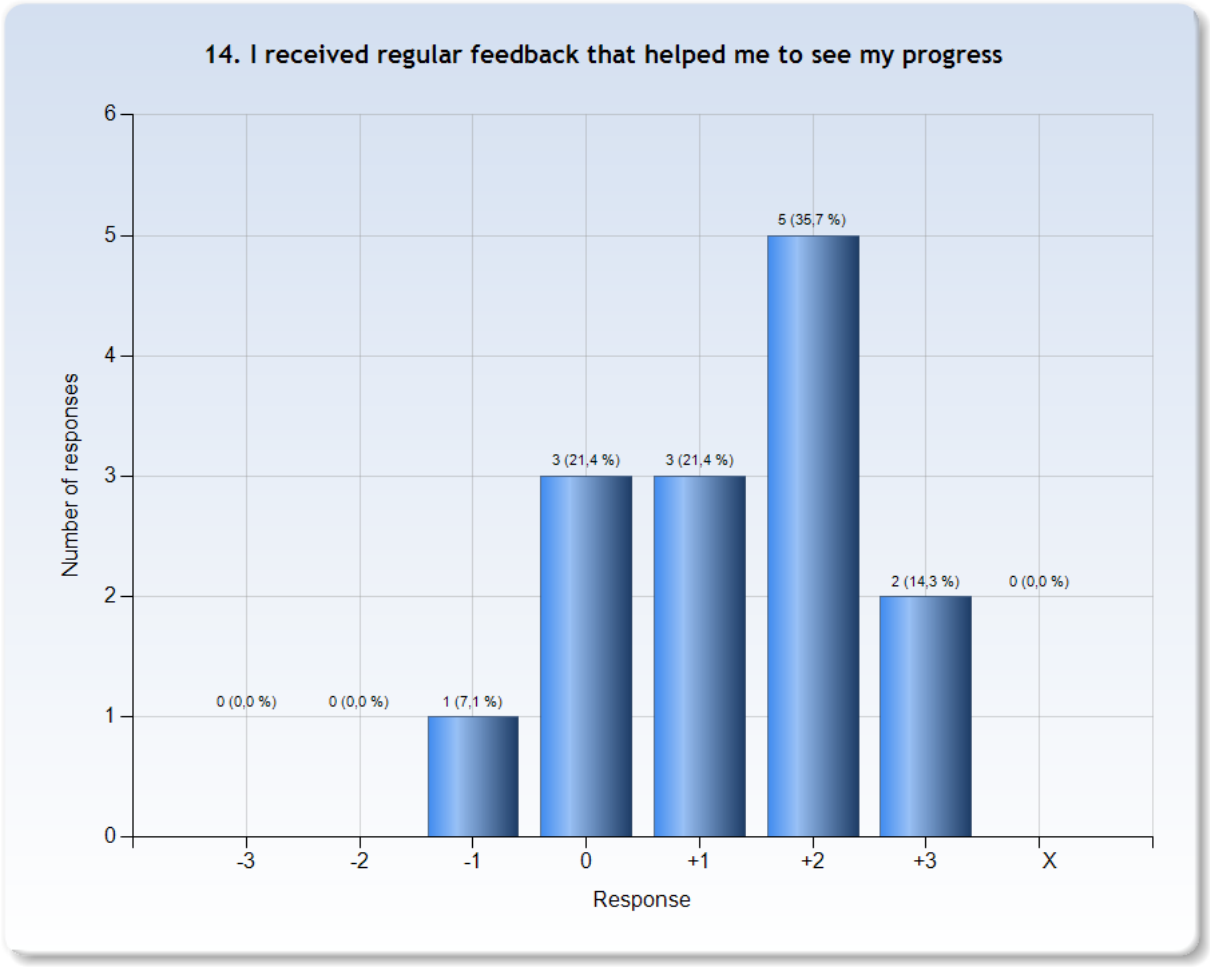


Comments

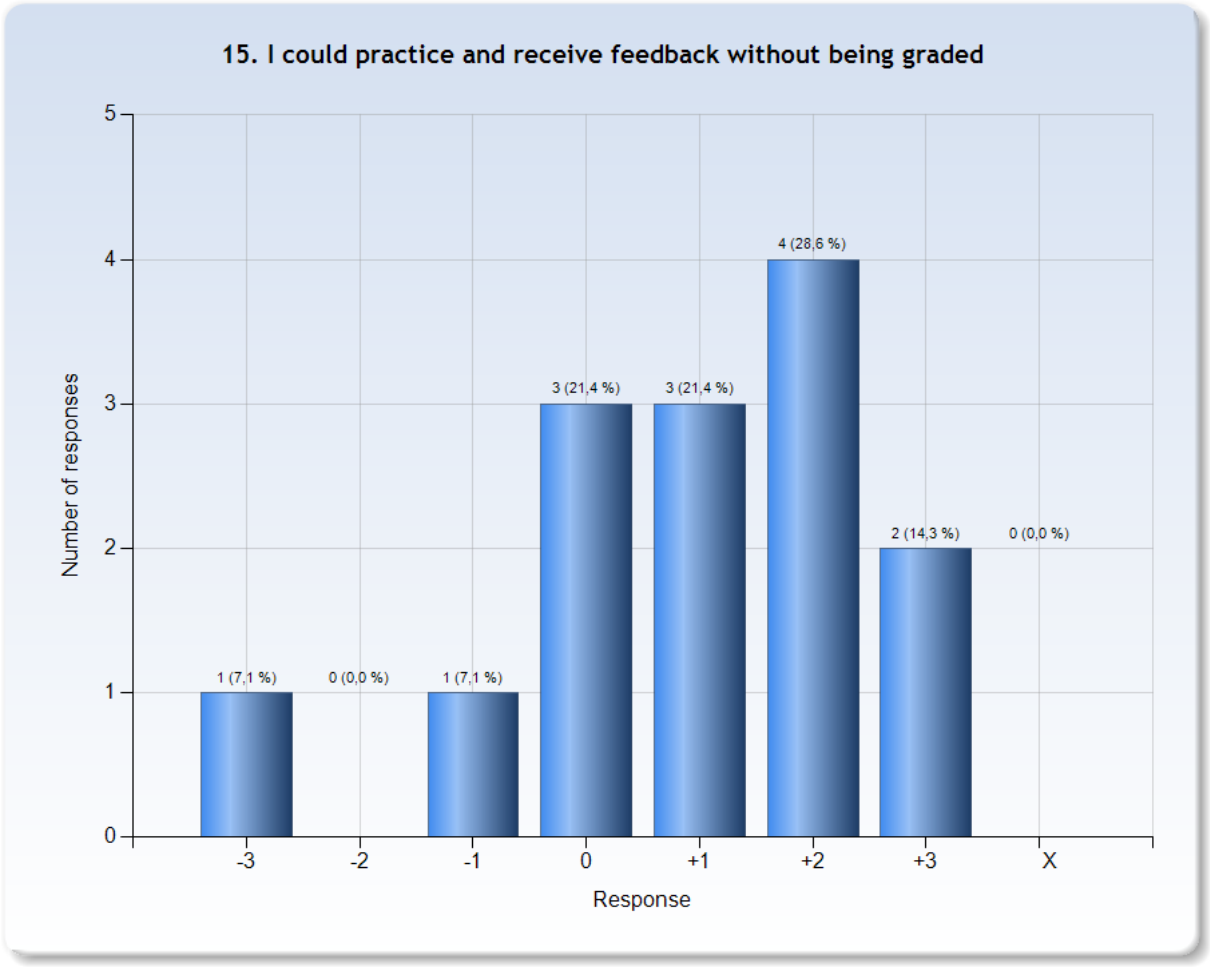
(My response was: +1)
Laboratories were fun


13. I understood what I was expected to learn in order to obtain a certain grade
Number of responses
10
8
6
4
2
0
1 (6,7 %)
0 (0,0 %)
0 (0,0 %)
1 (6,7 %)
0 (0,0 %)
8 (53,3 %)
5 (33,3 %)
0 (0,0 %)
-3
-2
-1
0
+1
+2
+3
X
Response

