

Report - DD2419 - 2024-07-02

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):

Patric Jensfelt, patric@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.

Met with all project groups at the end of the course for 1h. A big part of that meeting was to get feedback about the course.

Poor gender balance

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.)

We met the project groups roughly every three weeks during the project work.

COURSE DESIGN

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

The course runs in two main phases. In the first phase the students complete an individual assignment. The purpose of this is to ensure that every individual has the skills and knowledge to contribute to the work in the group. We call this the "boot camp". At the end of boot camp the students have to pass an oral examination where they present their solution to a final boot camp assignment and that they have general knowledge needed to move on to the project. Passing this part is needed before entering the second phase, which is the group project.

The group work is where most of the time in the course is spent. The groups are created by the teachers. The aim is the that groups should be

diverse (different skills and backgrounds) and that no one knows anyone else ideally. The latter is not possible. All teams are given the same task to solve. To support these learning activities there are initially lectures on specific topics important for the project and project meetings between project group and teaching team. Students are given a total of four milestones that gradually increases the requirements on the system. We meet the groups after each milestone to give feedback.

The biggest changes since last year was

* redefined the milestones so that they were more centered on the integrated system and not the core components in that system with the idea that this would lead to thinking more about the overall project goals and not the problems that individuals face with they little piece of the system,

* the lectures on the core topics where carried out in half-class and focused much more on discussion within the groups to identify challenges and possible solutions.

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?

We ask each student to make a budget for how much time to spend and also log the time they spend. I will come back to this in free form in an attachment with graphs to show the workload.

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?

All but one student passed the course. This student is working on meeting the requirements over the summer. The result is similar to previous years.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

Very few answers so hard to draw conclusions. The main comment is that they spent more time than the course is worth in credits.

SUMMARY OF STUDENTS' OPINIONS

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

I would say that the few people that did answer the course evaluation were very positive. The value on all LEQ statements are above 6.

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 result in terms of what the groups accomplished was a big less than expected and the change the milestones did not quite have the desired effect. There was still too much focus on the components and not the overall system. To build a system you need to think of the system. It is not the pieces that matters most but what they can do together. We need to stress this even more next time.

ANALYSIS

Is it possible to identify stronger and weaker areas in the learning environment based on the information you have gathered during the evaluation and analysis process? What can the reason for these be? Are there significant difference in experience between:

- students identifying as female and male?

- international and national students?

- students with or without disabilities?

No such data

PRIORITIZED COURSE DEVELOPMENT

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

* Most of the robot platforms have some damage so time need to be spent to ensure that they are functional again of the next course round.

* Rewrite the milestones again to put even more focus on the integrated system

OTHER INFORMATION

Is there anything else you would like to add?

Nope

Analysis of the time spent

The students were asked to make a plan for the time spent on the project and to report time throughout the course as this is one of the main limiting resources. They were reminded that the course is worth 9hp and that they already spent time on the initial assignment and lectures and that there are an additional set of lectures, seminars and meetings. 9hp corresponds to 240h of full time studies (which students do not come close to in most courses).

With 6 x 2h lectures, 4 x 1h workshops, 1 x 2h seminar, and total of project 4.5h project meetings the students have 22,5h scheduled time in addition to the project and the initial assignment (BC). That is what is left is $240 - 22,5 - BC = 217,5 - BC$.

The figure on the next page shows, for each student the time they planned and what they actually spent and on the page after that the time per week is seen per student.

Median 230 / 222,5 / -9,5 (planned / actual / diff(actual-planned))

Mean 234 / 241 / -7

Min. 139 / 163 / -193

Max. 563 / 434 / 183

Std. 77 / 70 / 62

16 students had a diff between actual and planned time that was less than +/-20

15 students spent more than 20 less than they planned

9 students spent more than 20 more than they planned.

