Report - DD2413 - 2023-10-23

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):
Iolanda Leite, iolanda@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.
We used the standard 12 statements/4 general questions LEQ course questionnaire to gather feedback from our students. The goal was to assess their learning experience and identify opportunities for course improvement.

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.)
Students interacted with the teaching team in the lectures (where quite often more than one teacher was present), tutorials and lab sessions. During the project work, each group was assigned a mentor from the teaching team to guide them through the process. In the final project presentation session, most members of the teaching team were present and provided feedback to the different groups.

COURSE DESIGN
Briefly describe the course design (learning activities, examinations) and any changes that have been implemented since the last course offering.
This was the second time the course was offered. The course consisted in 7 lectures with topics ranging from how to conduct Human-Robot Interaction research to the automatic perception of human social signals, robot learning and the generation of verbal and nonverbal behavior. There were two hands-on tutorials to deepen some of the concepts from the lectures: one on using the R language for experimental data analysis, and another tutorial for students to receive a quick overview of the APIs of the different social robots available for the project.

The project topic was selected by students with help from the teaching team. For feedback on the project work, there was a project pitch presentation session early on, and additional feedback as needed by the member of the teaching staff assigned to mentor that group. The project evaluation criteria were made available to students. Students had the option to focus on a more technical project or a project more focused on the evaluation of human-robot interactions, and the grading criteria was adjusted to make sure both types of projects were graded fairly. In 2022 we changed the grading to better reflect the actual evaluation components. The final grade of the course is in the A-F scale, given by 20% * LAB1 (which was P/F scale in 2021), 20% * LAB2, and 60% * PRO1. Therefore, we changed the LAB1 component to be on the A-F scale and transferred 1.5 credits of LAB2 to the PRO1 component, to make the grade clearer. The current examination components are as follows:
- LAB A - Laboratory work, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- LAB B - Laboratory work, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- PRO A - Project work, 4.5 credits, grading scale: A, B, C, D, E, FX, F

The grading criteria for the different evaluation components were made available to students on the course canvas and in the first lecture.

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?
Students reported that the workload was appropriate throughout the course. The only issue was the fact that the project work continued over the Christmas break due to the way P2 is planned. The project activities began at the end of November and the presentations were in mid-January, but still because of other course duties, some students ended up using the holiday break to work on the projects.
One of the responses also mention that the workload between project group members wasn't fair. We will try to address that in the next round.

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?
Similarly to last year, the students did really well! The results were quite positive not just in terms of the final grades but also from the course survey, where some students reported that they learned about topics that otherwise hadn't been covered by other courses they have taken before.

STUDENTS'ANSWERS TO OPEN QUESTIONS
What does students say in response to the open questions?
Students appreciated various aspects of the course, such as working with real robots like Cozmo and FurHat, the opportunity to conduct a user story, and the freedom to introduce their own ideas in projects. They also valued the up-to-date lecture materials based on the teaching team's recent research and the flexibility in selecting group project topics. However, a common challenge was the difficulty in independently determining project topics. Some wished for more guidance in this area, suggesting that teachers might offer better insight into relevant subjects.

SUMMARY OF STUDENTS' OPINIONS
Summarize the outcome of the questionnaire, as well as opinions emerging at meetings with students.
We only had 9 (out of 18) responses in the course evaluation survey, but they were all very positive overall – see attached responses at the end of this document.

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 was quite successful. The high level of student engagement was evident through their active participation in lectures and tutorials, the quality of their (proposed) course projects, and their high final grades. While there are certain elements that require refinement for future iterations, the overall sentiment analysis suggests that students found the course to be highly beneficial for them.

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?

The number of survey responses wasn't enough to distinguish differences based on student gender, nationality, or disability. However, it's evident that students came from a diverse academic background. A majority were from the Masters in Systems, Control, and Robotics, but a significant portion were from Media and Interaction Design programs, and we had a high number of exchange students too. This diversity presents a challenge in finding the right balance in the course content: ensuring it's neither too technical for one group nor too simplistic for another. To account for this, we've made efforts to ensure that grading reflects the varied contributions in human-robot interaction, from more technical and systems-oriented to more human-centric.

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

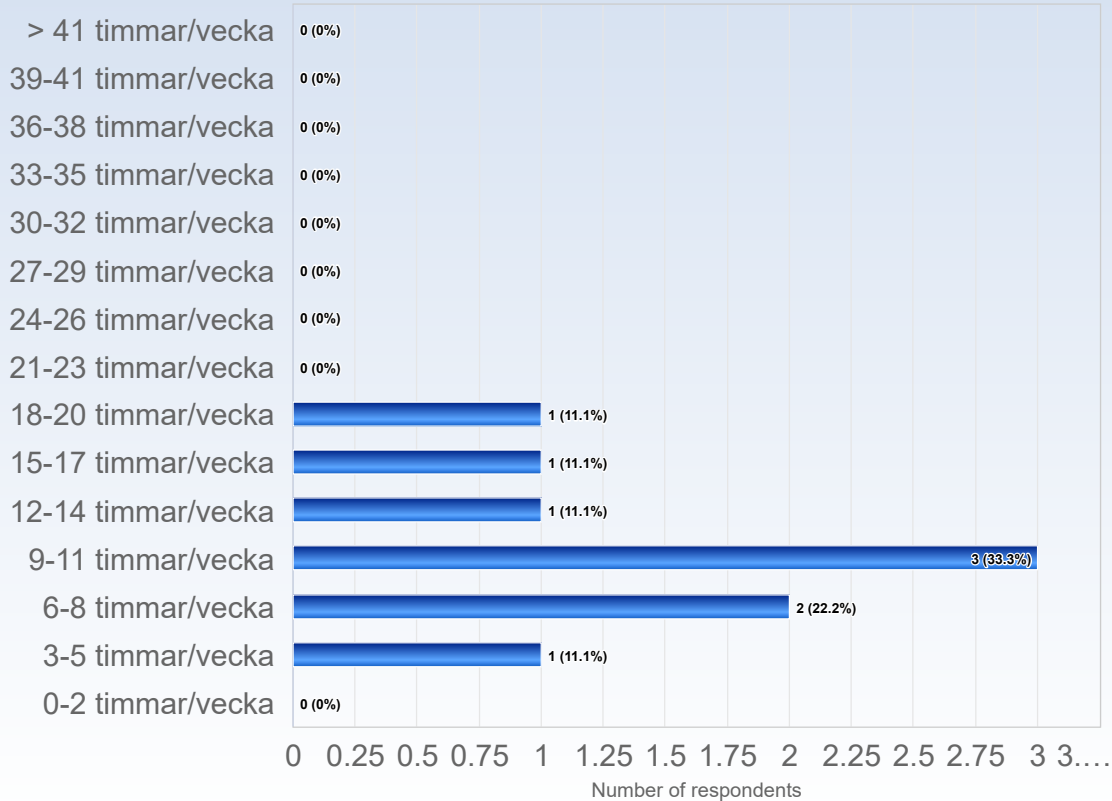These are the aspects we plan to improve in the next course round:

- More connection between lectures and project, for example by incorporating more practical examples from projects into lectures to bridge the theory-practice gap.

- More structure and opportunities for feedback during the project proposal stage, including templates for project proposals, and multiple feedback sessions before the final proposal submission for students to refine their ideas. We will also consider pairing students with peers for proposal review sessions, fostering collaboration and a fresh perspective.

- Encourage students to start with the project as soon as possible (to make sure they can enjoy their holiday break), e.g. by providing a tentative project timeline at the beginning of the course, highlighting recommended milestones before the holiday break, and by sharing testimonials from past students emphasising the benefits of starting the project work as early as possible, such as reduced stress and more free time during the break.