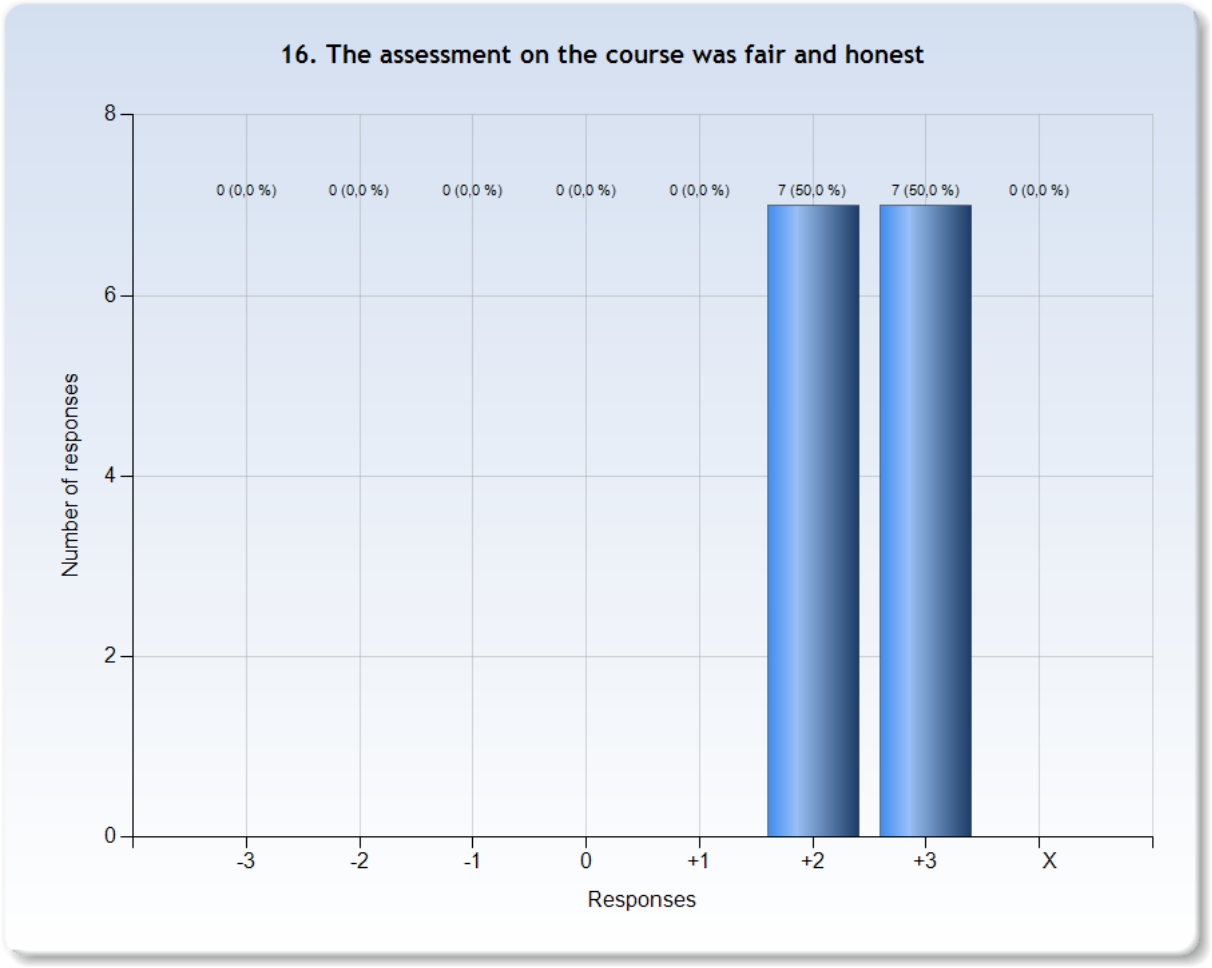
Comments


14. I received regular feedback that helped me to see my progress
Number of responses
Response
0 (0,0 %)
0 (0,0 %)
1 (7,1 %)
3 (21,4 %)
3 (21,4 %)
5 (35,7 %)
2 (14,3 %)
0 (0,0 %)
-3
-2
-1
0
+1
+2
+3
X

