DD1354 VT23 Course Analysis

Modsim 6.0hp

DD1354 crosses mathematics, programming, visualisation and simulation. In order to pass the course, students must pass four lab assignments (P-F), complete a project that they specify themselves (A-E) and pass an exam (P-F).

Summary of course aspects

Online video lectures accompanying by a hybrid flipped classroom/lecture summary and lab approach was used. Lectures took place both physically on KTH campus and via Zoom: students could attend as they wished.

A written exam was scheduled in the course for the first time since the start of Covid.

Small changes were made to course materials or structure, mainly in relation to clarifying the lab materials based on feedback from 2022 (especially lab 2).

Both teaching assistants (one female and one male) were students from previous iterations of the course.

Overview of course evaluation comments

Aspect	Feedback and action
Thought it was good that the lab sessions were available both on campus physically and on zoom.	We will continue to present the course in a hybrid format as much as possible to provide flexibility to you and let you experience the course the way you want to.
Some of the labs felt very light it was more to understand a difficult simulation, and very little own creation/problem solving.	The labs are not meant to be challenging. Their purpose is to introduce the primary aspects of the course in a gentle way and provide scaffolding and ideas for the project.
Project: Specification feedback felt a bit late. I think it has been very educational and very difficult. It also feels like it is a bit short on time but still doable. Difficult, but rewarding and fun!	A consistent recommendation in the course by both students and staff is to start the project as soon as possible and not spend too much time on the labs. With this in mind, early feedback on the project specification ideas is indeed crucial. We will try to start the project specification aspects of the course earlier in future iterations of the course.
Clarity in the lab instructions, especially lab2. It was not very Clear if you should just change the parameters or go into the physics and find formulas to make calculations for the oceans part. Quite a few typos and some ambiguities in the lab.	We will continue to clarify and improve the instructions for lab 2 based on your feedback.

The expression "realistic" is used a lot which put pressure on how advanced the solutions would be.	
The exam was a bit focused on writing, so it didn't really feel like you got the time you needed with dyslexia.	Yes, the exam is heavily based on writing. KTH Funka provides compensatory support for students with disabilities, one of which is prolonged exam duration (in addition to other support) – please make sure to contact them! However, future exams in this course will take place digitally.

Details

The overall ratings via the course evaluation were mostly close to 6/7, with only two ratings less than 5.5/7 (ratings 11 *Understanding of key concepts had high priority* and 12 *The course activities helped me to achieve the intended learning outcomes efficiently*).
In relation to rating 11, the project is a central concept in the course. This aspect could likely be improved by providing more time and emphasis on the project by introducing and starting it earlier in the course. Rating 12 most likely relates to the link between the project and ILOs/grading requirements. Nevertheless, students remarked positively about the fun nature of the course: "it was very fun to go from not knowing anything at all about the areas of the course and still come so far to be able to do such a very big project", its practical nature "A change to do something practical with a lot of freedom", and "code was used to produce visual results" as well as the freedom choose their own topic of interest for the project: "The freedom of projects, you could experiment with what you thought was fun."

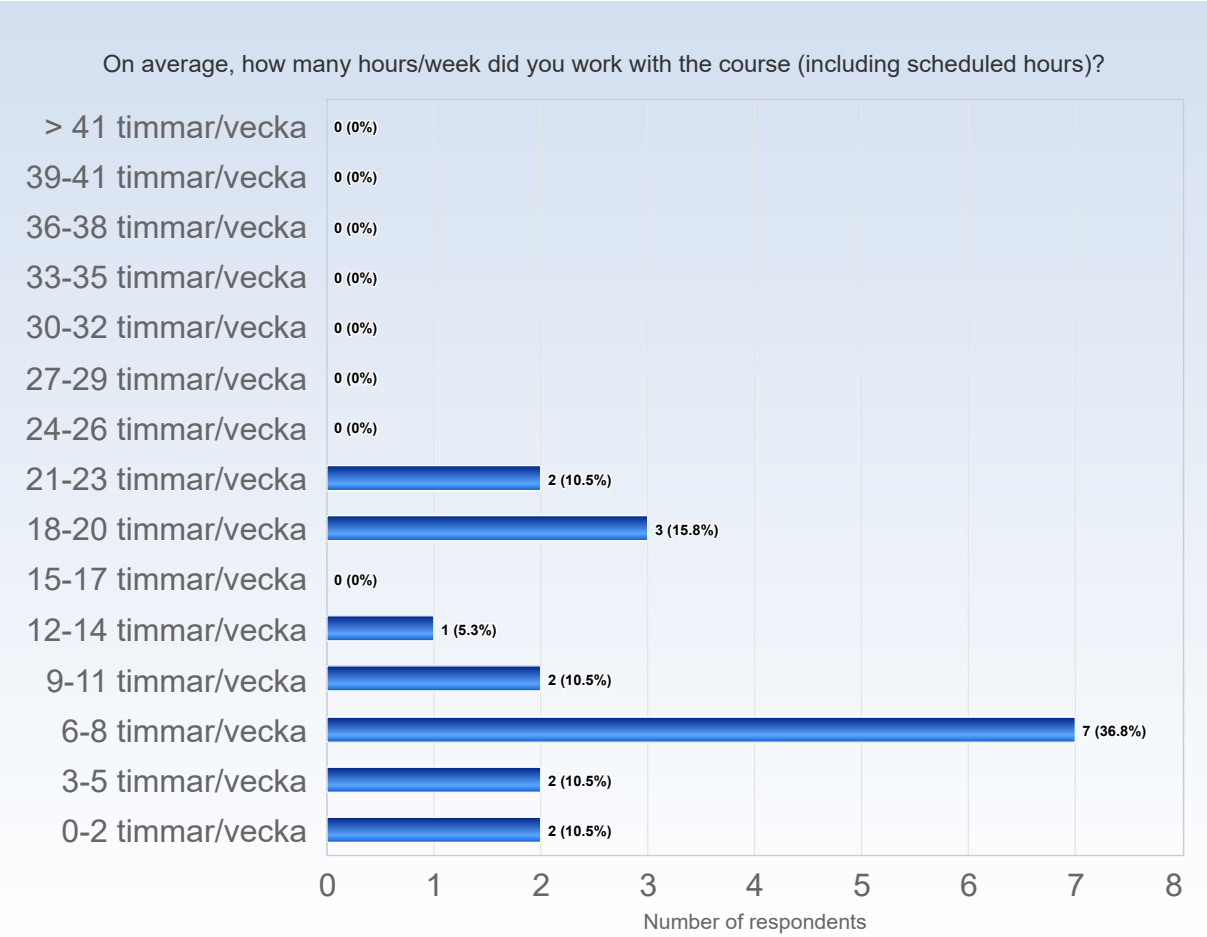
Despite good scoring, student feedback made the need for some changes to the course apparent:

1) Specifying and starting the project earlier. As in previous years, the main advice from students was to start the project as early as possible. The course team will support this by investigating minor changes to the schedule so that the project is introduced earlier in the course. The introduction to the start of the project also likely has an impact on the expectation that the labs should involve more work since currently the duration of the labs and project are similar: next year, we will begin a process of reducing the amount of time for the labs at the beginning of the course in order to introduce the project sooner.
2) Clarify lab instructions. Some aspects of lab 2, although improved, are still unclear. We will continue to clarify them as the labs are not meant to represent a barrier to the progress of the students. Additionally, we will recommend for the students to start the labs straight away rather than wait for lectures to take place.
3) A physical exam took place this year. Student feedback overwhelmingly supported an online digital exam, so that format will be used in future course iterations.

DD1354 - 2023-03-14

Antal respondenter: 35
Antal svar: 20
Svarsfrekvens: 57,14 %

ESTIMATED WORKLOAD



Comments

Comments (I worked: 0-2 timmar/vecka)

Jobbade totalt 5 heldagspass på 8 timmar under hela kursen exklusive föreläsningar osv

Comments (I worked: 3-5 timmar/vecka)

Väldigt lite faktiskt arbete, dock reflekterades det i slutbetyget. Kursen var dock intressant och jag hade nog egentligen velat lägga mer tid på den

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

I worked on the course material in bursts, making it difficult to estimate an average.

Förutom sista två veckorna då det blev mer timmar på projekt arbetet.

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

Lite svårt att uppskatta med tanke på att vi inte hade föreläsningar helt regelbundet utan lite mer flytande. Också då det känns som att projektveckorna har tagit mycket mer tid än vad labbarna har gjort.