- Set up regular, fixed times each week for students to consult with mentors, ensuring consistency and predictability.

DD2413 - 2023-01-24

ESTIMATED WORKLOAD

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

Interval	Respondents
> 41 timmar/vecka	0 (0%)
39-41 timmar/vecka	0 (0%)
36-38 timmar/vecka	0 (0%)
33-35 timmar/vecka	0 (0%)
30-32 timmar/vecka	0 (0%)
27-29 timmar/vecka	0 (0%)
24-26 timmar/vecka	0 (0%)
21-23 timmar/vecka	0 (0%)
18-20 timmar/vecka	1 (11.1%)
15-17 timmar/vecka	1 (11.1%)
12-14 timmar/vecka	1 (11.1%)
9-11 timmar/vecka	3 (33.3%)
6-8 timmar/vecka	2 (22.2%)
3-5 timmar/vecka	1 (11.1%)
0-2 timmar/vecka	0 (0%)

Number of respondents

Comments

Comments (I worked: 6-8 timmar/vecka)

labs little workload, project more workload

The amount of work provided was not even between the group members, those working on the technical part of the project have been doing much more work. But, I think that it was a good thing for me to be able to have some extra time to be able to read more literature about the course and make sure the project was finalize the way we wanted without being too rushed.

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

The lecture time was not too overwhelming, but the project took basically all the time every day for at least a week, and given that it was during Christmas and New Year break, it was quite difficult to find participants and use equipment. It felt like there was not enough time for doing the project properly.

It was very different from week to week. There were some weeks in which I had to do almost nothing. In the last week I spent more than 20 hours to do the user study and to write the paper.

Comments (I worked: 15-17 timmar/vecka)

I chose to spend more time in this course than would have been necessary because it was very interesting and this was my only course

Comments (I worked: 18-20 timmar/vecka)

I liked that all the lectures were during the first weeks of the period so that we had the knowledge and time to spend later on the group project.

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

— Medelvärde
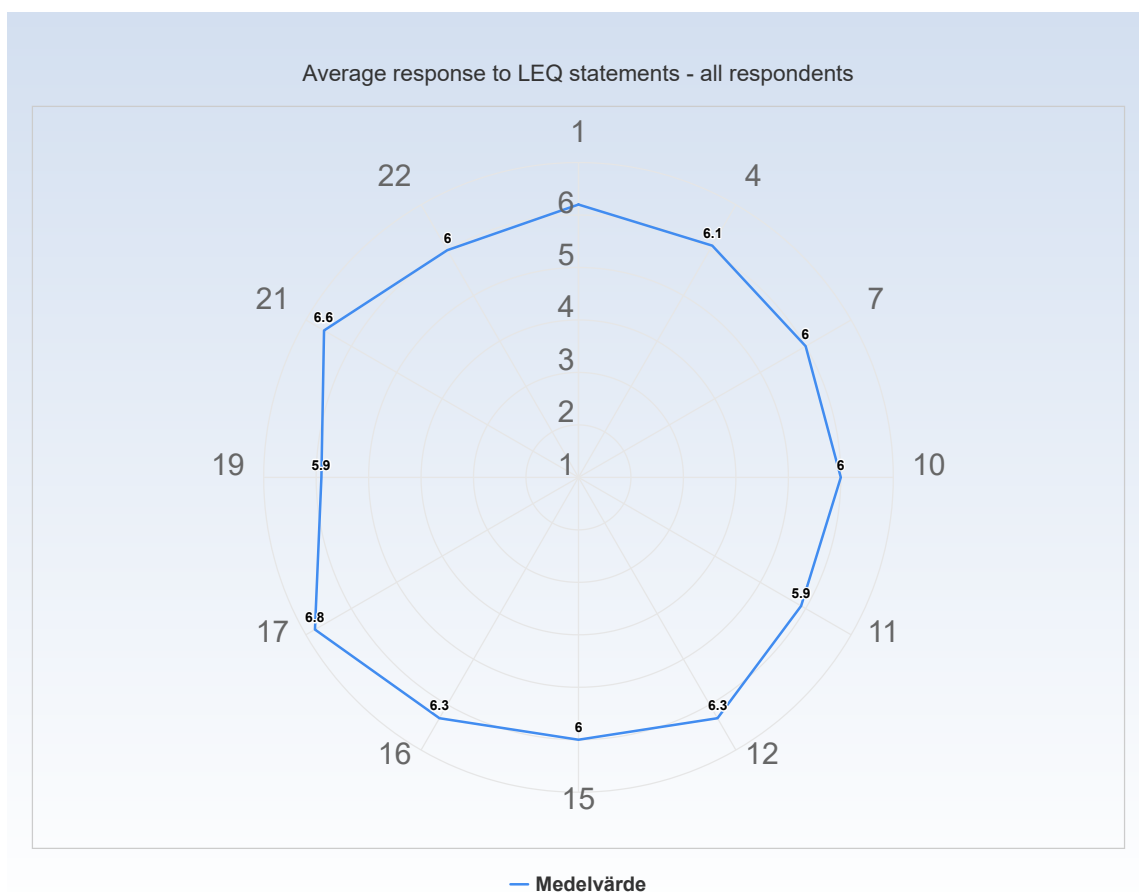
KTH Learning Experience Questionnaire v3.1.4

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
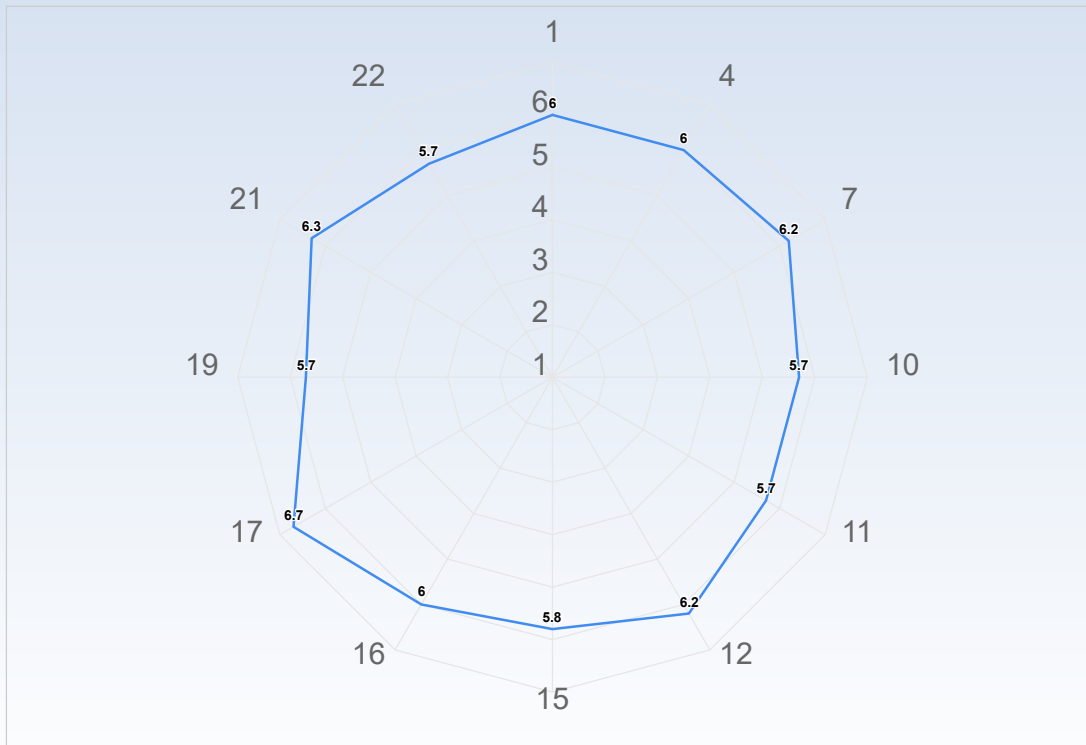
Legend: — Kvinna — Man — Annat — Vill ej uppge

Comments

Comments (I am: Kvinna)

I felt really well as a female in this course, the group project was mixed.