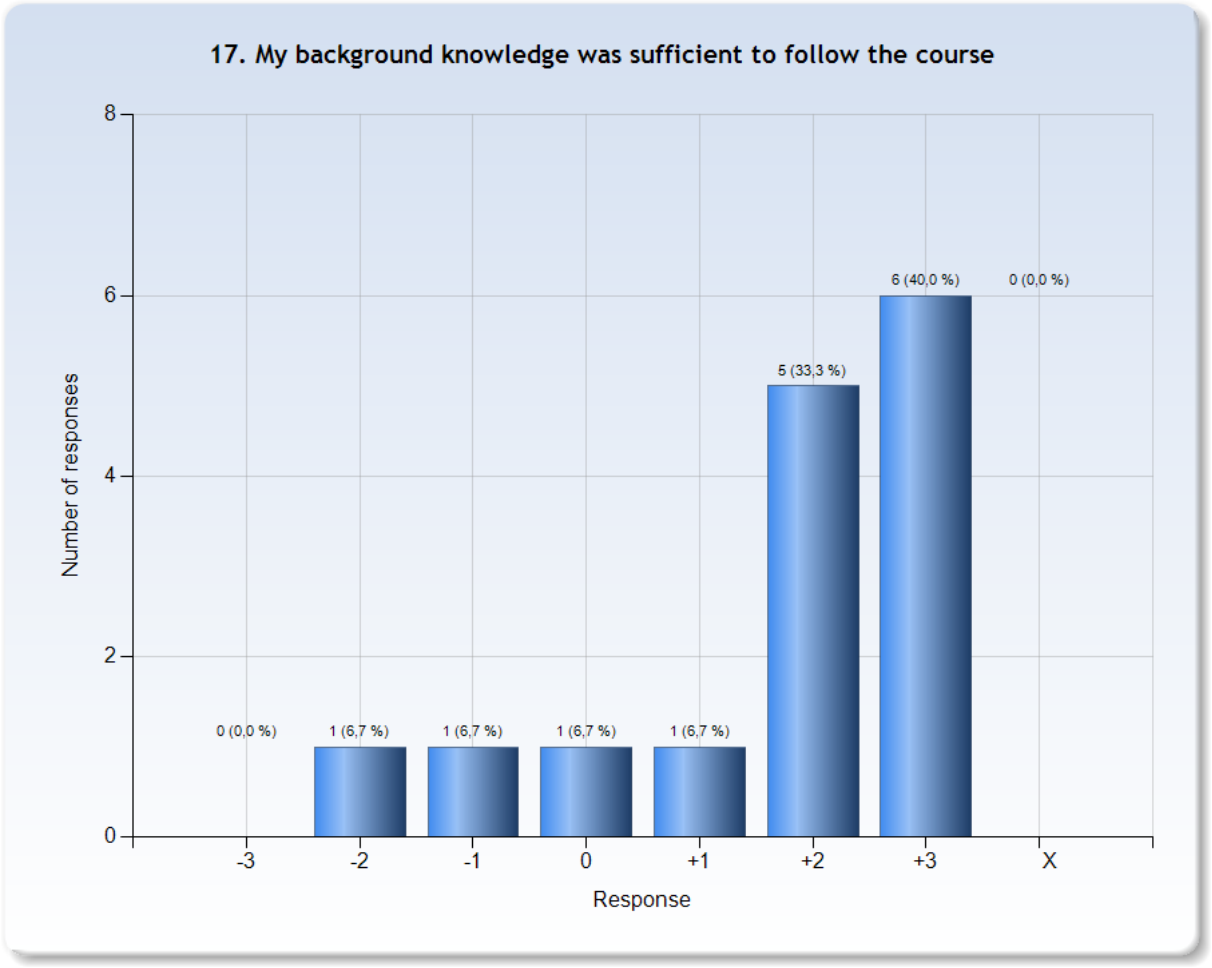
Comments


15. I could practice and receive feedback without being graded
Number of responses
Response
0
1
2
3
4
5
-3
-2
-1
0
+1
+2
+3
X
1 (7,1 %)
0 (0,0 %)
1 (7,1 %)
3 (21,4 %)
3 (21,4 %)
4 (28,6 %)
2 (14,3 %)
0 (0,0 %)