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

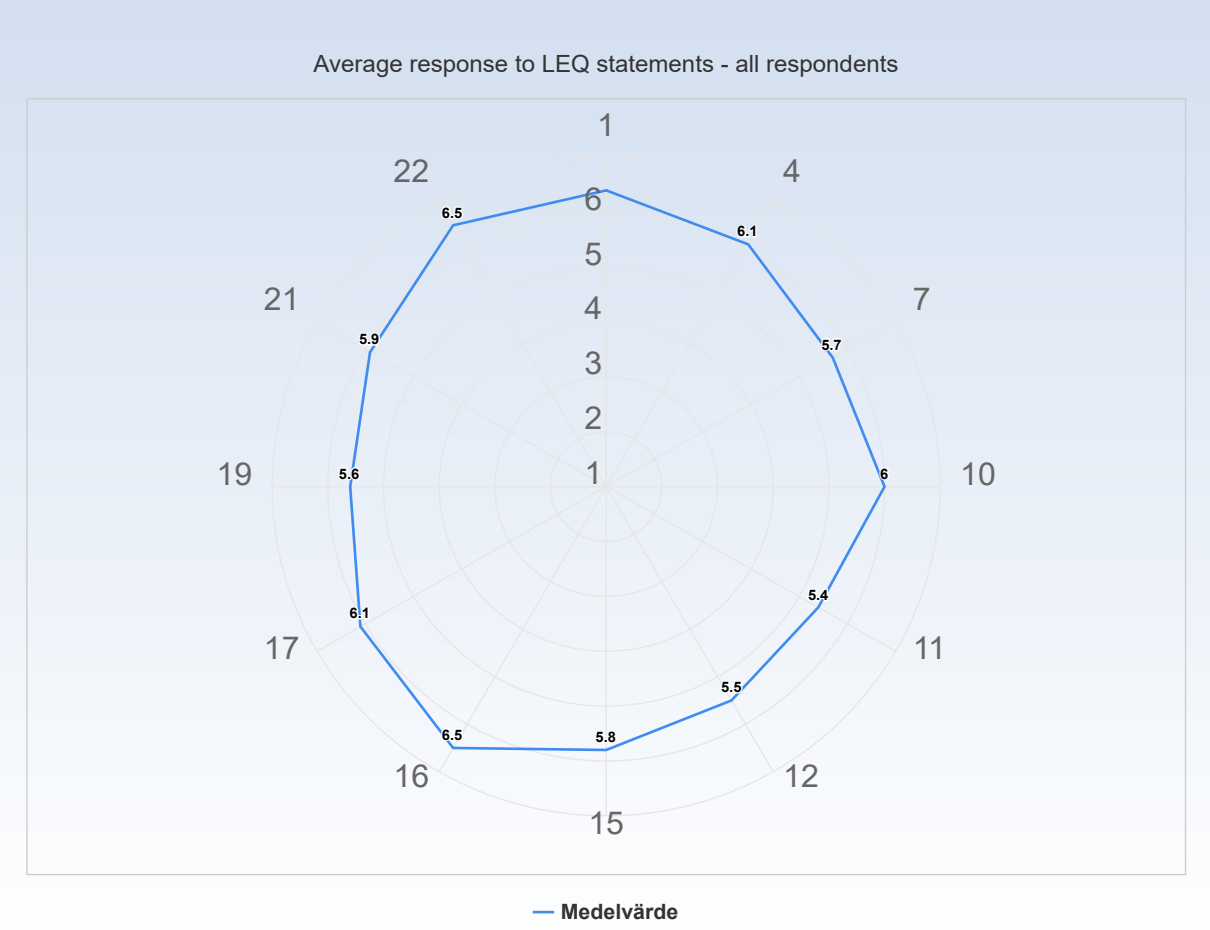
+ an extra 30 min to calculate this average 18,7555... to be exact

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

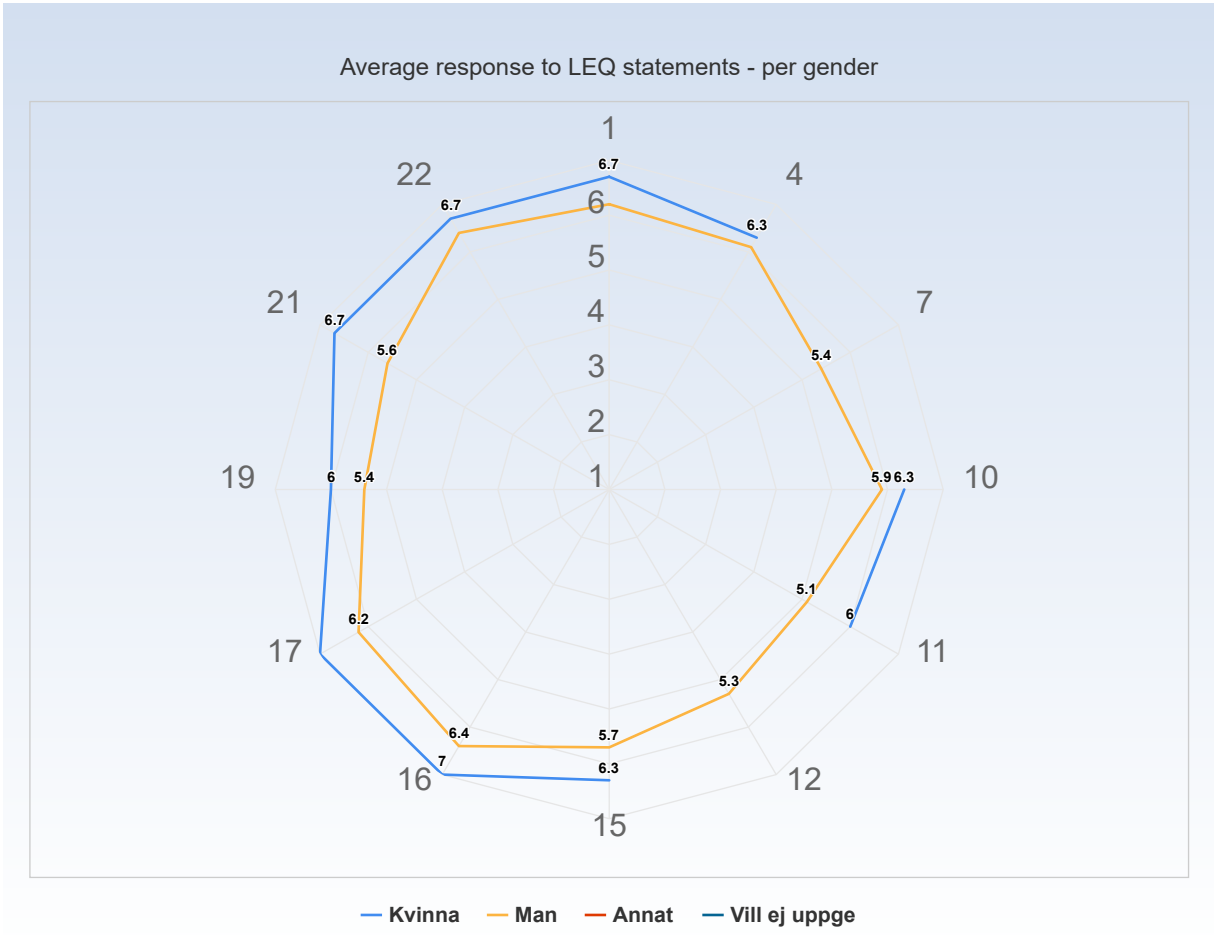
Bain, K. (2004). *What the Best College Teachers Do*, Chapter 5, pp. 98-134. Cambridge: Harvard University Press.

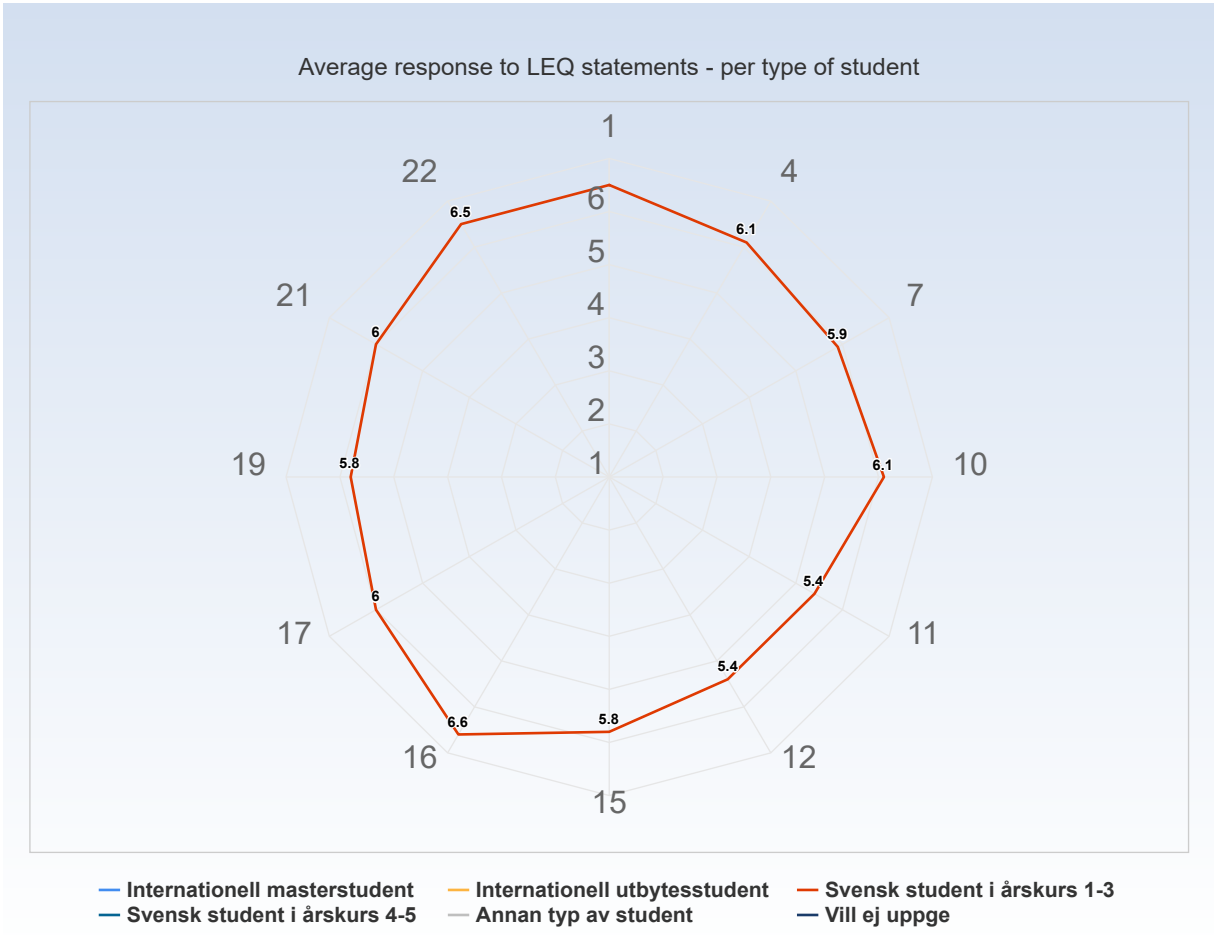
Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