Average response to LEQ statements - per type of student
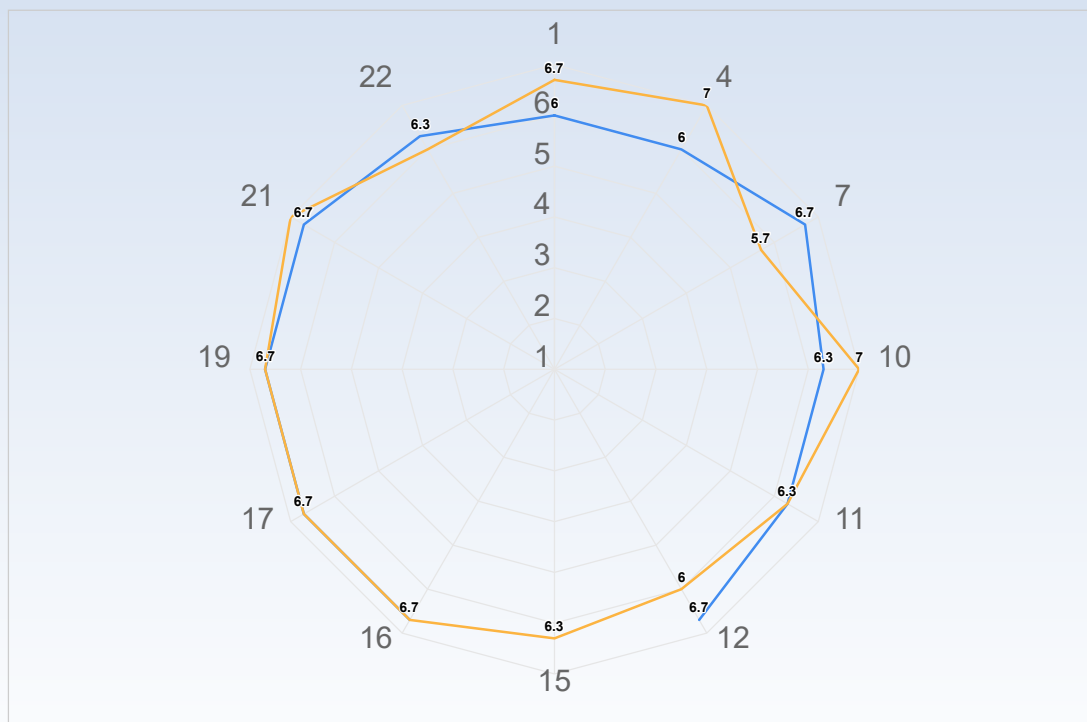
Legend:
- Internationell masterstudent
- Internationell utbytesstudent
- Svensk student i årskurs 1-3
- Svensk student i årskurs 4-5
- Annan typ av student
- Vill ej uppge

Comments

Comments (I am: Internationell masterstudent)

I felt especially welcomed in the course and received all the help I needed.

Average response to LEQ statements - per disability

Legend: — Ja   — Nej   — Vill ej uppge
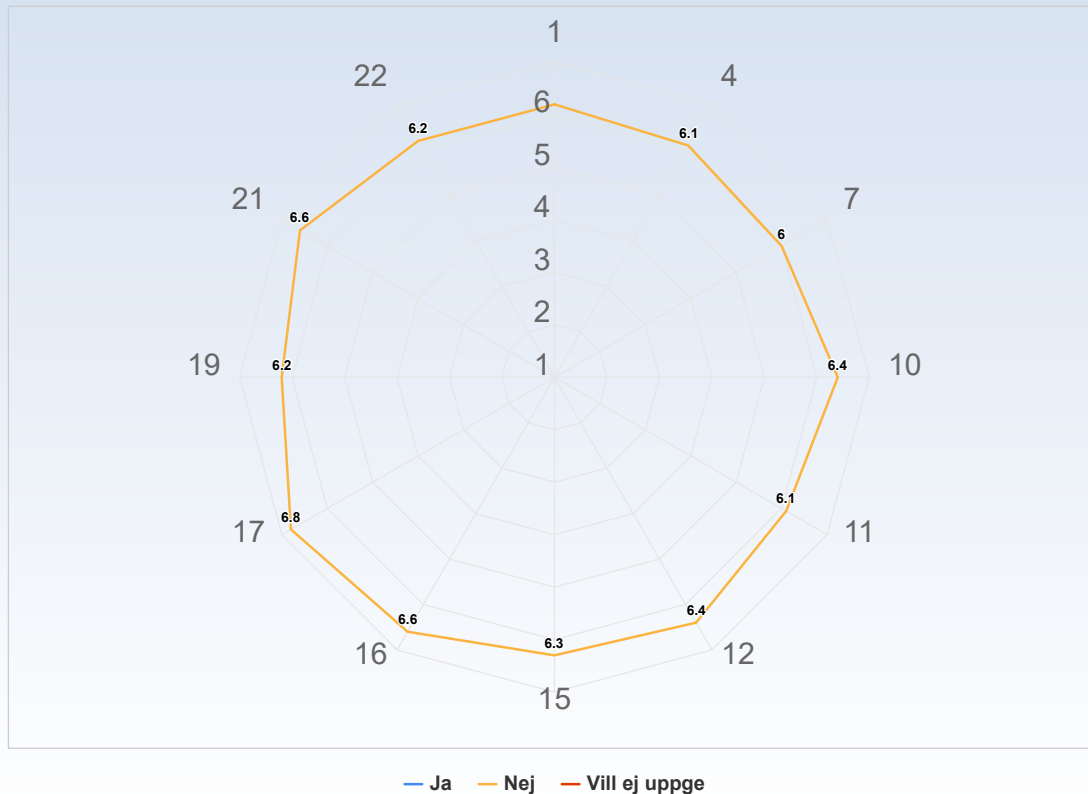
GENERAL QUESTIONS

What was the best aspect of the course?

What was the best aspect of the course? (I worked: 6-8 timmar/vecka)

working with nice robots

The discovery of how to conduct a user story. Since it was a big project for us, that we conducted on weeks we really had time to fully understand to learn by ourlselves how to conduct a user story. Usually we do not have time to do it properly during project because the deadlines are so close, so I found it the best part of the course. I also think that this is the aspect of the course from which I learnt the most.

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

It's interesting to interact with Cozmo and FurHat.

We could play with Furhat.

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

The project work with it's openness for our own ideas.

What was the best aspect of the course? (I worked: 18-20 timmar/vecka)

it was nice that the materials of the lectures were from recent/current research of the teaching team. I also liked that we were given the flexibility to select the topic of the group project.

What would you suggest to improve?

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

more focus on robotics than scientific methods

Finding a project topic. I understand that it is good that we find topic that interest us by ourlselves but I found it really hard and frustrating. Moreover, the teacher have a better insight of what is relevant and important to the field so they might have better ideas. Also, I think that if we had the feeling that we where working on something important for the field we might be more proud of the achieved work and more motivated. I also understand that finding a topic is part of the course because it forces us to read literature to find some subjects that haven't been done before but I had the feeling that it was already SO hard to find a topic that we did it the other way around. We first found a topic and then found a way to justify it with literature.