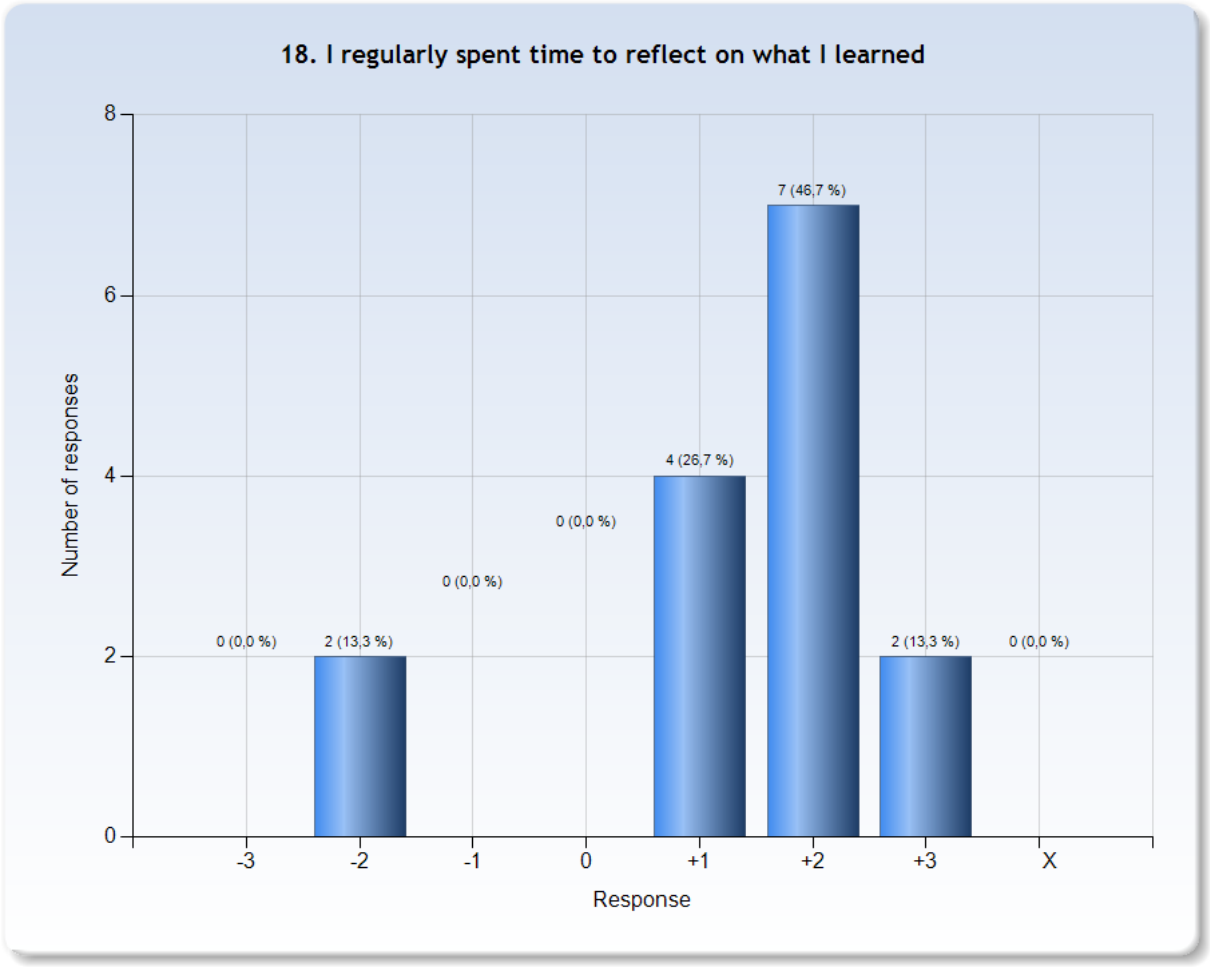
Comments


16. The assessment on the course was fair and honest
Number of responses
Responses
0
2
4
6
8
-3
-2
-1
0
+1
+2
+3
X
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
7 (50,0 %)
7 (50,0 %)
0 (0,0 %)