Some of the most interesting things are that

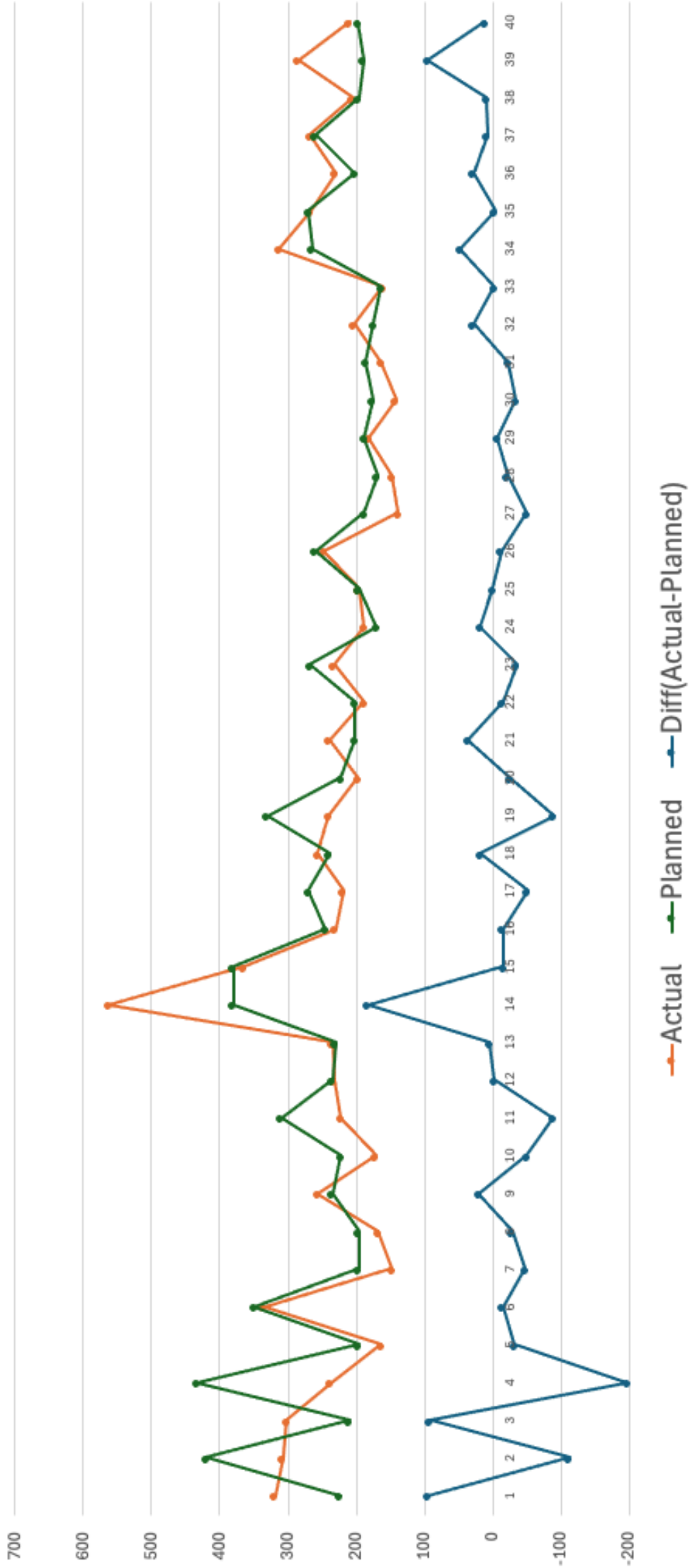
1. Most student plan to spend too much time! This was pointed out at the meeting that we had with each group after the time plan was made.

That the students conclude at the end that they spent too much on the course is something they actually planned for from the start.

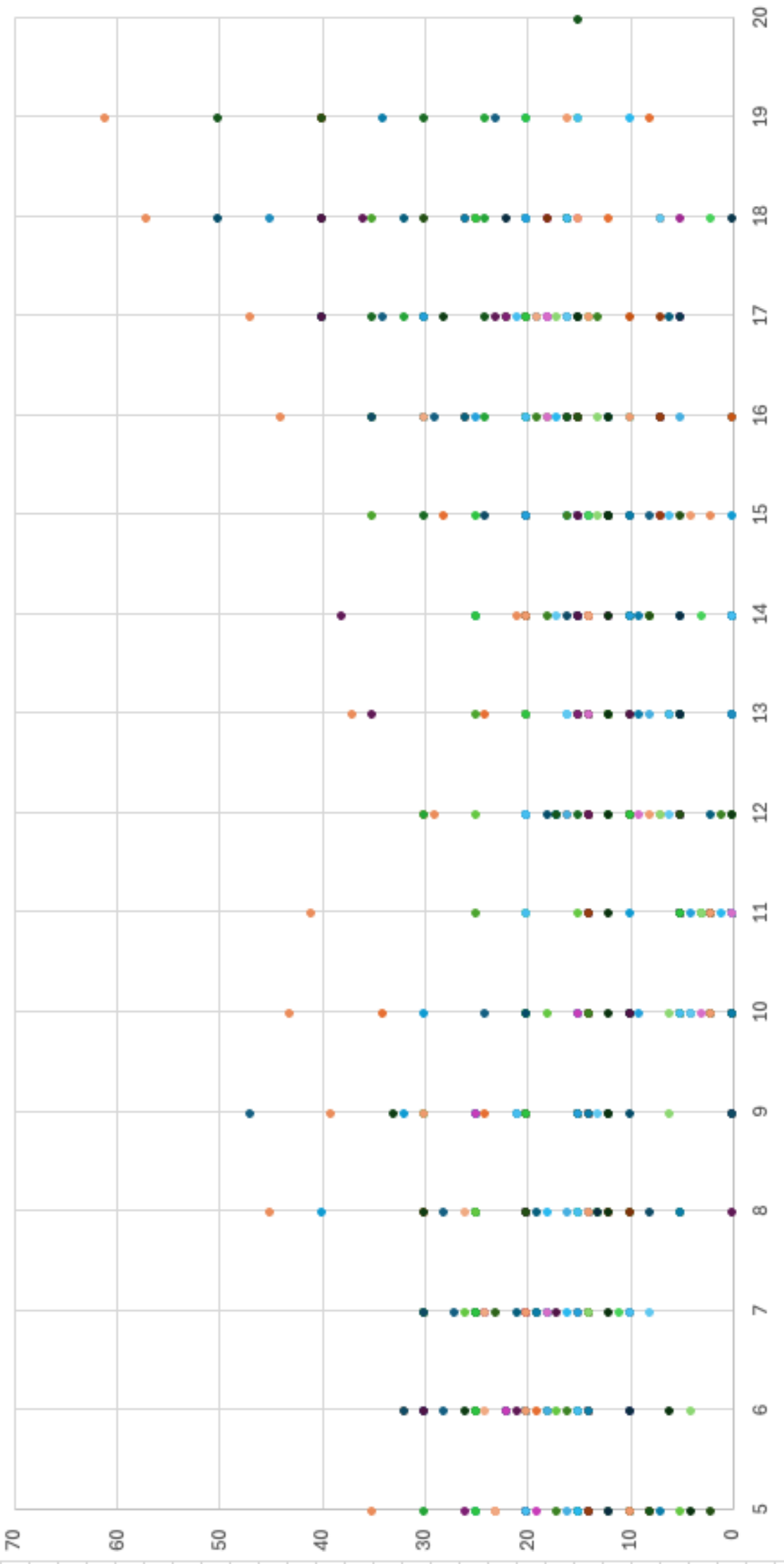
2. Students spent less time than they planned on average.