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

We find it really hard to come up with a project idea by ourselves.

For the Lab1 assignment I was unsure how much was expected.

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

All good

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)

use opportunities to work with physical robots

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

Take the course, it is fun to work with robots.

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

You might spend more time on this course than you had planned because it is so much fun

What advice would you like to give to future participants? (I worked: 18-20 timmar/vecka)

to start the group project early and finish with the technical parts before the holiday break

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 would have liked to have more activities related to the lectures, I found the topic fascinated and there are a lot of topic I would have loved to learn more about but we only had one project.

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

-

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

Great course, very nice people, fascinating topics and projects

Is there anything else you would like to add? (I worked: 18-20 timmar/vecka)

the course was really interesting and inspiring. the teaching team was always excited and helpful.

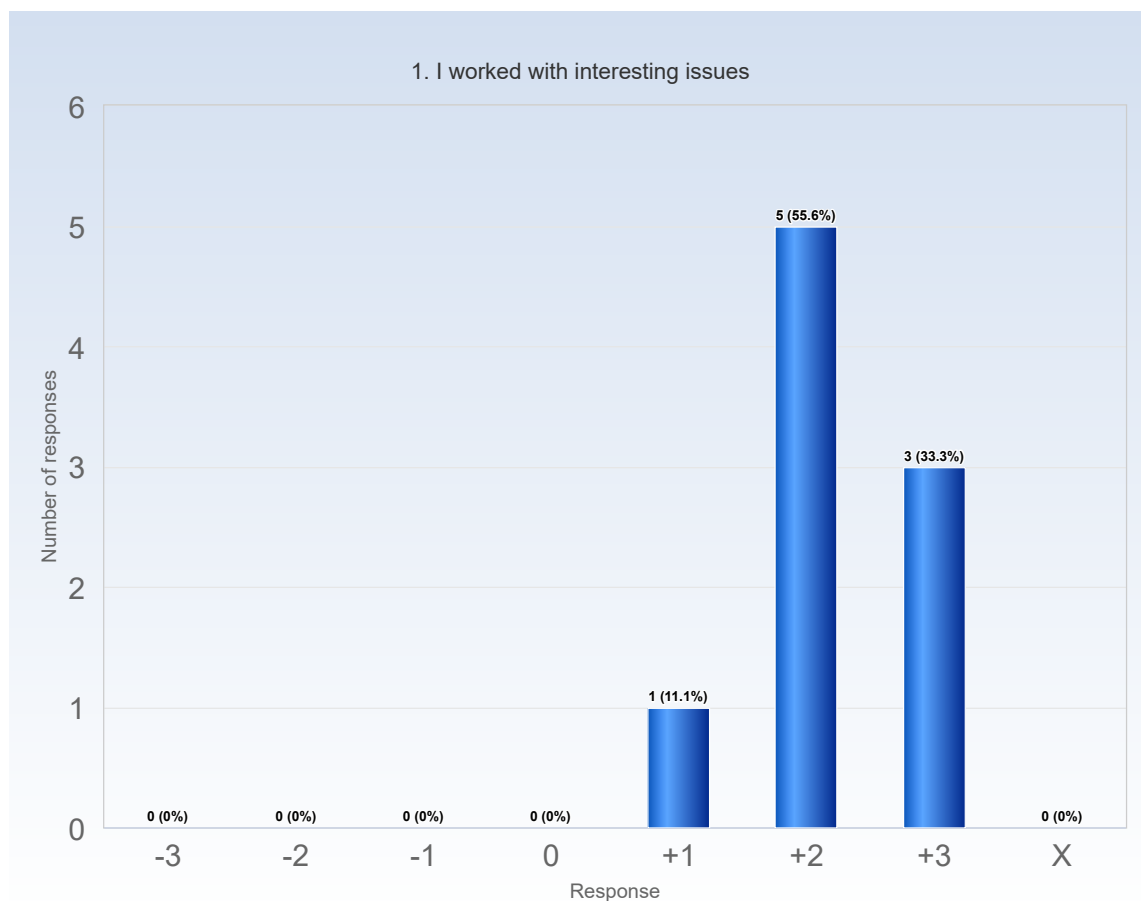# SPECIFIC QUESTIONS

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
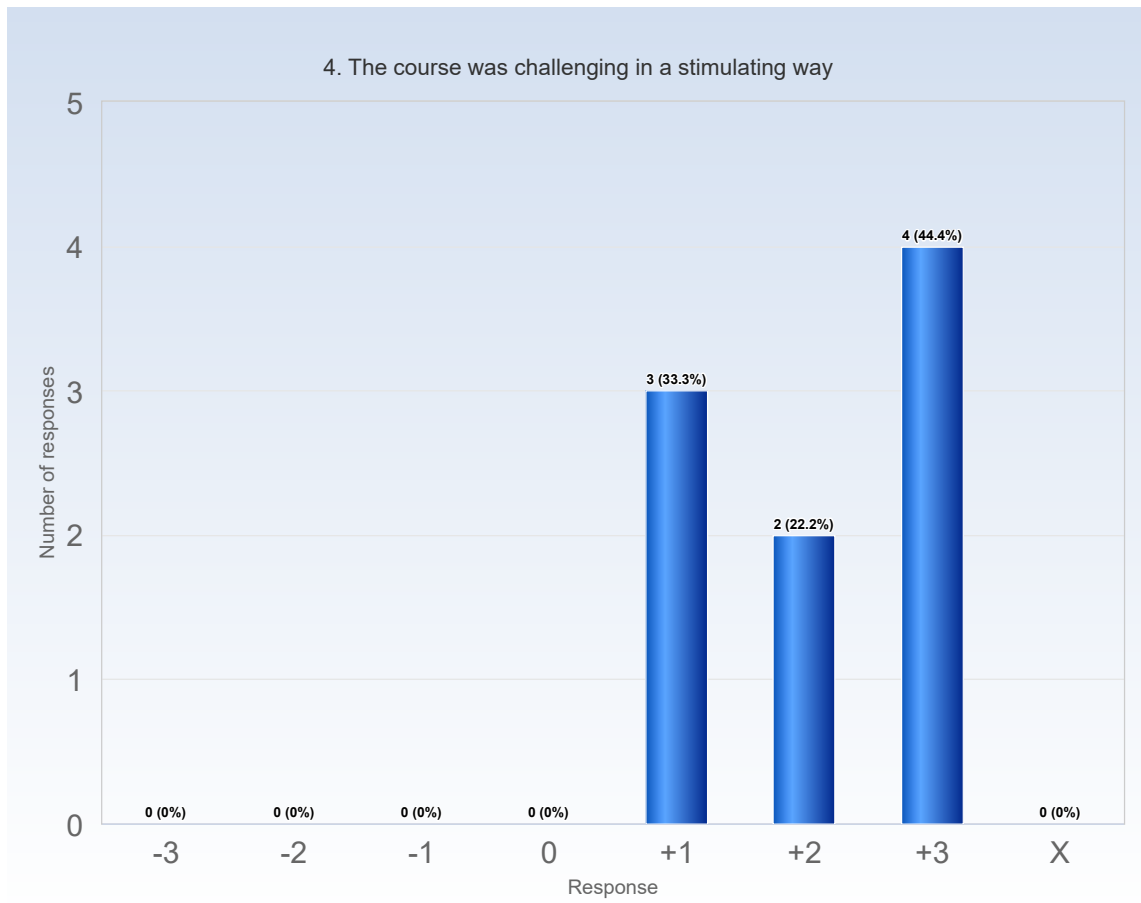+3 = Yes, I strongly agree with the statement