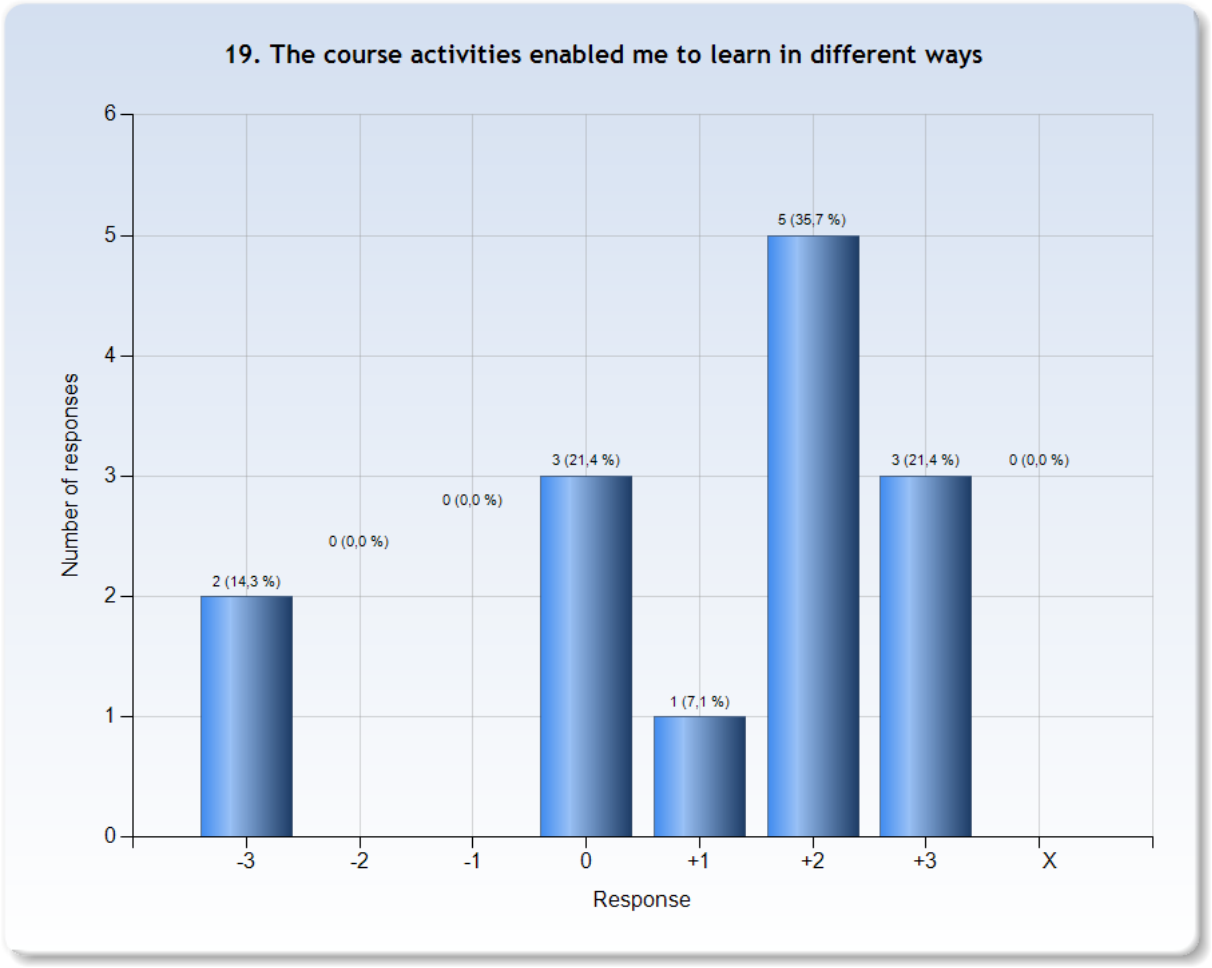
Comments


17. My background knowledge was sufficient to follow the course
Number of responses
Response
0 (0,0 %)
1 (6,7 %)
1 (6,7 %)
1 (6,7 %)
1 (6,7 %)
5 (33,3 %)
6 (40,0 %)
0 (0,0 %)
-3
-2
-1
0
+1
+2
+3
X