3. There is a big difference between students and there are some students that spent way too much and some that probably did not spend enough to get the full learning experience but this is almost impossible to show.

Planned time (hours) on project versus actual time spent



Hours spent on project per week and person



DD2419 - 2024-05-27

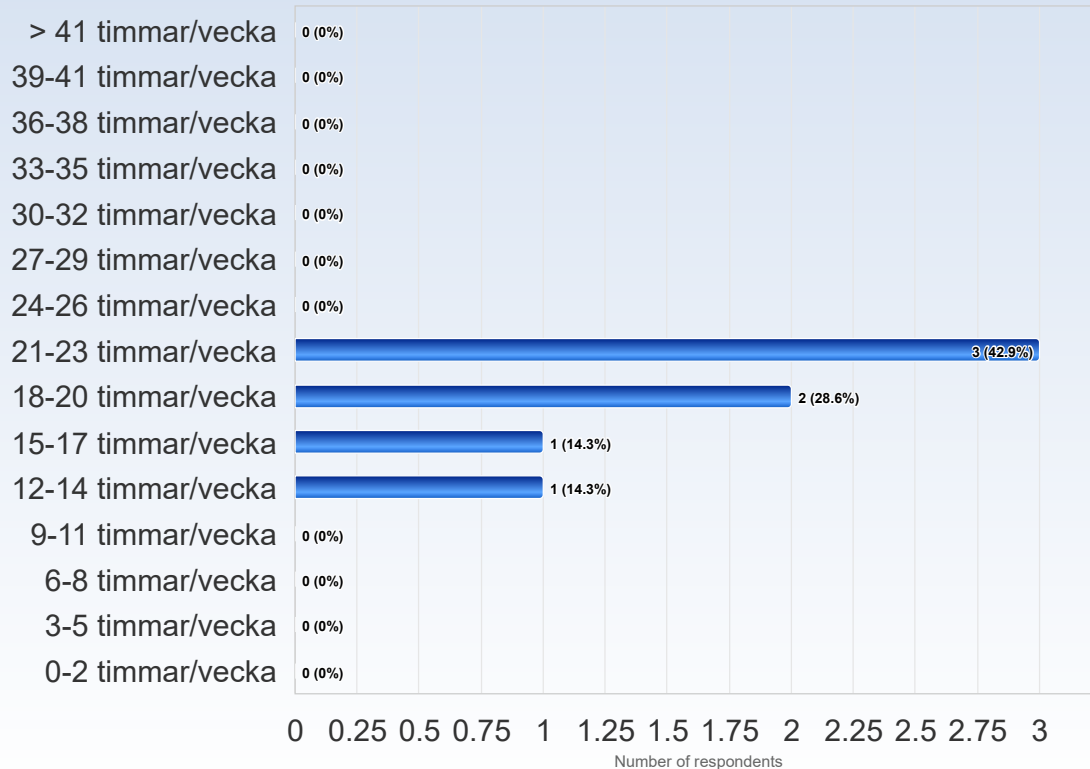
Antal responder: 40

Antal svar: 7

Svarsfrekvens: 17,50 %

ESTIMATED WORKLOAD

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



Comments

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

We worked as if the course was 15 Hp but only received 9 Hp... Not great

Comments (I worked: 21-23 timmar/vecka)

All the members of the team need to spend at least 20hrs per week to get satisfactory result in the end.

From the time perspective, this course costs much more than other courses and the gain also corresponds.