X = I decline to take a position on the statement

1. I worked with interesting issues

Response	Number of responses
-3	0 (0%)
-2	0 (0%)
-1	0 (0%)
0	0 (0%)
+1	1 (11.1%)
+2	5 (55.6%)
+3	3 (33.3%)
X	0 (0%)

Comments

4. The course was challenging in a stimulating way

Number of responses

Response	-3	-2	-1	0	+1	+2	+3	X
Count	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (33.3%)	2 (22.2%)	4 (44.4%)	0 (0%)

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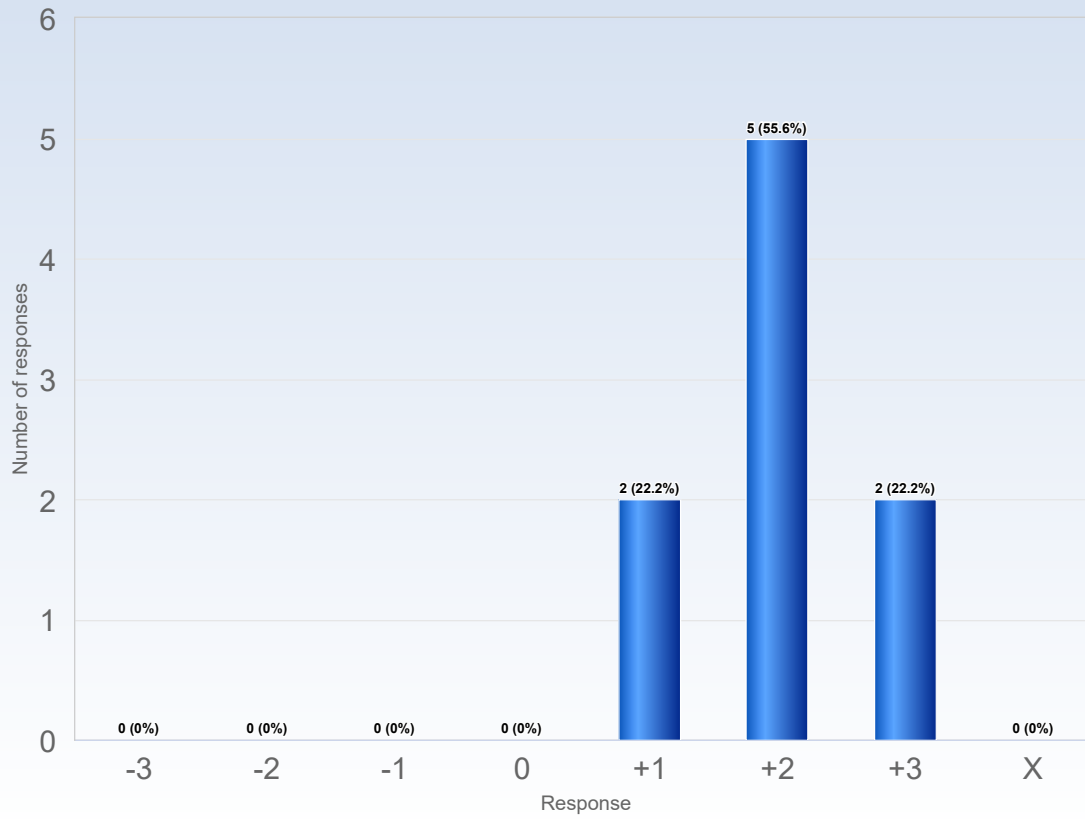
Comments

Comments (My response was: +1)

From the web course description my expectations of what we would do were a bit different, but not in a bad sense