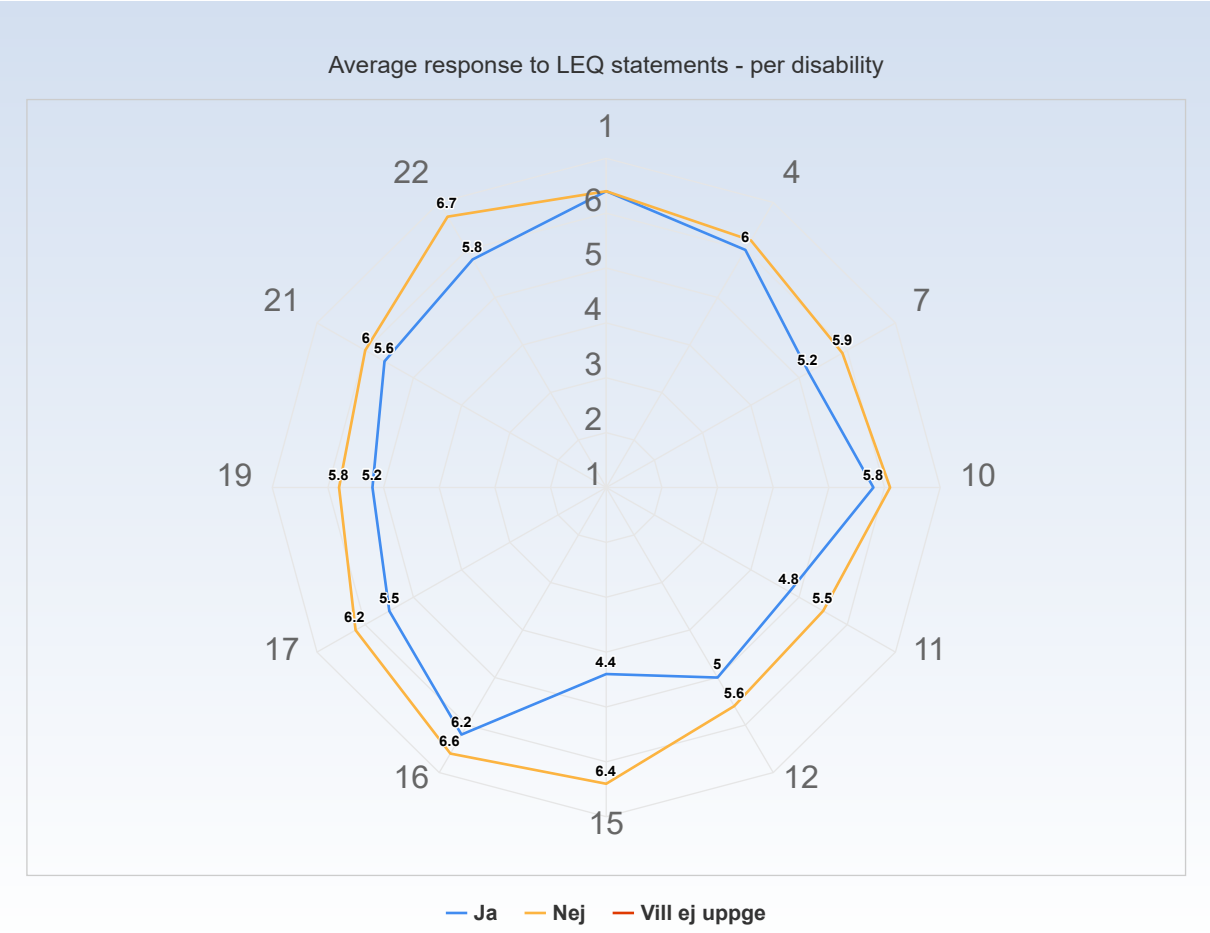
Elmgren, M. & Henriksson, A-S. (2014). *Academic Teaching*, Chapter 3, pp. 57-72. Lund: Studentlitteratur.

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
1
4
7
10
11
12
15
16
17
19
21
22
6
5
4
3
2
1
6.7
6.3
5.4
5.9
6.3
5.1
6
5.3
5.7
6.3
6.4
7
6.2
5.4
6
6.7
5.6
6.7
Kvinna
Man
Annat
Vill ej uppge


Average response to LEQ statements - per type of student
1
4
7
10
11
12
15
16
17
19
21
22
6
5
4
3
2
1
6.5
6.1
5.9
6.1
5.4
5.4
5.8
6.6
6
5.8
6
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 (My response was: Ja)
Det var otydligt att få information om man inte gick på varenda föreläsning.
Tentamen var lite väl skrivfokuserad så det kändes inte riktigt som man fick den tiden man behövde med dyslexi.
ADHD Svårt att planera och utföra uppgifter i kursen när det inte finns del-inlämningar utan allt ska in sista dagarna. Vi lyckades planera lite arbete varje vecka men det var lätt att boka om och skjuta upp när det ändå inte fanns deadlines. Jag tycker att det både är bra och dåligt att kursen är så här. Det förbereder på ett helt annat sätt än andra kurser gör, och kursen är så pass förlåtande ändå att det är okej. Inga hemska konsekvenser.
Ingen större påverkan. Not much effect.

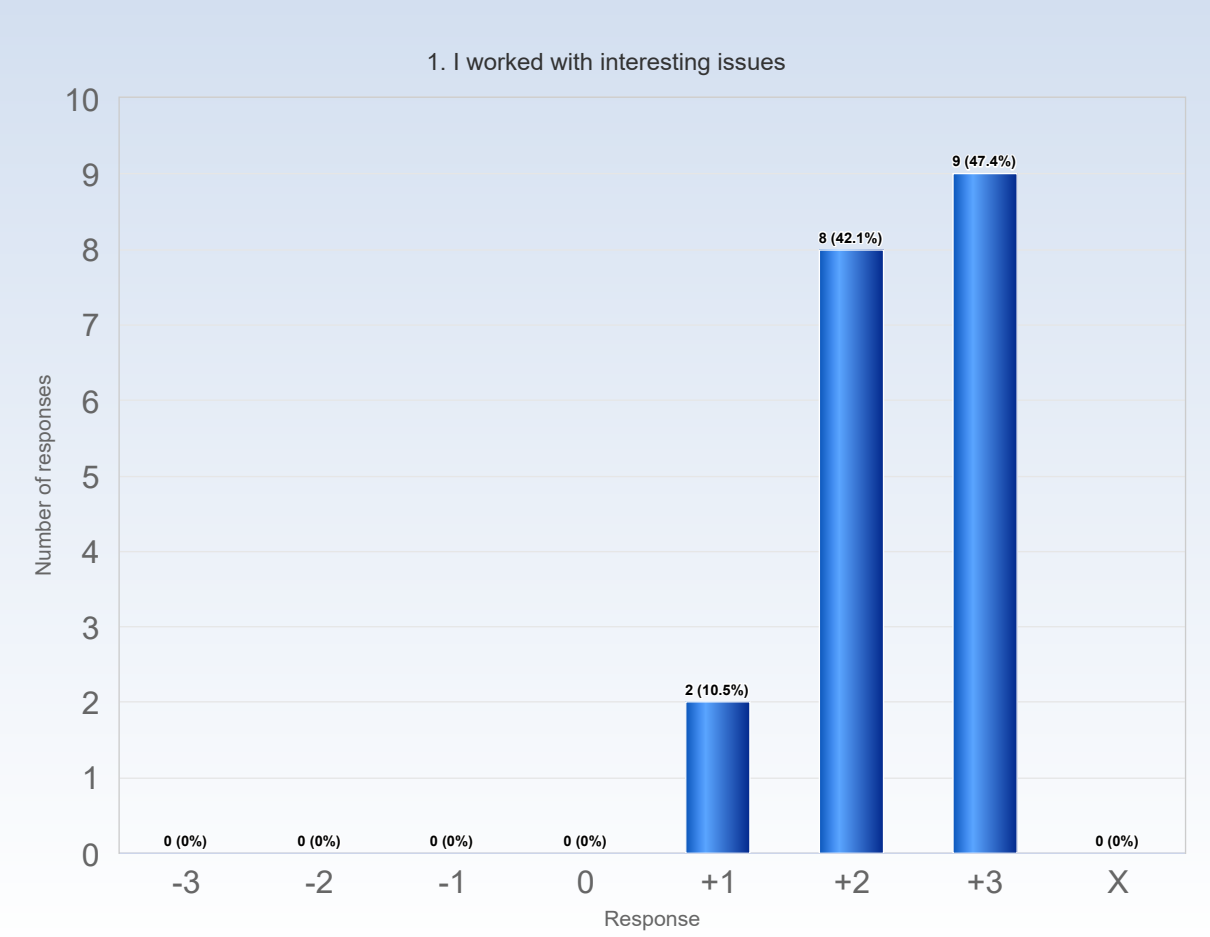
Comments (My response was: Nej)
Utreds just nu dock, så kanske inte är neurotypisk. Men inget diagnostiserat. Utifrån mitt perspektiv har inget i kursen påverkats av det.