LEARNING EXPERIENCE

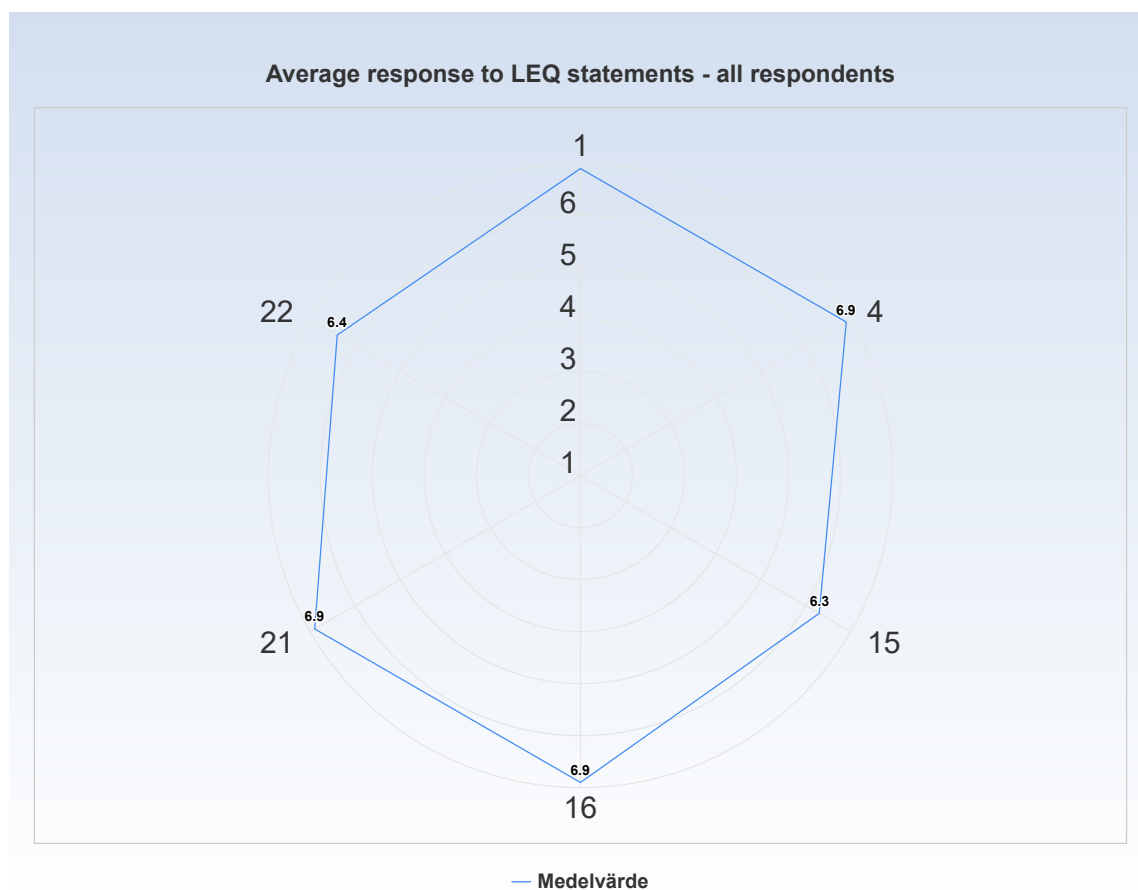
The polar diagrams below show the average response to the LEQ statements for different groups of respondents (only valid responses are included). The scale that is used in the diagrams is defined by:

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.

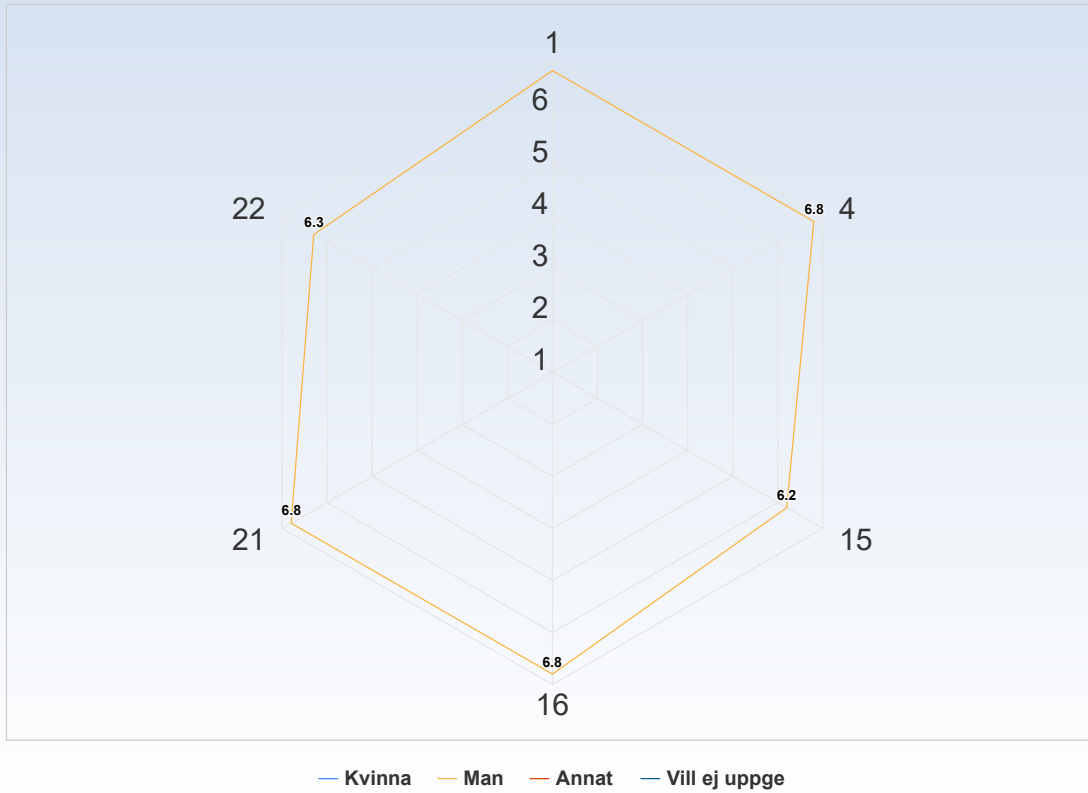
Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