10. I was able to learn from concrete examples that I could to relate to
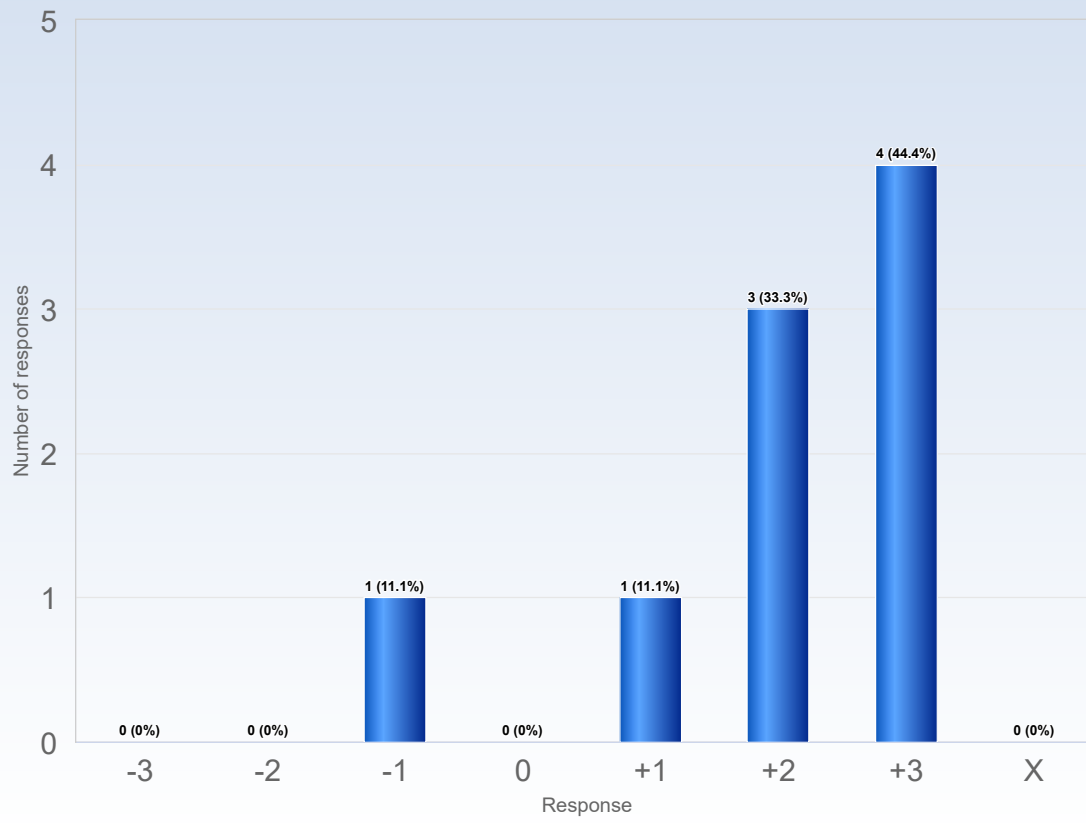
11. Understanding of key concepts had high priority
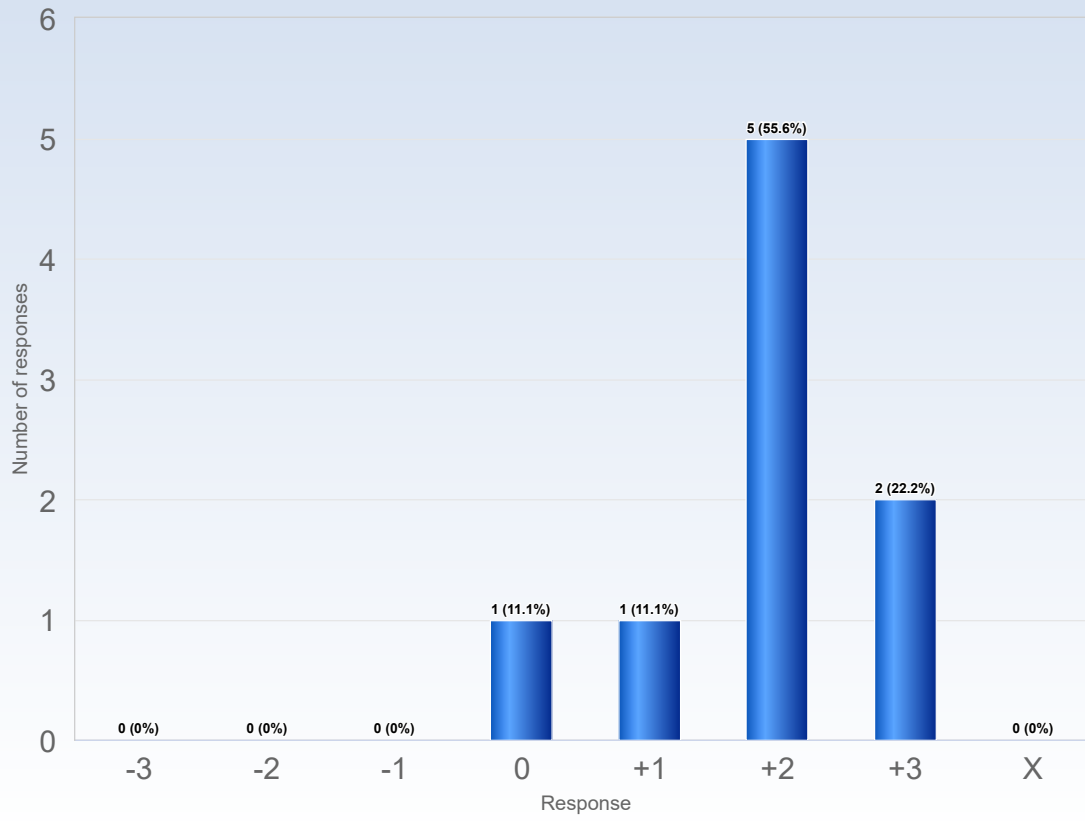
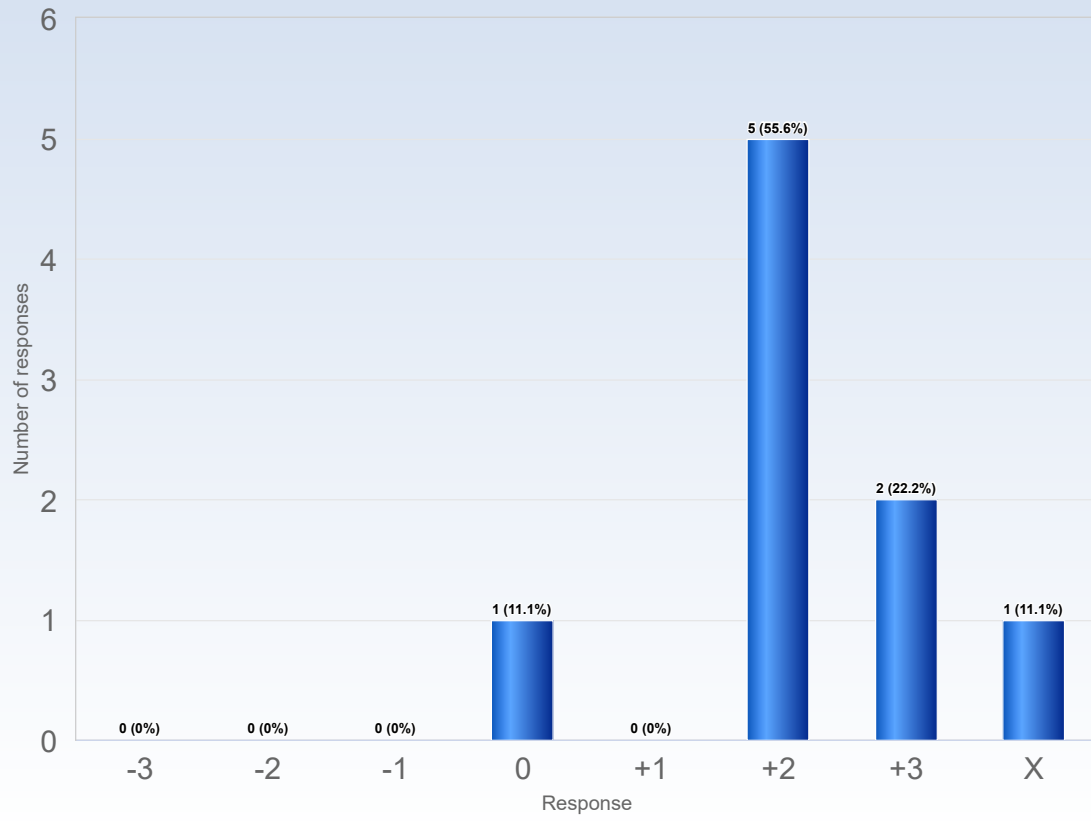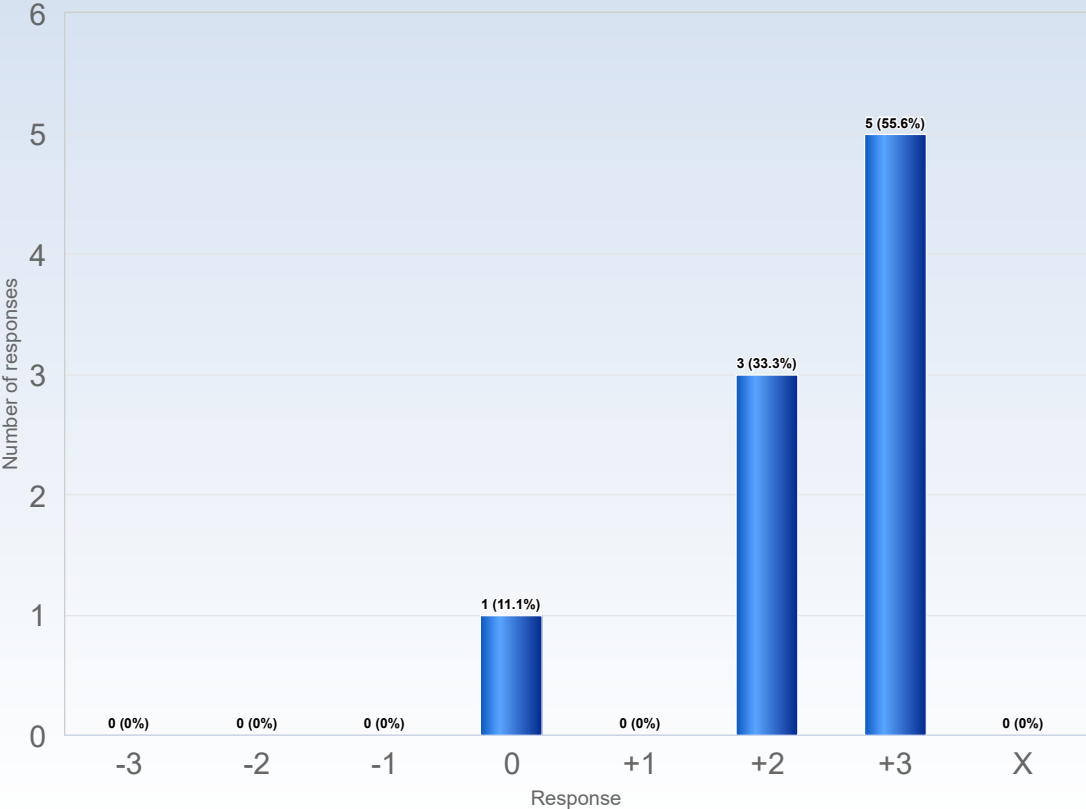## 12. The course activities helped me to achieve the intended learning outcomes efficiently
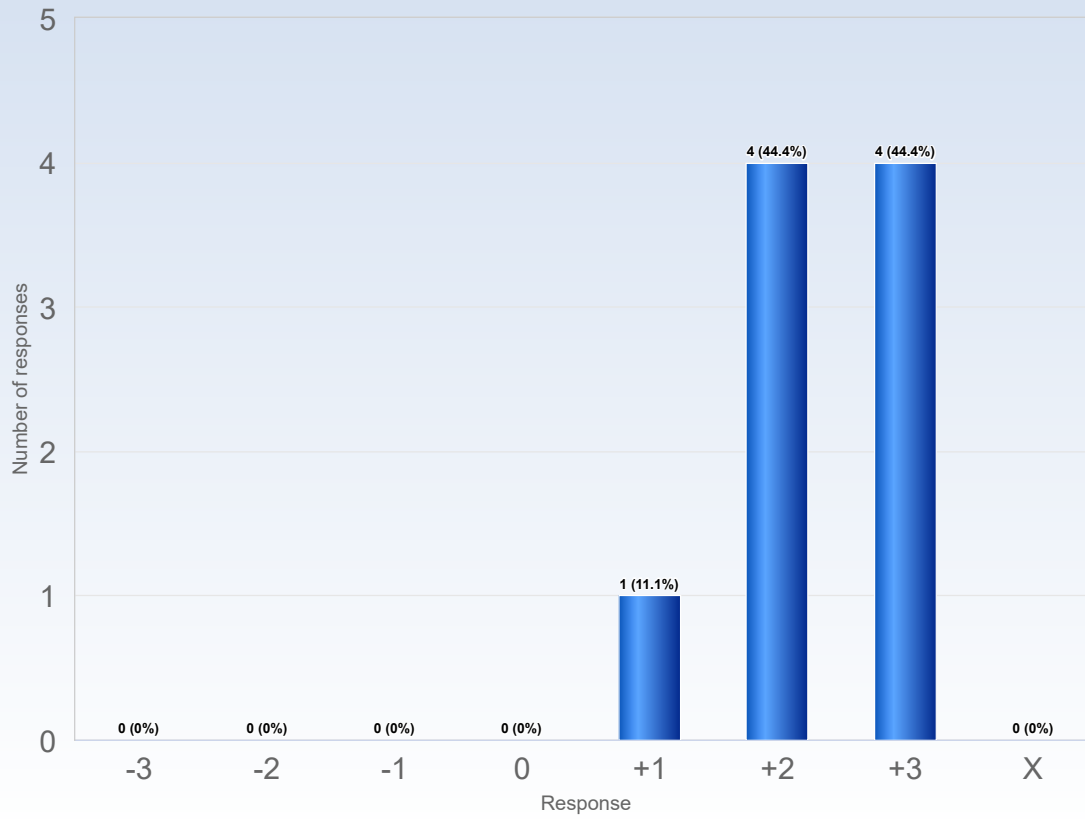
Comments