RESPONSE DATA

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

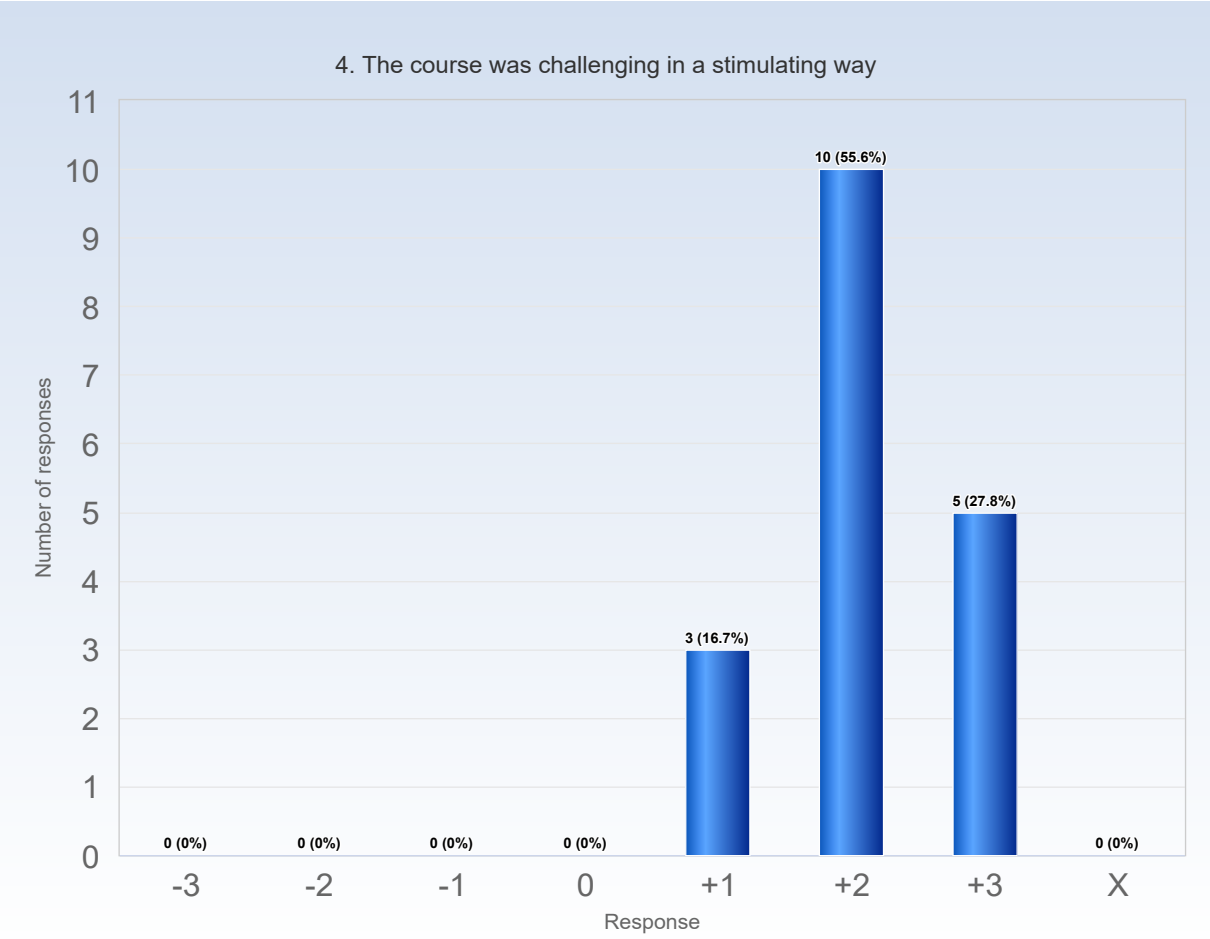
-3 = No, I strongly disagree with the statement
0 = I am neutral to the statement
+3 = Yes, I strongly agree with the statement

X = I decline to take a position on the statement



Comments

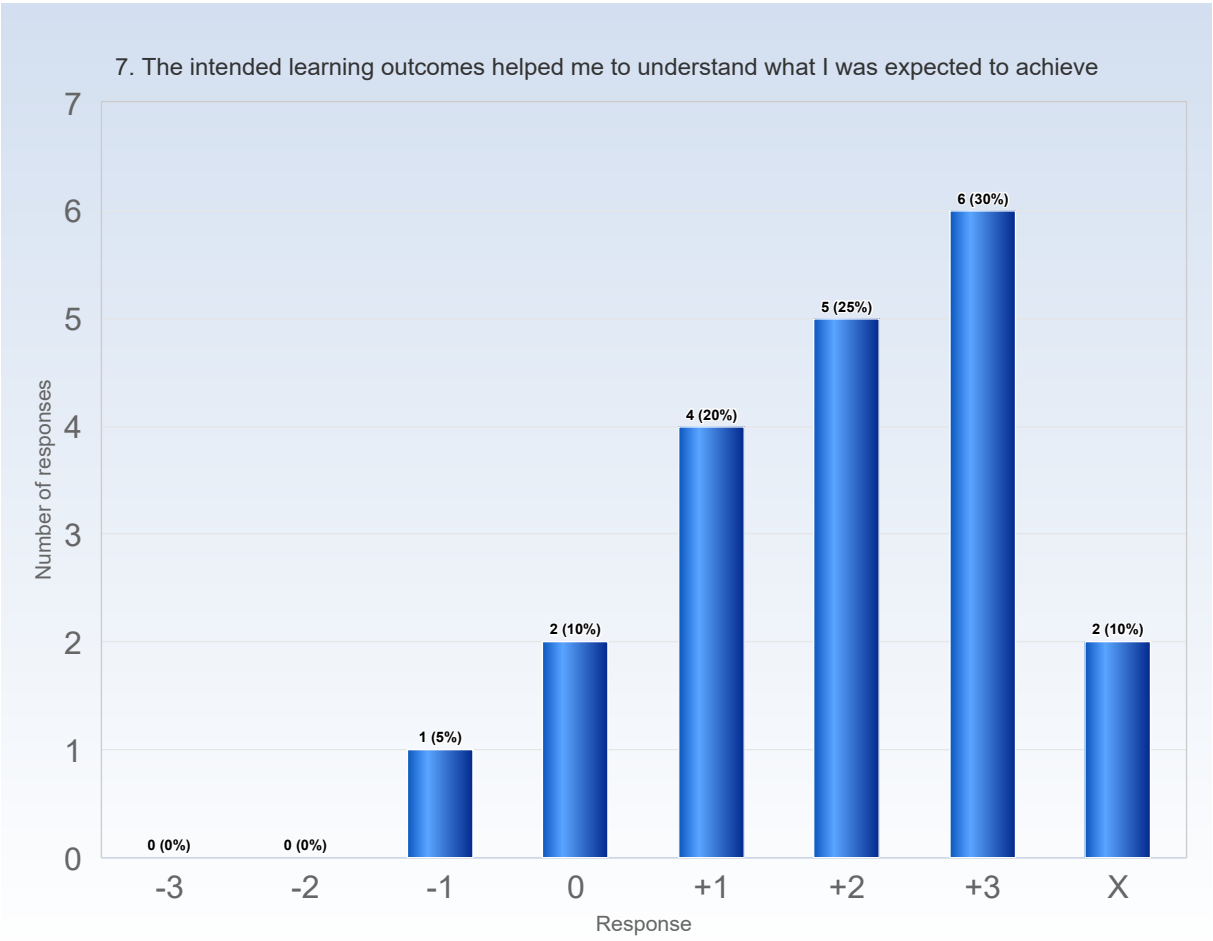
Comments (My response was: +3)
mycket intressanta ämnen med intressanta exempel från verkligheten som motivation