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

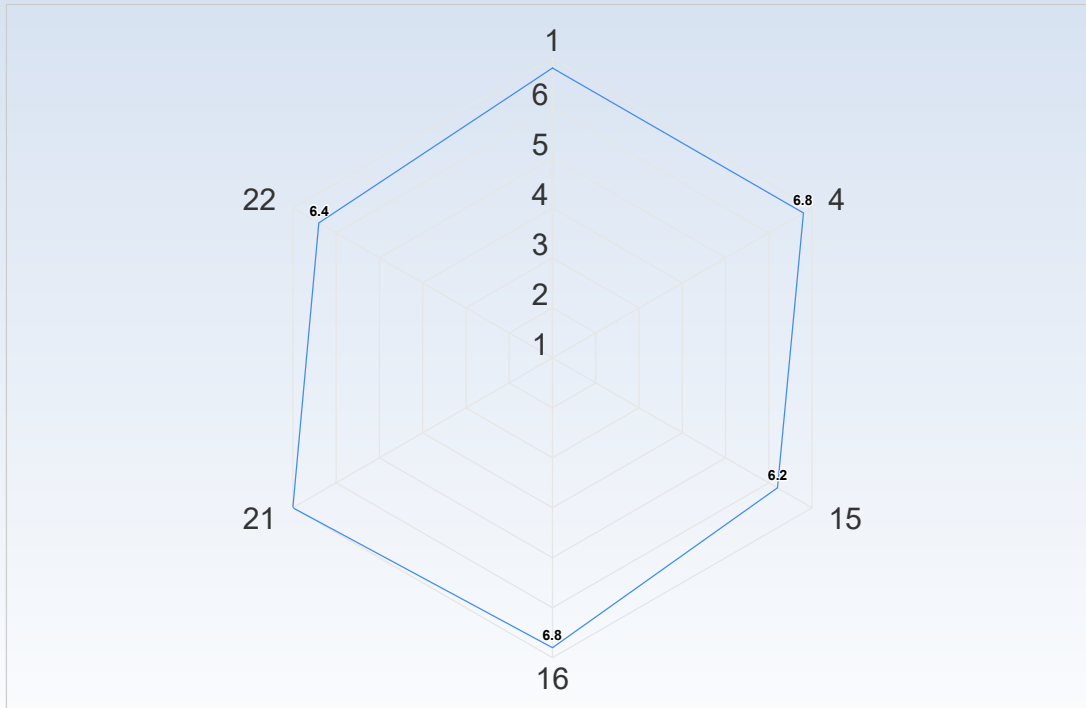


Comments

Comments (I am: Kvinna)

There are fewer female than male in this course, although I think gender has no impact.

Average response to LEQ statements - per type of student



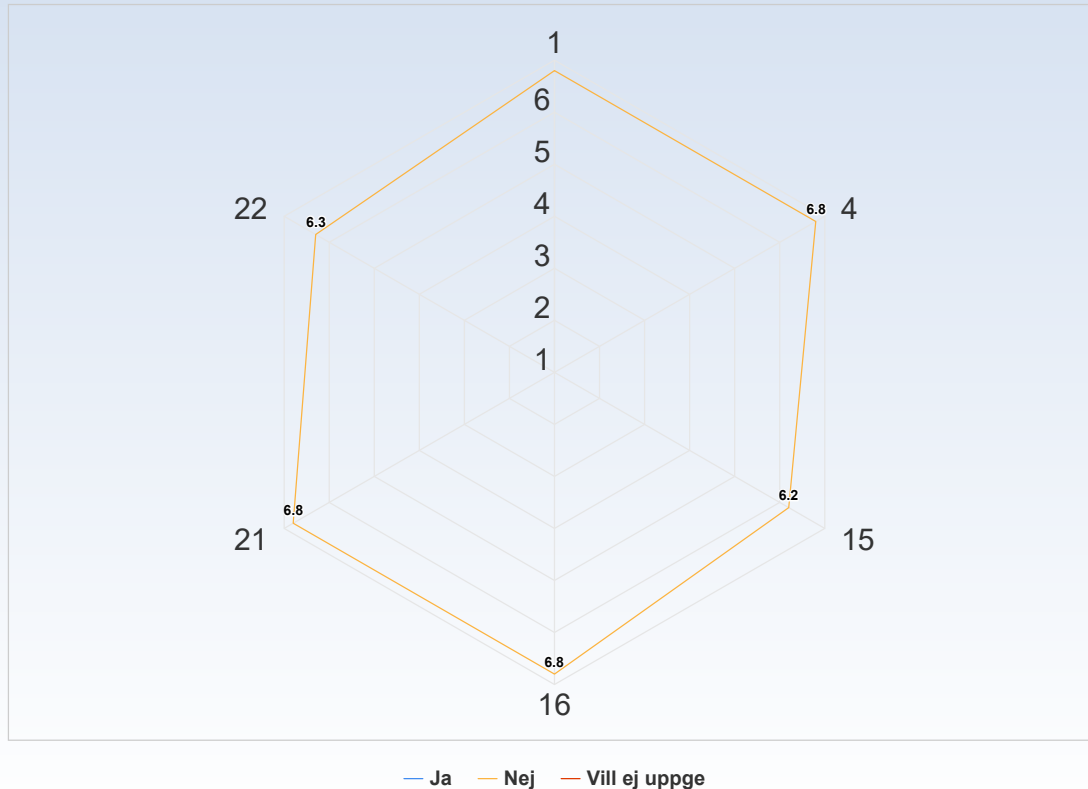
— Internationell masterstudent — Internationell utbytesstudent — Svensk student i årskurs 1-3
— Svensk student i årskurs 4-5 — Annan typ av student — Vill ej uppge