Comments (My response was: +1)
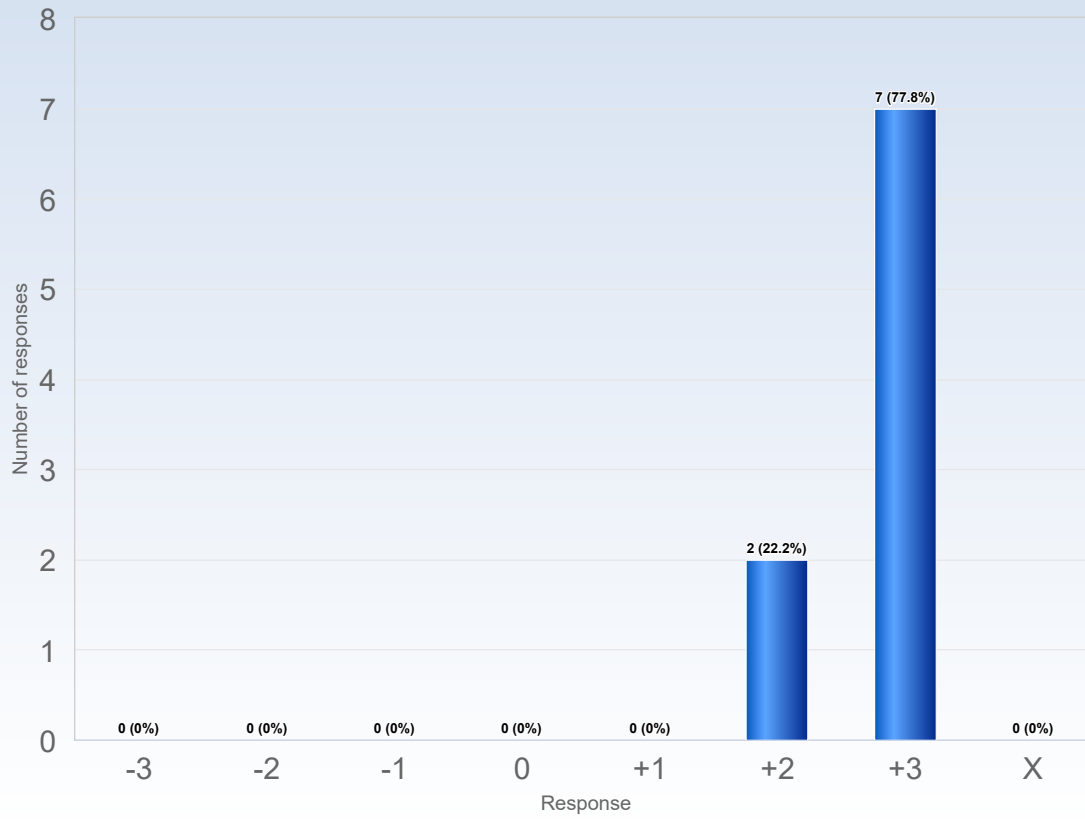We did not learned in detail how to program the robots