Comments

Comments (My response was: +2)
lite väl enkel i vissa områden men gav möjligheten att gräva ner sig

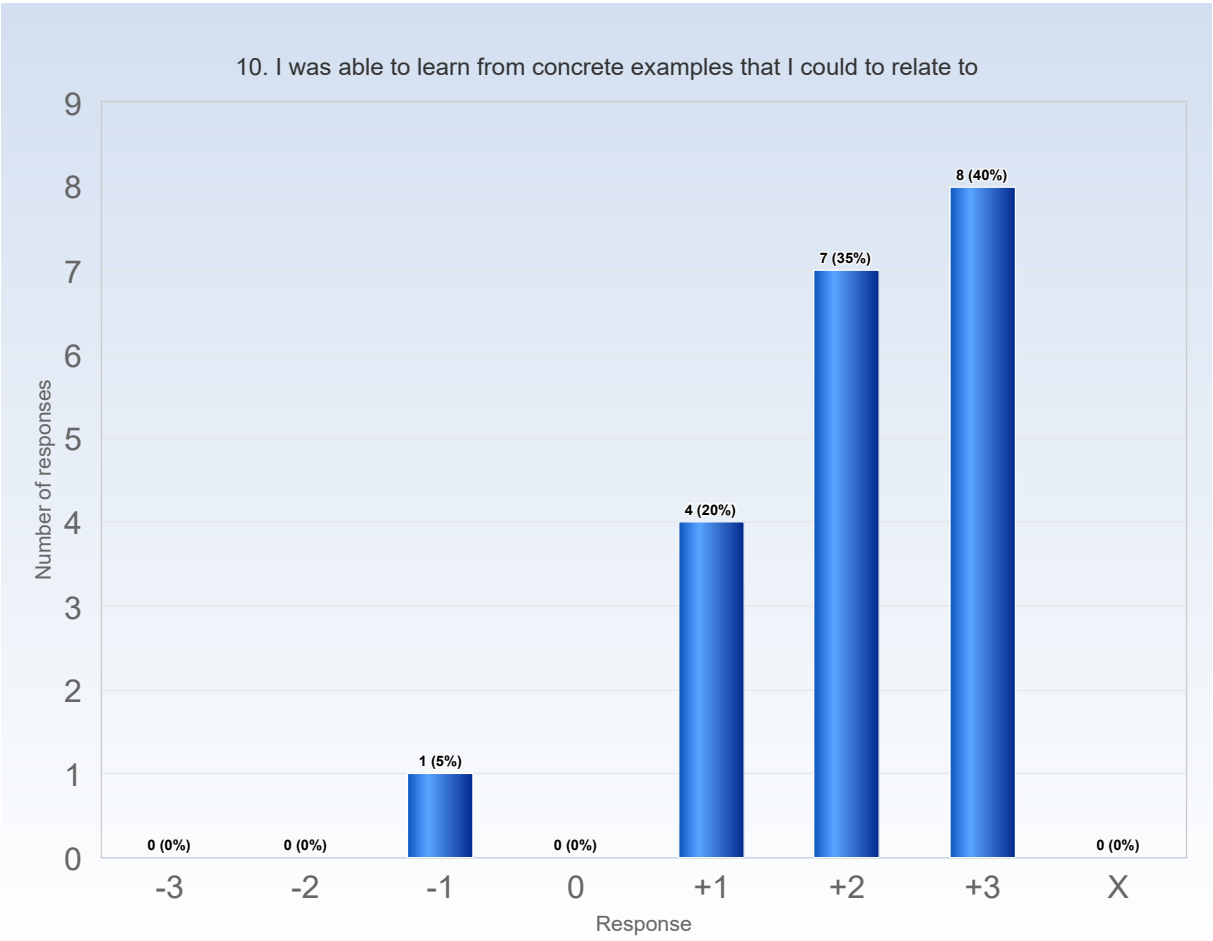
Comments (My response was: +3)
lagom utmanande för en nybörjare med många möjligheter till hjälp