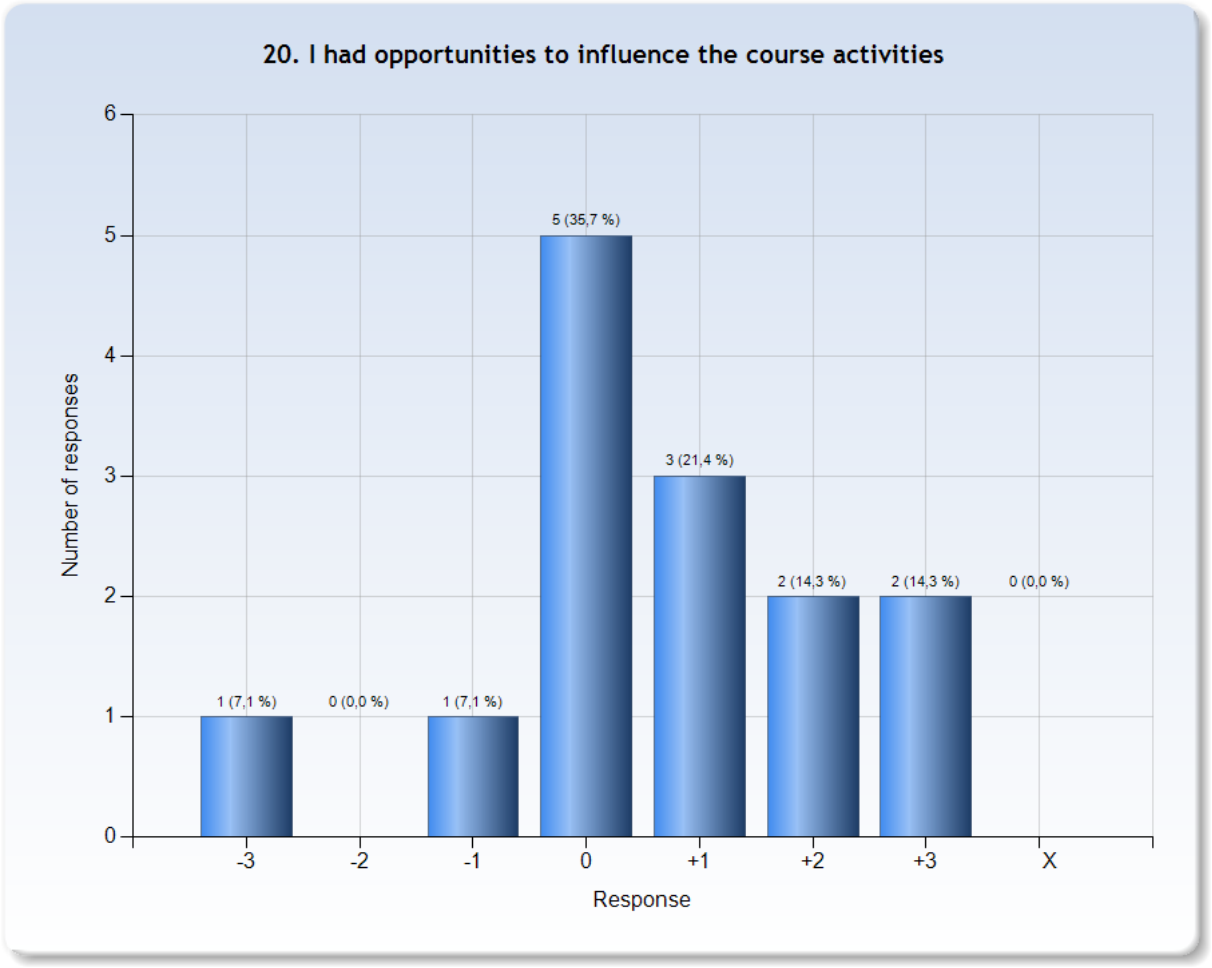
Comments


18. I regularly spent time to reflect on what I learned
Number of responses
Response
0
2
4
6
8
-3
-2
-1
0
+1
+2
+3
X
0 (0,0 %)
2 (13,3 %)
0 (0,0 %)
0 (0,0 %)
4 (26,7 %)
7 (46,7 %)
2 (13,3 %)
0 (0,0 %)

Comments