Comments

Comments (I am: Internationell masterstudent)

Everyone speaks English, no impact from this perspective

Average response to LEQ statements - per disability



GENERAL QUESTIONS

What was the best aspect of the course?

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

The fact that we got to work on a large project in a group and create everything from scratch. It has been very giving!

What was the best aspect of the course? (I worked: 21-23 timmar/vecka)

The best aspect is being able to work with a mobile robot from scratch and integrate an autonomous system to understand the robot from a systems perspective.

What would you suggest to improve?

What would you suggest to improve? (I worked: 18-20 timmar/vecka)

The workload. The course is only 9 Hp and the amount of work that at least some of us students put into the course well exceeds that.

What would you suggest to improve? (I worked: 21-23 timmar/vecka)

The presentation of each milestone works as motivation to push us forward. It would also be helpful to have a workshop between pre-MS3 and MS4, allowing groups to share experiences with each other, might help us become aware of potential issues well before MS4.

What advice would you like to give to future participants?

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

Work all throughout the course. It's easy to slack off when P3 ends and P4 starts since you think you have a lot of time, but you don't. Start working on the system integration at once!

What advice would you like to give to future participants? (I worked: 21-23 timmar/vecka)

Plan the project and test system integration as early as possible.

Is there anything else you would like to add?

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

Great course. I have learned a lot!

Is there anything else you would like to add? (I worked: 21-23 timmar/vecka)

No

SPECIFIC QUESTIONS

RESPONSE DATA

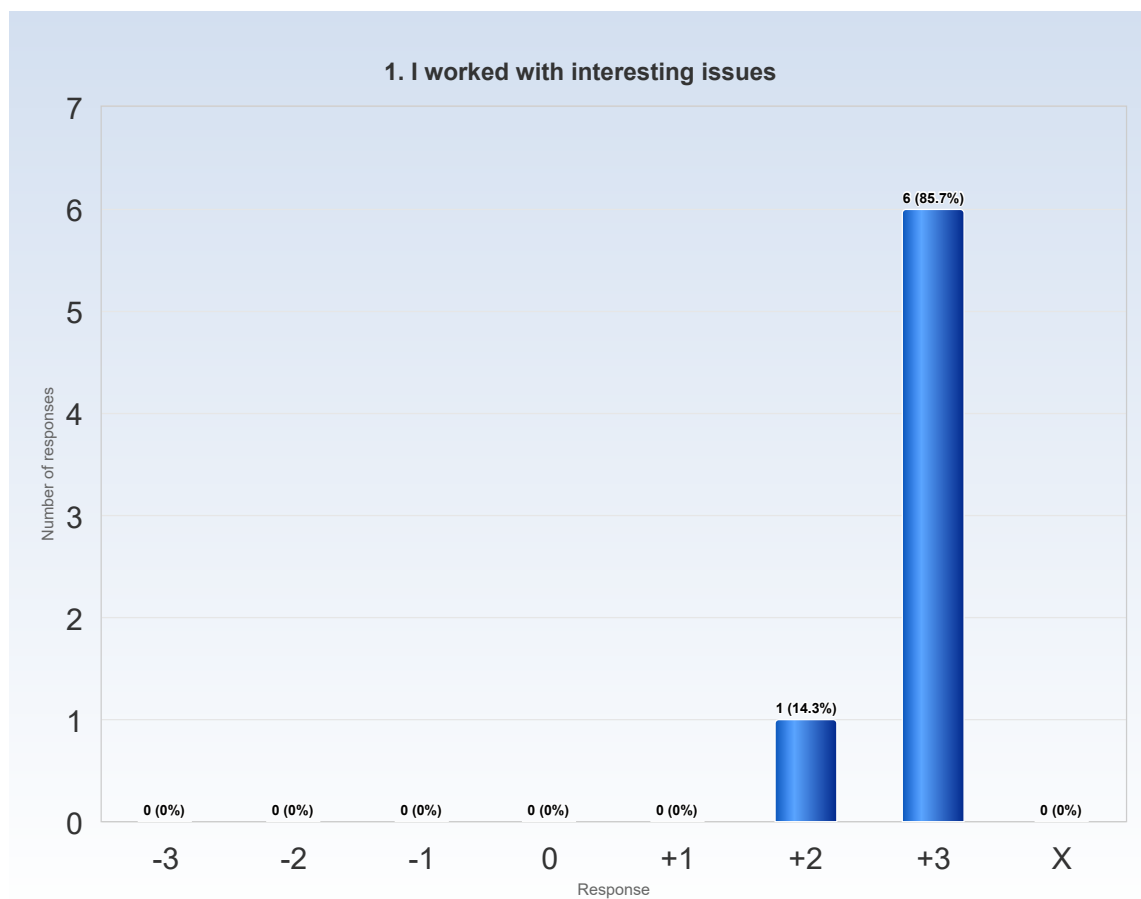
The diagrams below show the detailed response to the LEQ statements. The response scale is defined by:

-3 = No, I strongly disagree with the statement

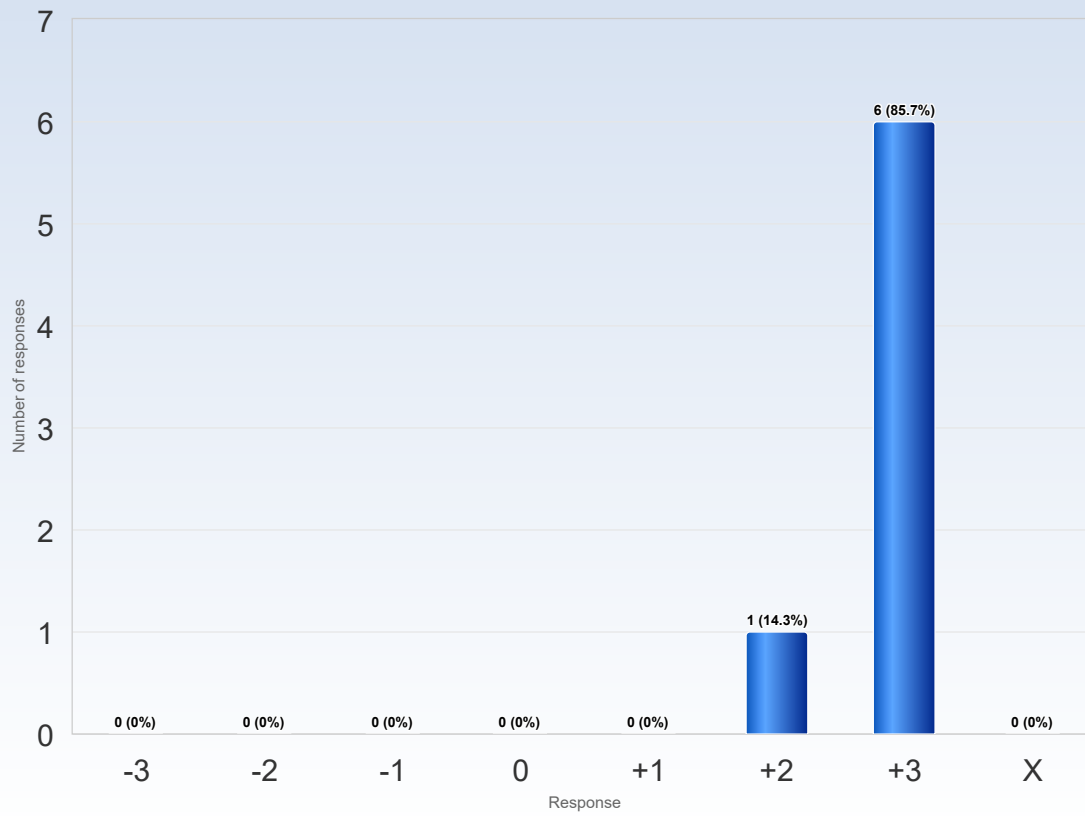
0 = I am neutral to the statement

+3 = Yes, I strongly agree with the statement