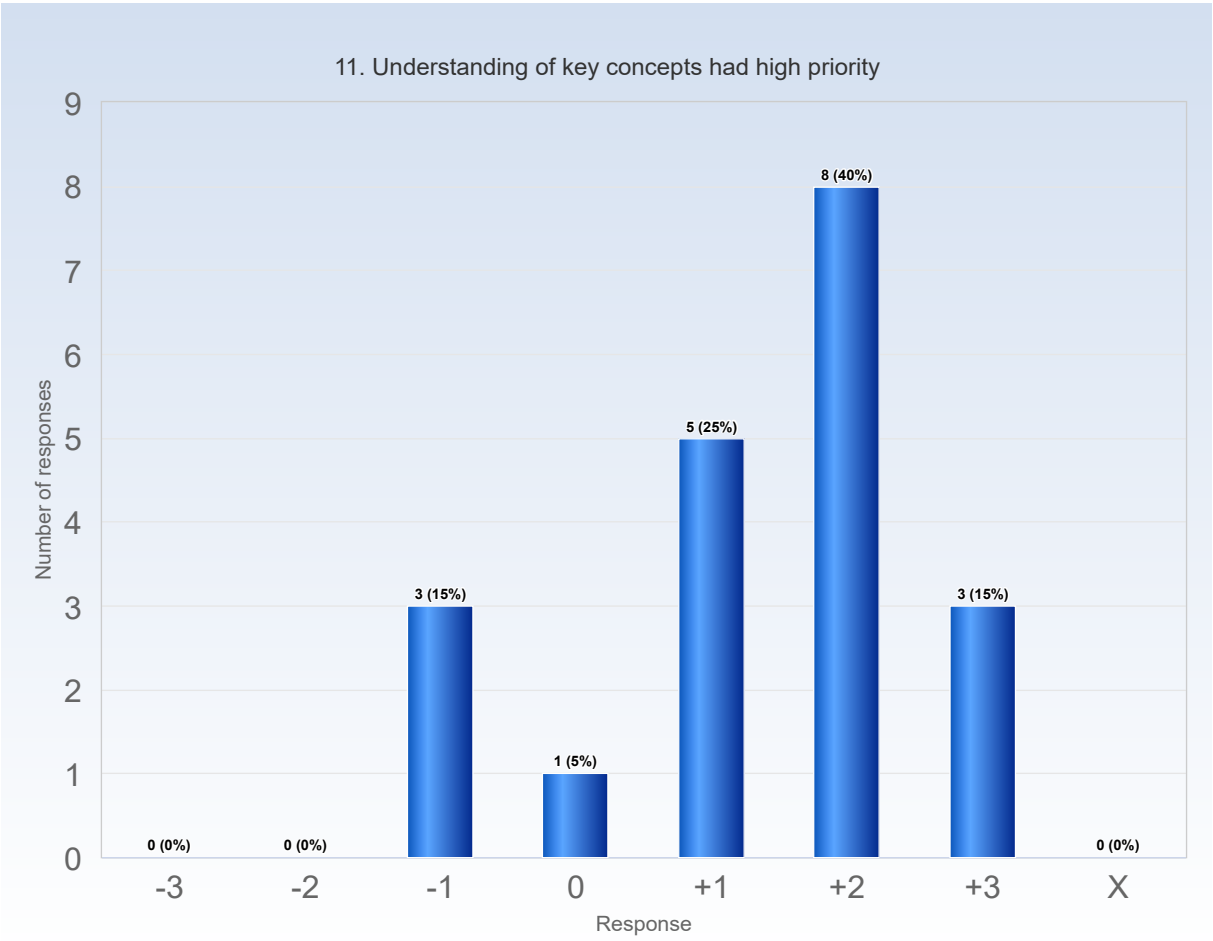


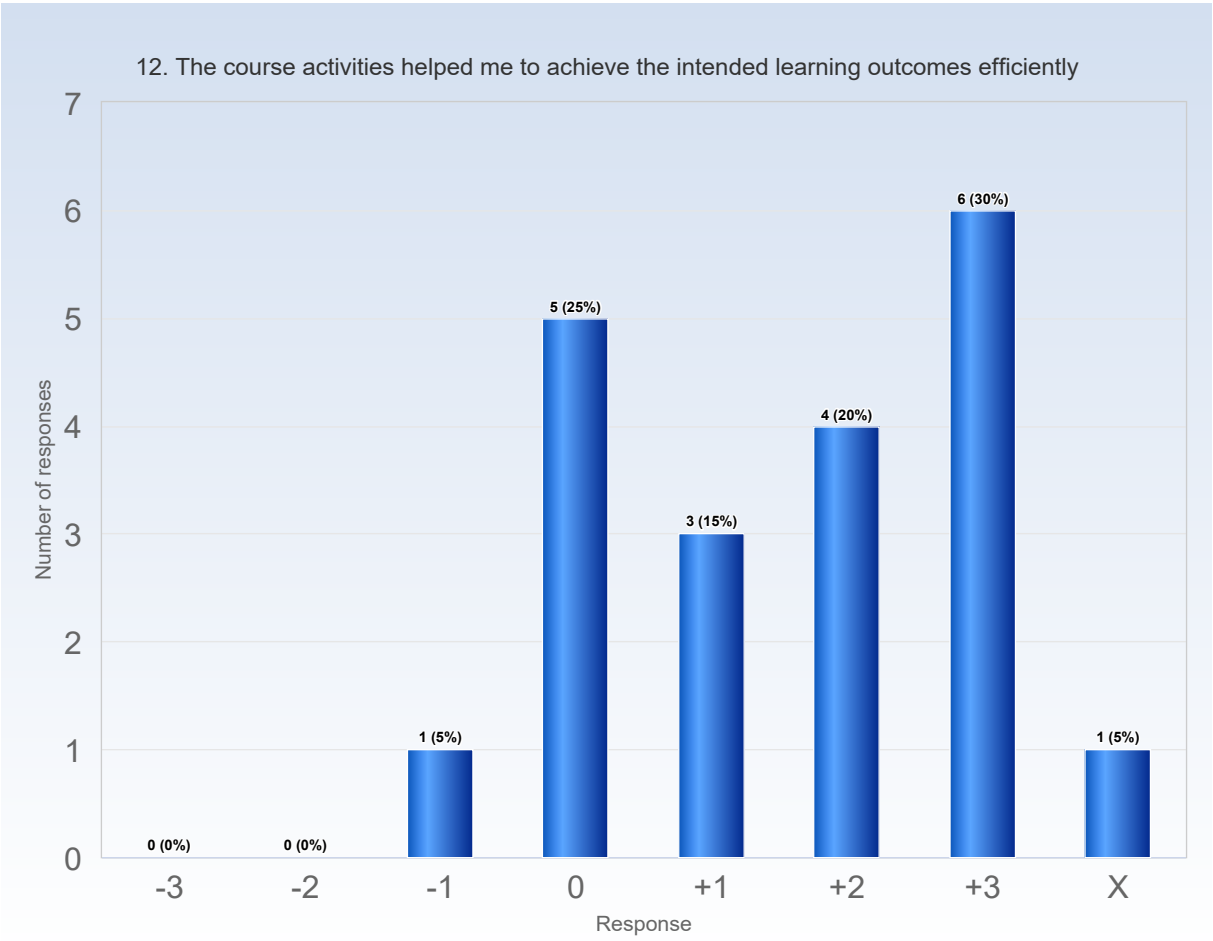
Comments

Comments (My response was: +3)
väldigt tydliga mål som var lätta att förstå

Comments (My response was: X)
Osäker på vart lärandemålen finns att läsa och vad de är?
Inte riktigt säker på vad som menas med lärandemålen


10. I was able to learn from concrete examples that I could to relate to
Number of responses
0
1
2
3
4
5
6
7
8
9
0 (0%)
0 (0%)
1 (5%)
0 (0%)
4 (20%)
7 (35%)
8 (40%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response

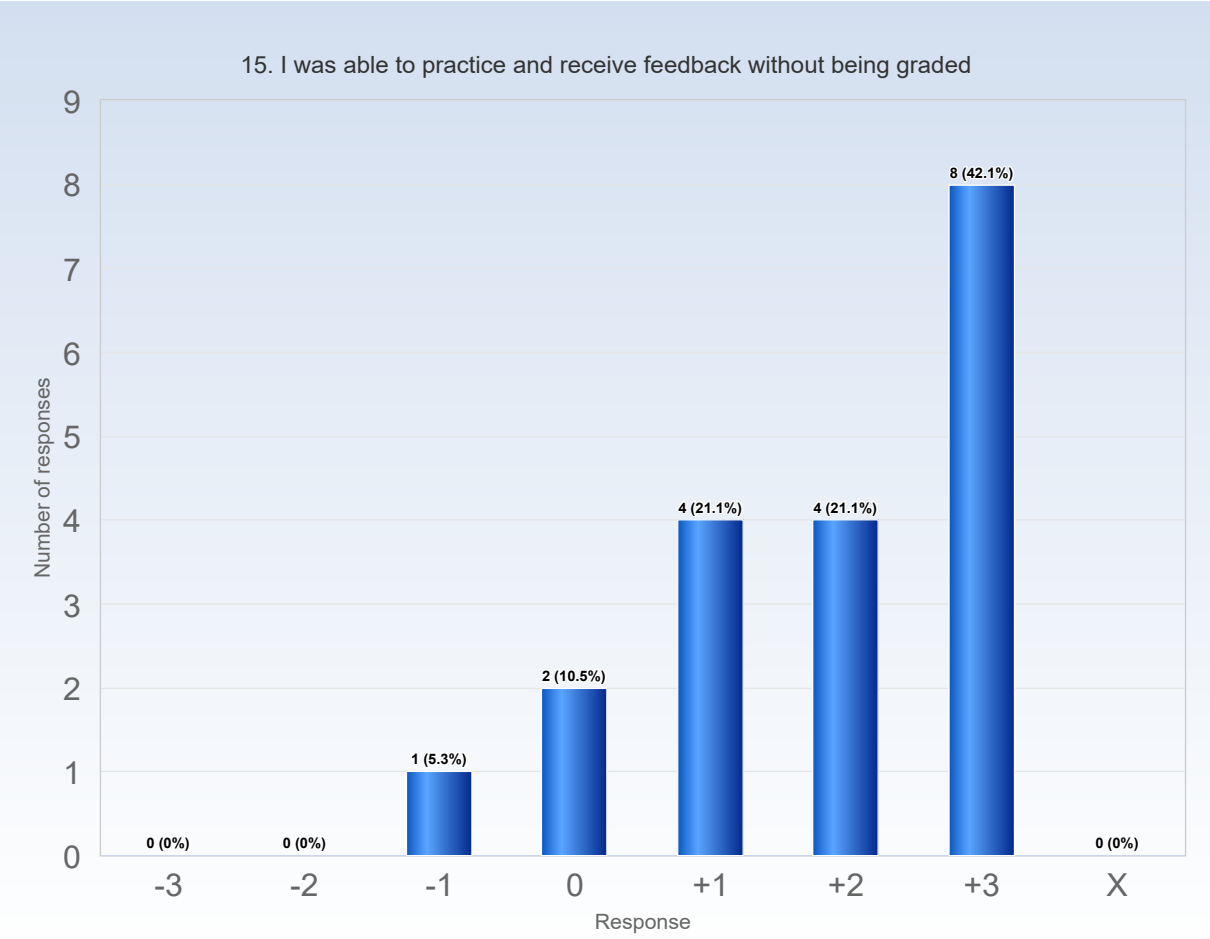

11. Understanding of key concepts had high priority
Number of responses
9
8
7
6
5
4
3
2
1
0
0 (0%)
0 (0%)
3 (15%)
1 (5%)
5 (25%)
8 (40%)
3 (15%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response