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

16. The assessment on the course was fair and honest

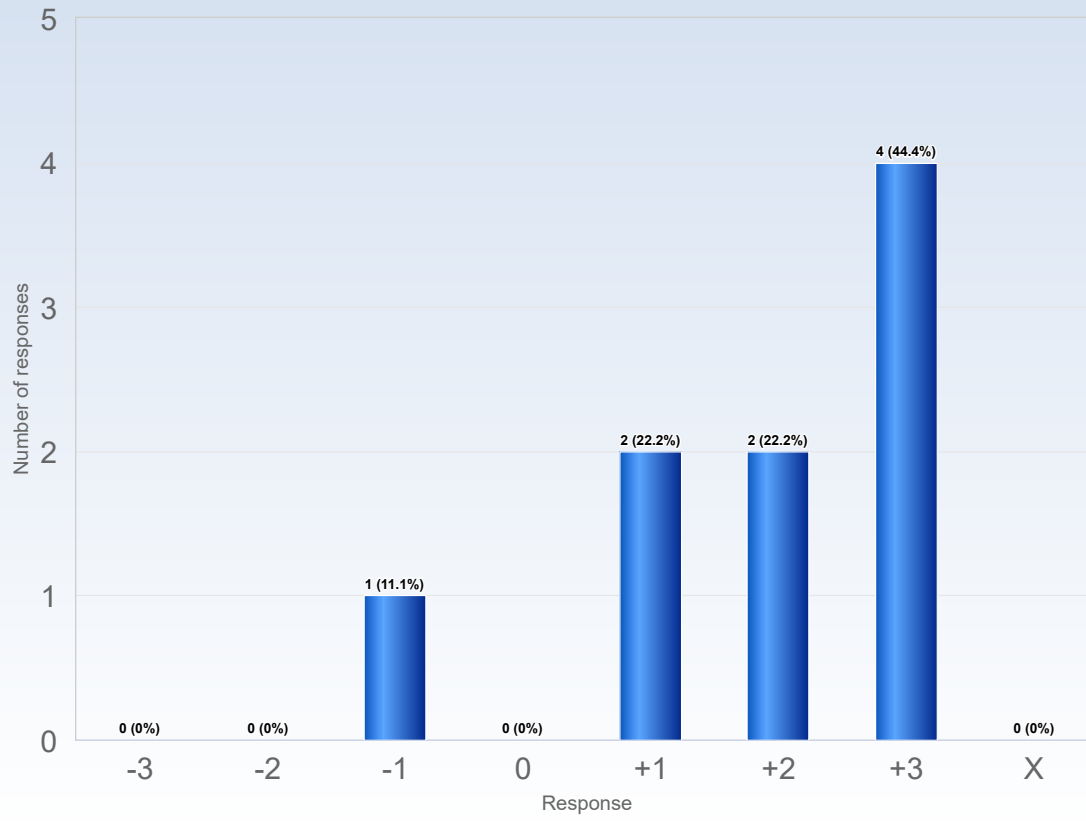## 17. My background knowledge was sufficient to follow the course
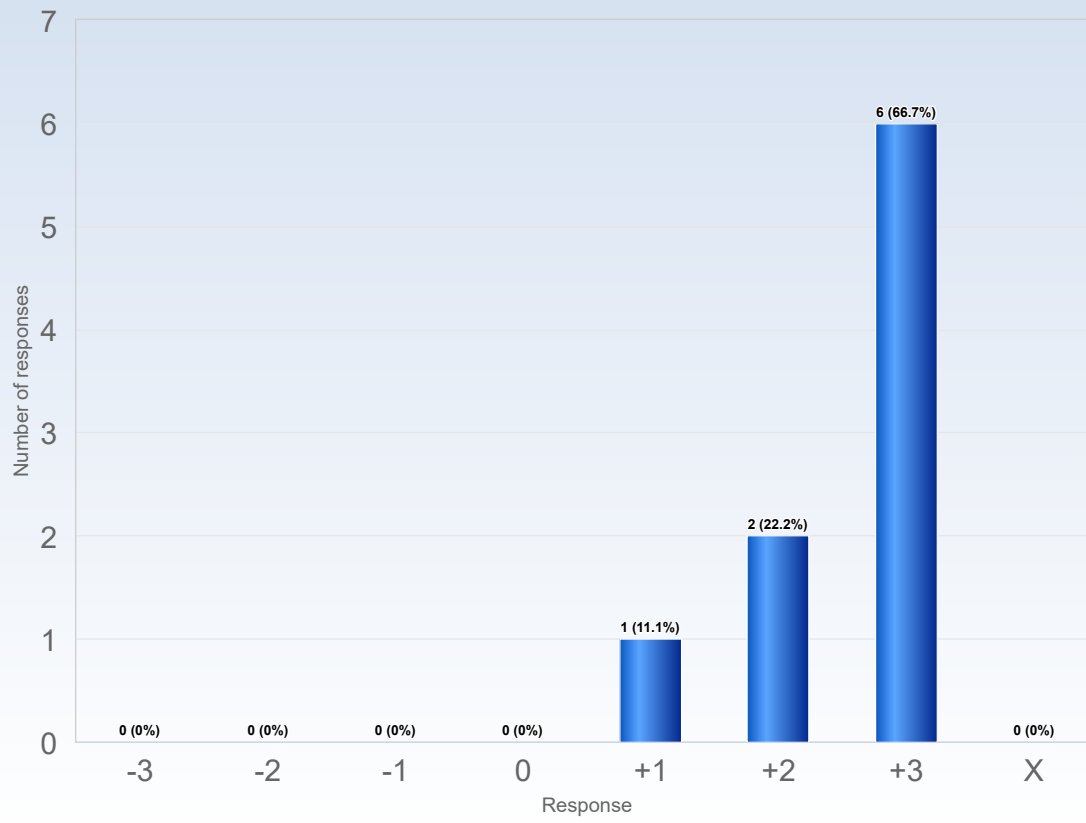

Comments

Comments (My response was: +3)
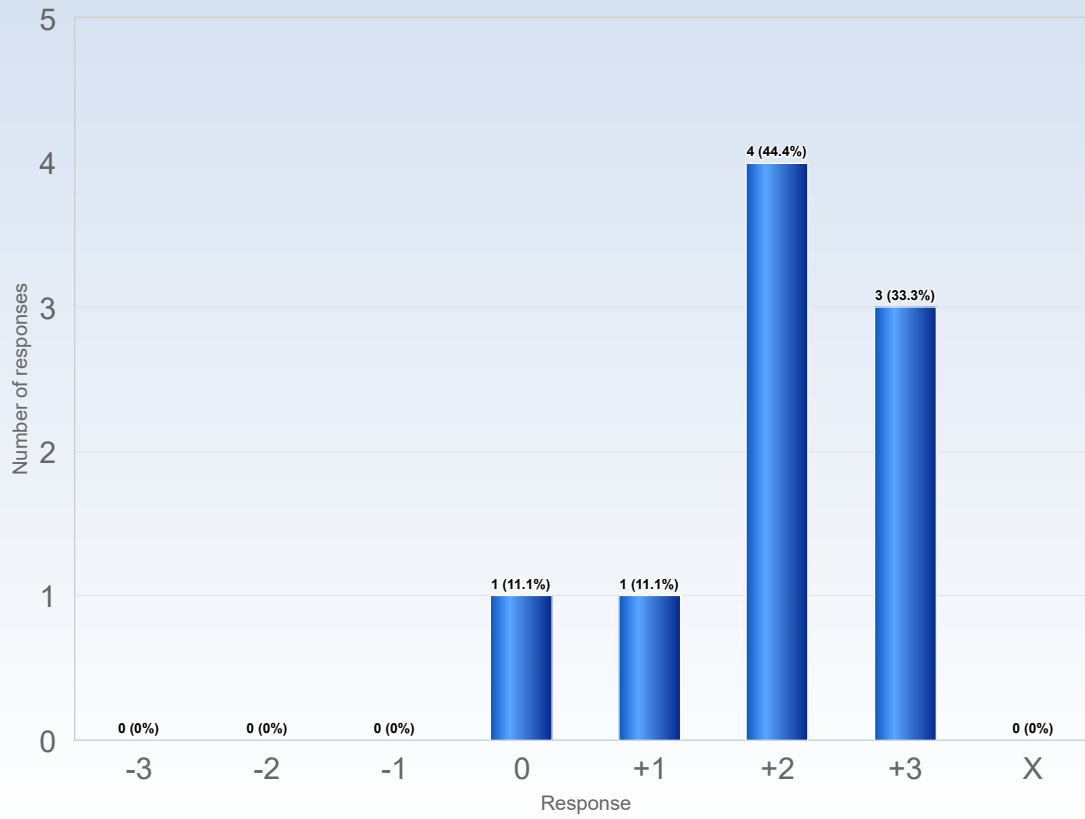I didn't had any background knowledge

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

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

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

Bar chart — Number of responses (y-axis) vs Response (x-axis):
- -3: 0 (0%)
- -2: 0 (0%)
- -1: 0 (0%)
- 0: 1 (11.1%)
- +1: 1 (11.1%)
- +2: 4 (44.4%)
- +3: 3 (33.3%)
- X: 0 (0%)

Comments

Comments (My response was: +1)
Our mentor took quiet some time to answer during christmas holiday

Comments (My response was: +2)
Maybe some weekly/monthly meeting with the tutor would be good