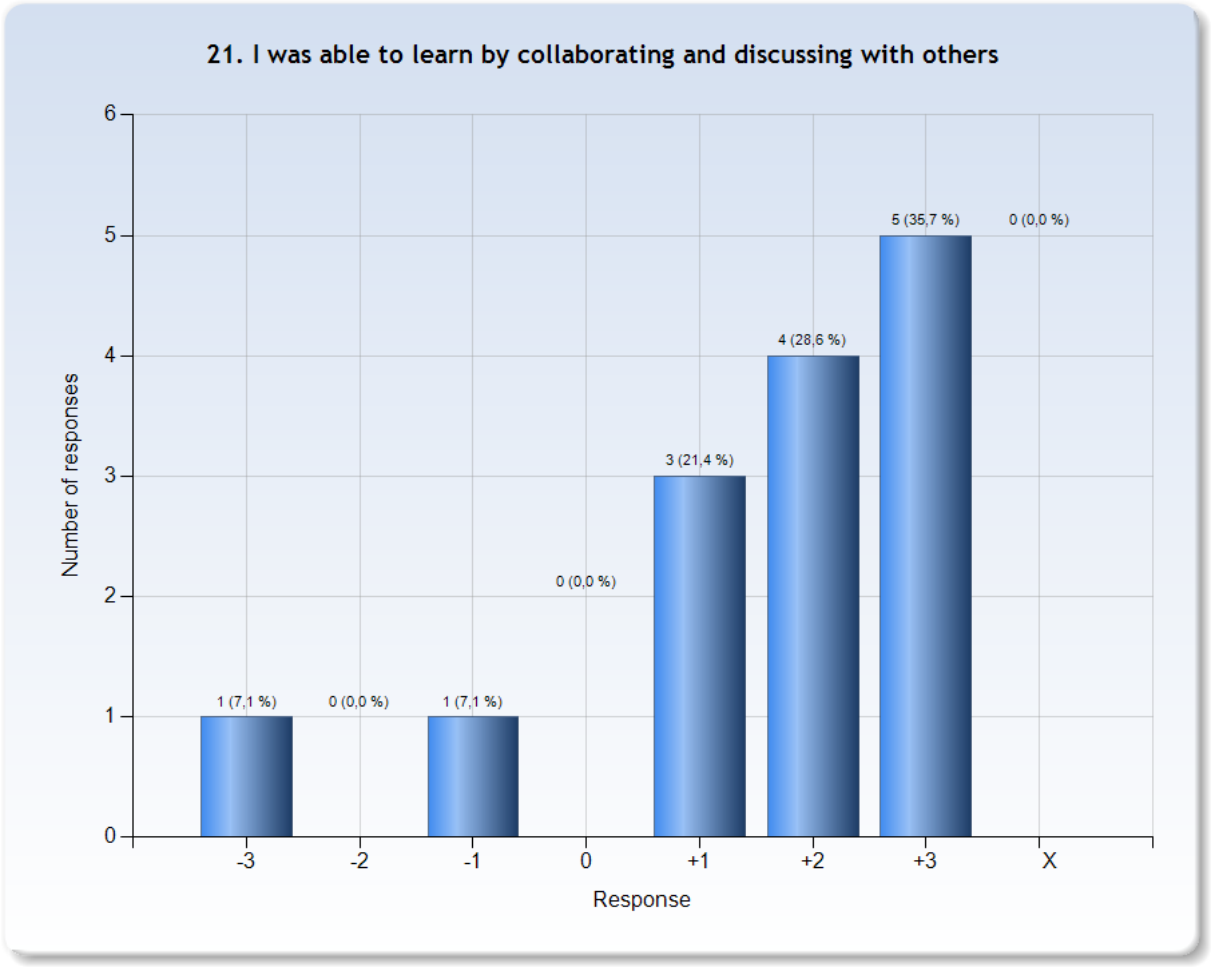

19. The course activities enabled me to learn in different ways
Number of responses
Response
0
1
2
3
4
5
6
-3
-2
-1
0
+1
+2
+3
X
2 (14,3 %)
0 (0,0 %)
0 (0,0 %)
3 (21,4 %)
1 (7,1 %)
5 (35,7 %)
3 (21,4 %)
0 (0,0 %)