Comments

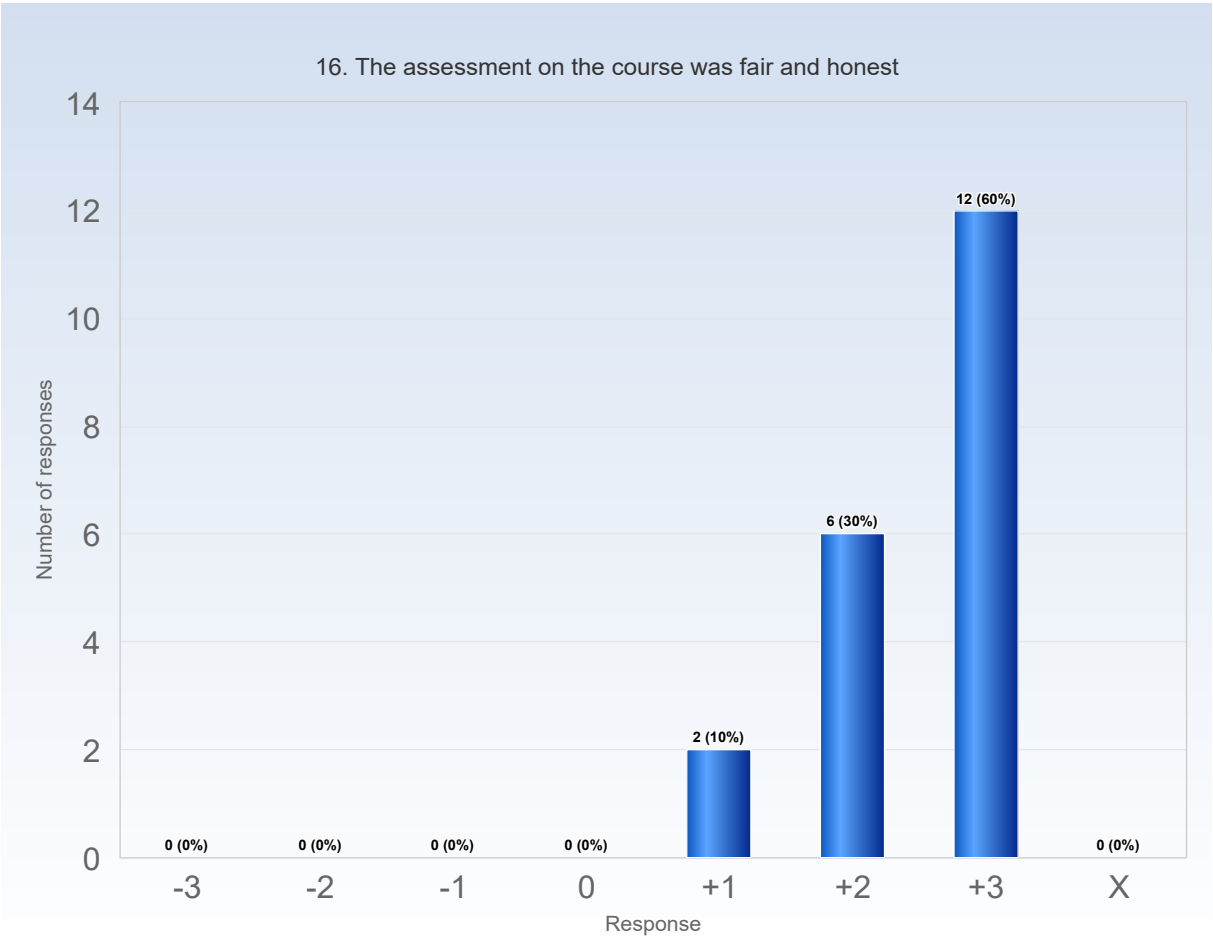
Comments (My response was: +3)
bra uppsatta uppgifter som guidade en till det man skulle lära sig

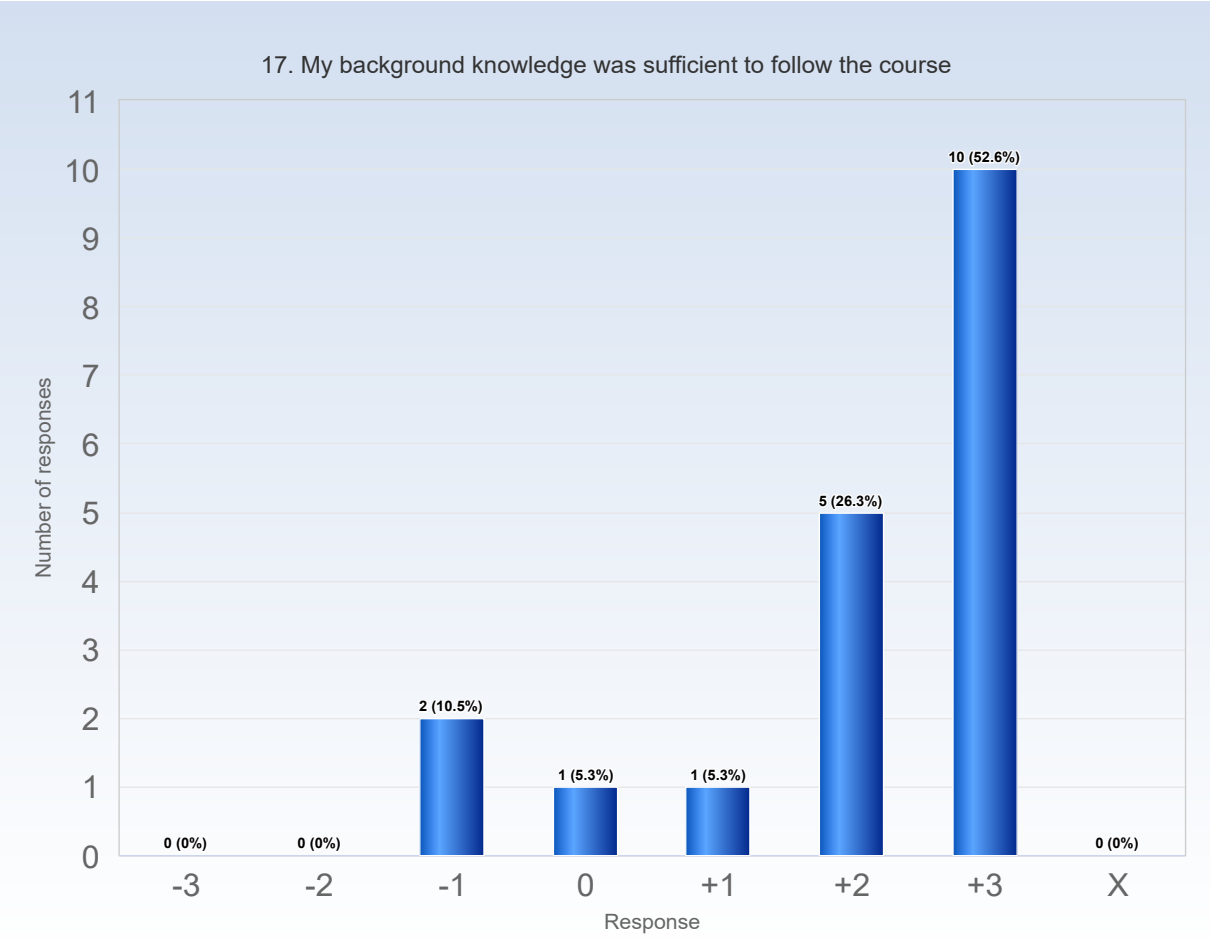
Comments (My response was: X)
Igen, vet inte vad lärandemålen är så känner inte jag kan svara på den frågan



Comments

Comments (My response was: +3)
många möjligheter till ej betygsatt feedback

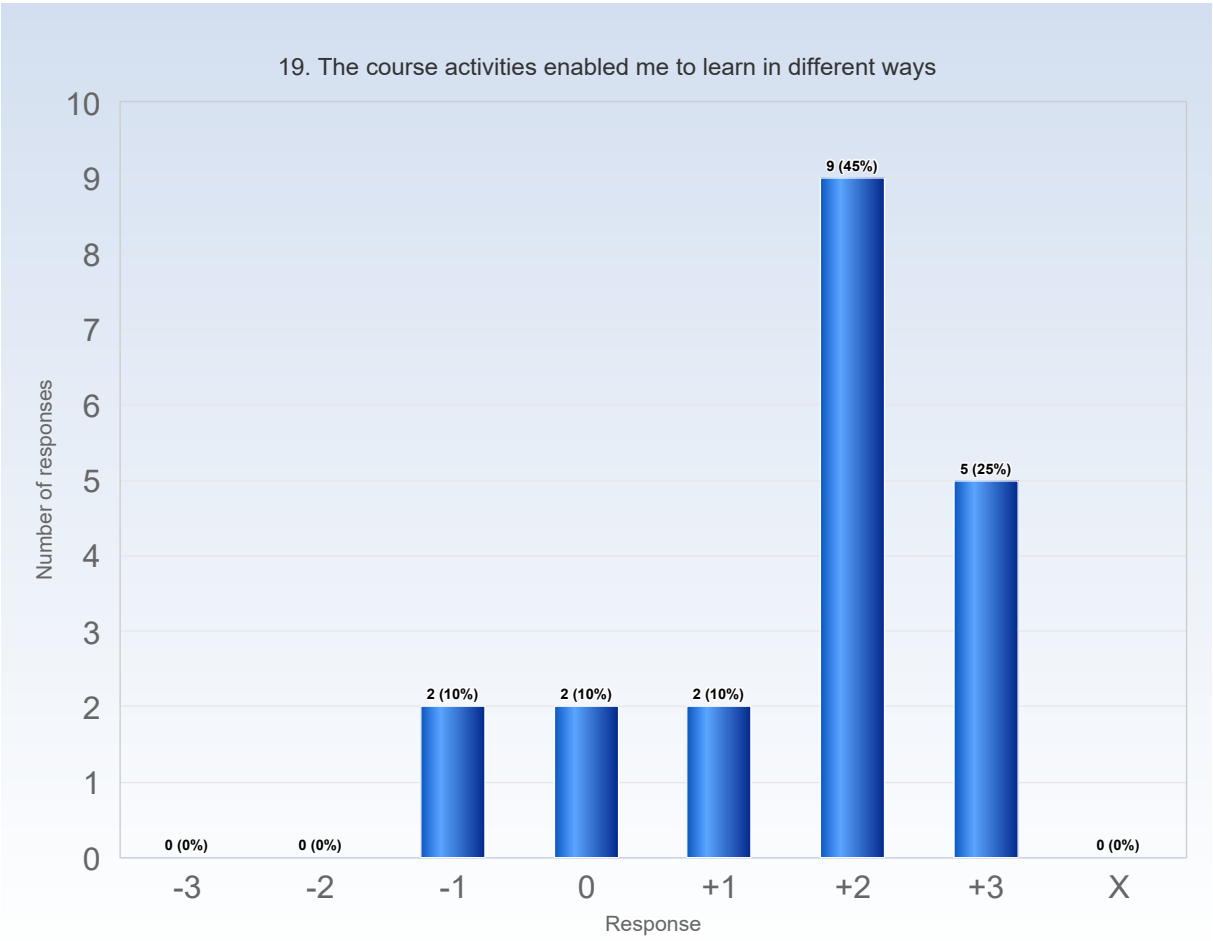

16. The assessment on the course was fair and honest
Number of responses
14
12
10
8
6
4
2
0
0 (0%)
0 (0%)
0 (0%)
0 (0%)
2 (10%)
6 (30%)
12 (60%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response

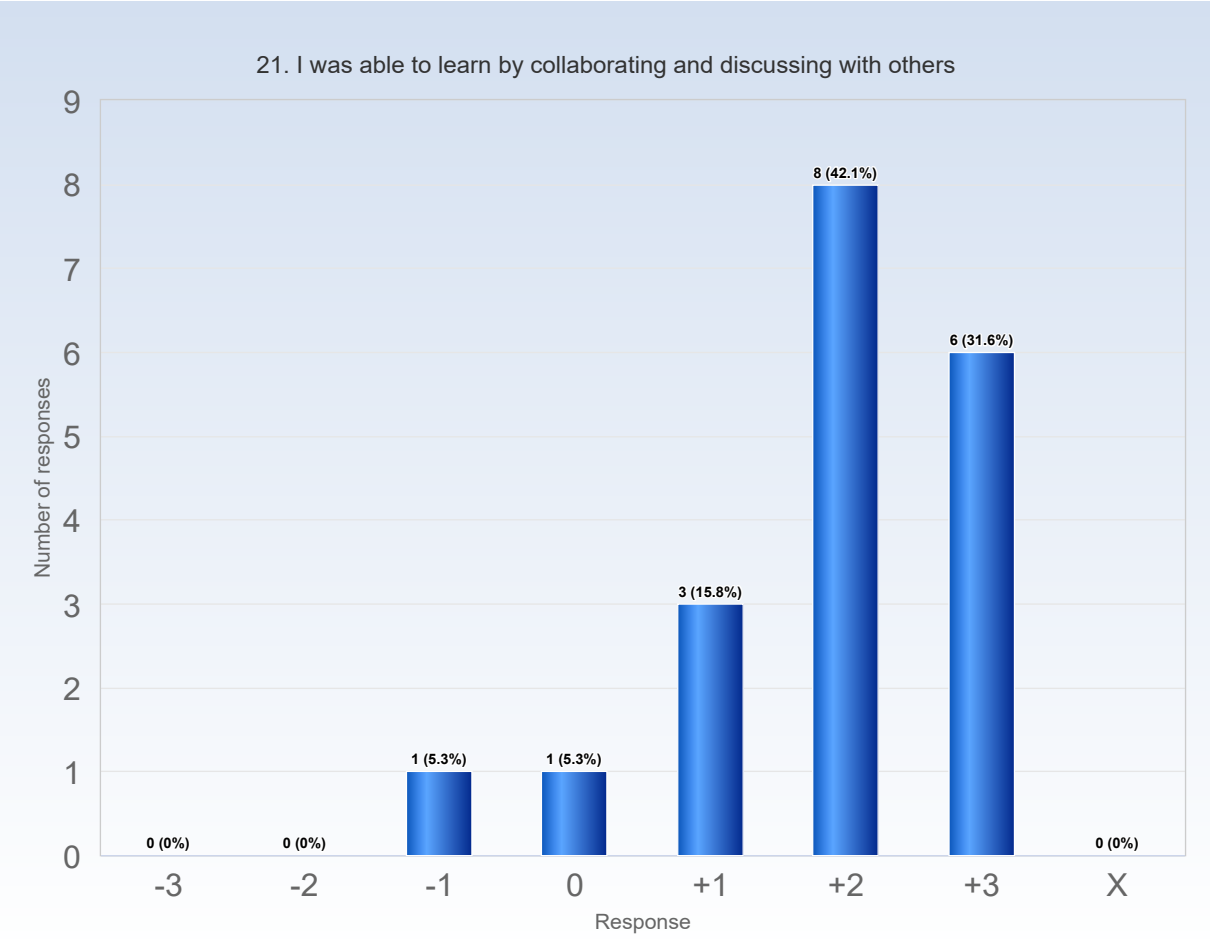


Comments

Comments (My response was: -1)
Unity var svårt att lära sig och kan fortfarande inte klara mig i unity

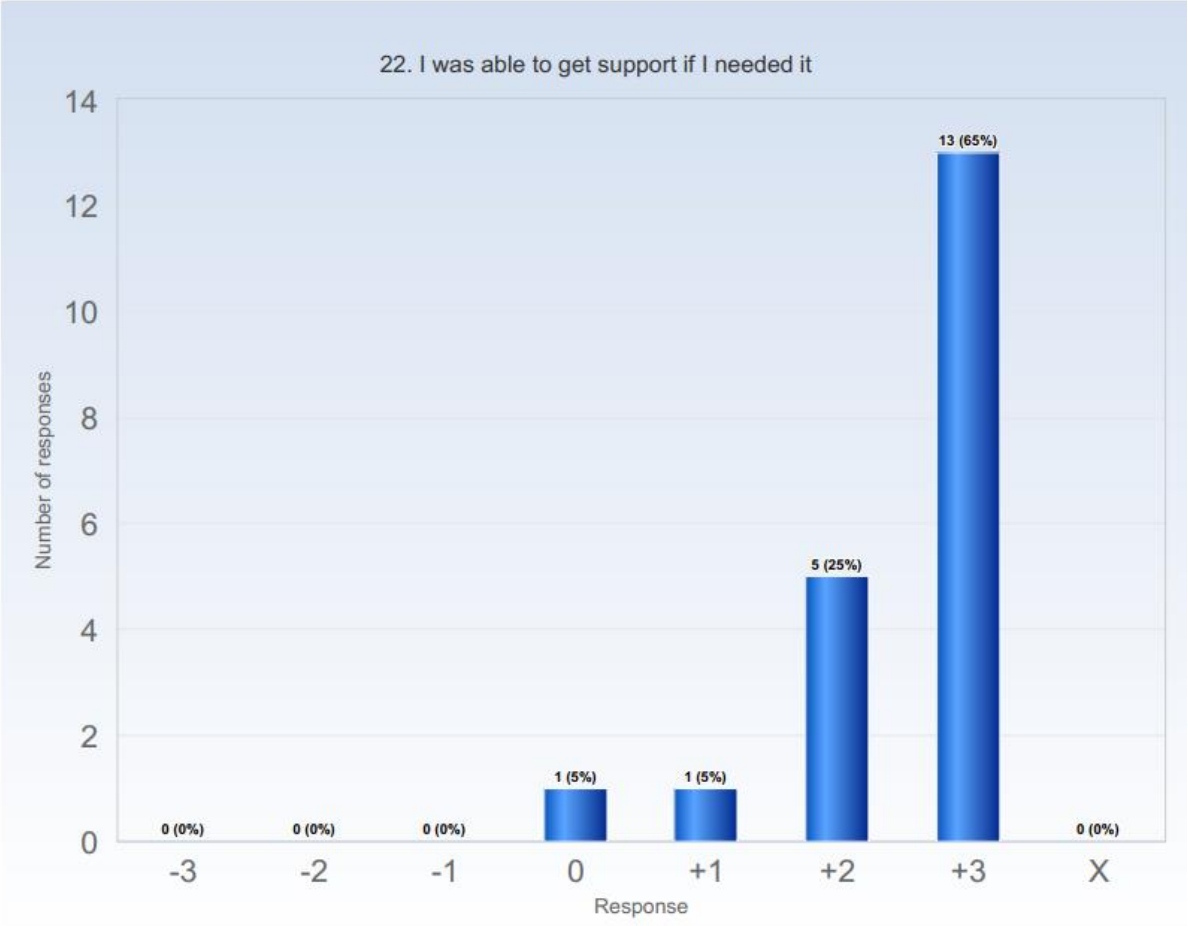
Comments (My response was: +3)
hade ingen tidigare erfarenhet med simulering och klarade mig utan problem med bara kunskap av dem huvudsakliga programmeringsspråken
Krävdes en del egen research i olika ämnen och en del hackandes i c# men tog mig igenom. Jag har dock läst flervarren tidigare och det känns som att mycket av det vi arbetade med var relaterat till det.


19. The course activities enabled me to learn in different ways
Number of responses
10
9
8
7
6
5
4
3
2
1
0
0 (0%)
0 (0%)
2 (10%)
2 (10%)
2 (10%)
9 (45%)
5 (25%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response



Comments

Comments (My response was: 0)
Arbetade själv på alla uppgifter i kursen så jag kan personligen inte säga mycket på denna punkt men möjligheterna fanns



Comments

Comments (My response was: +3)
många olika möjligheter till att ta hjälp