Comments

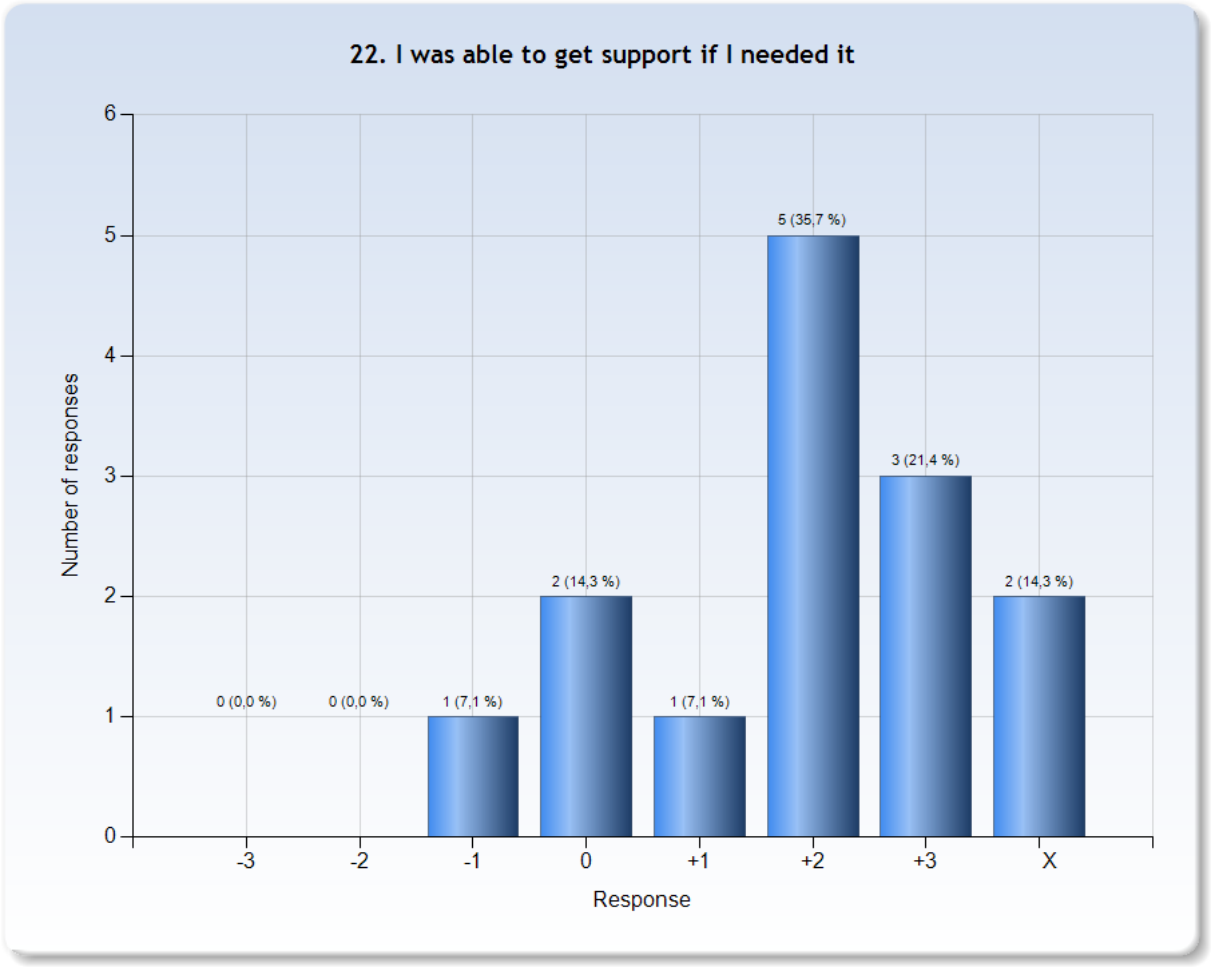


Comments

Comments (My response was: +2)
The project assignments were more open than most are


21. I was able to learn by collaborating and discussing with others
Number of responses
Response
0
1
2
3
4
5
6
-3
-2
-1
0
+1
+2
+3
X
1 (7,1 %)
0 (0,0 %)
1 (7,1 %)
0 (0,0 %)
3 (21,4 %)
4 (28,6 %)
5 (35,7 %)
0 (0,0 %)

Comments



Comments

Comments (My response was: X)

Teacher assistant was there to help students, but he wasn't usefull. He didn't knew of what were the laboratories about, and in the practices he only copied solved excercises in the blackboard.