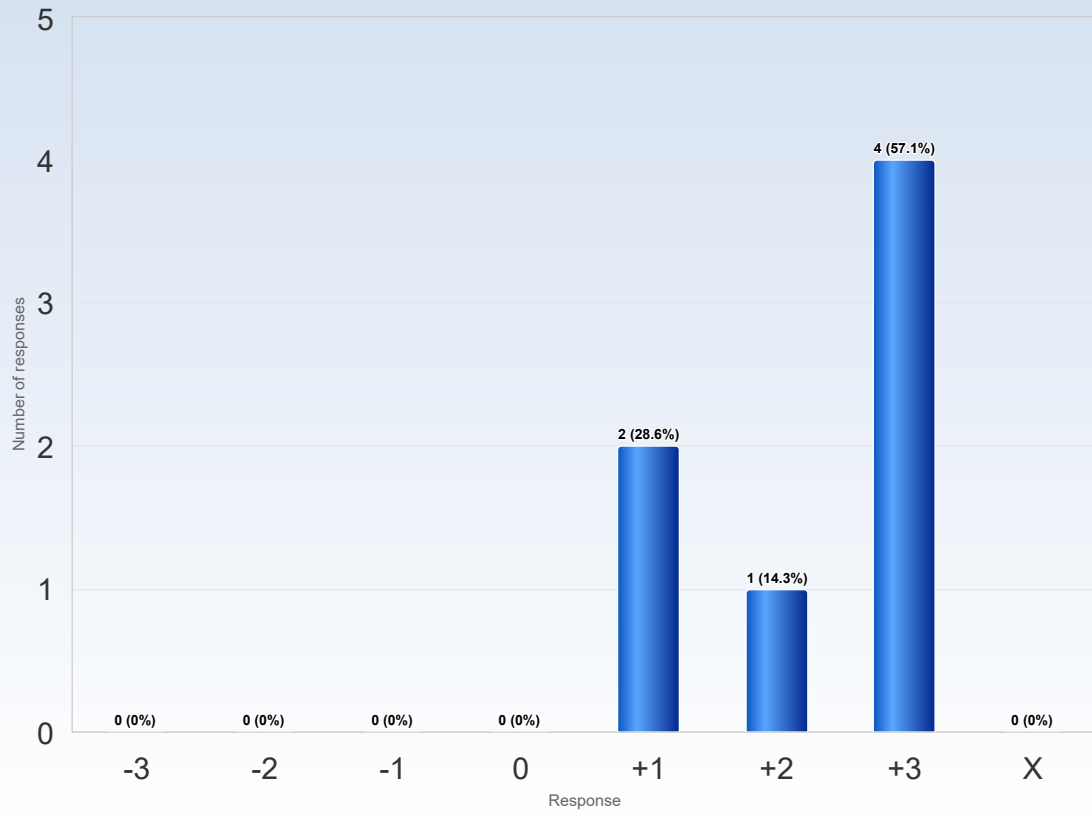
X = I decline to take a position on the statement



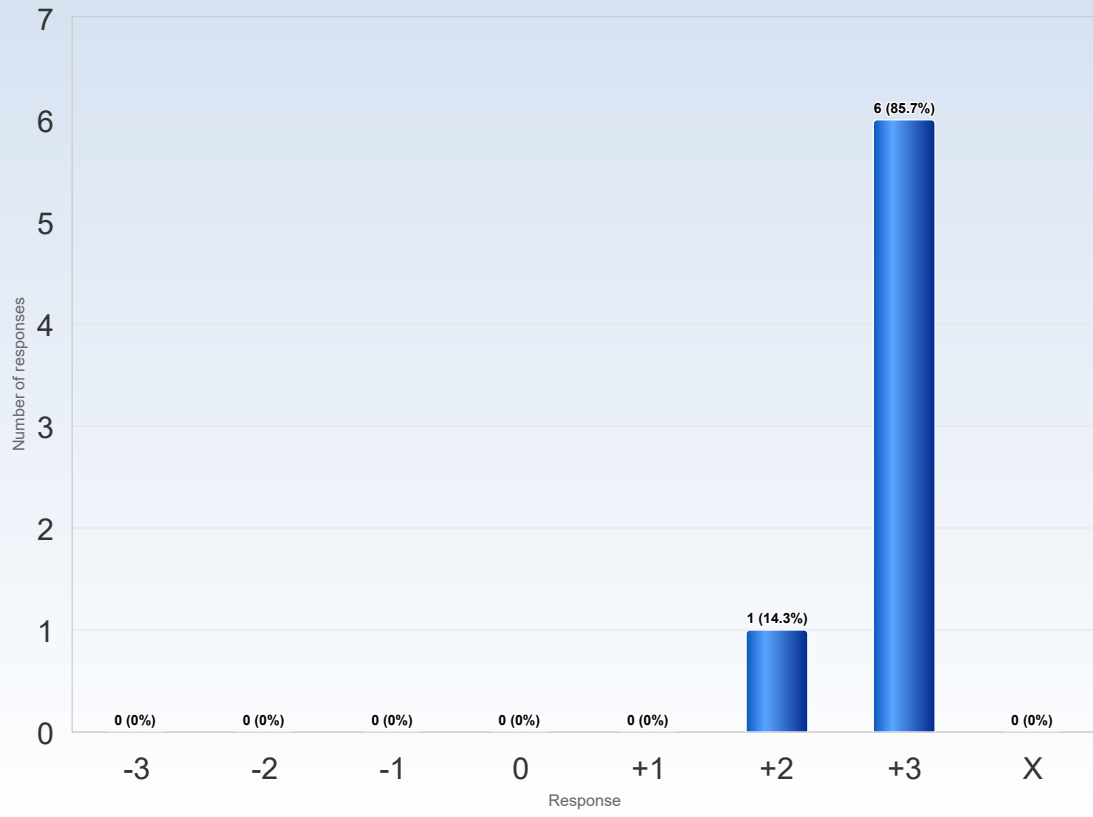
4. The course was challenging in a stimulating way



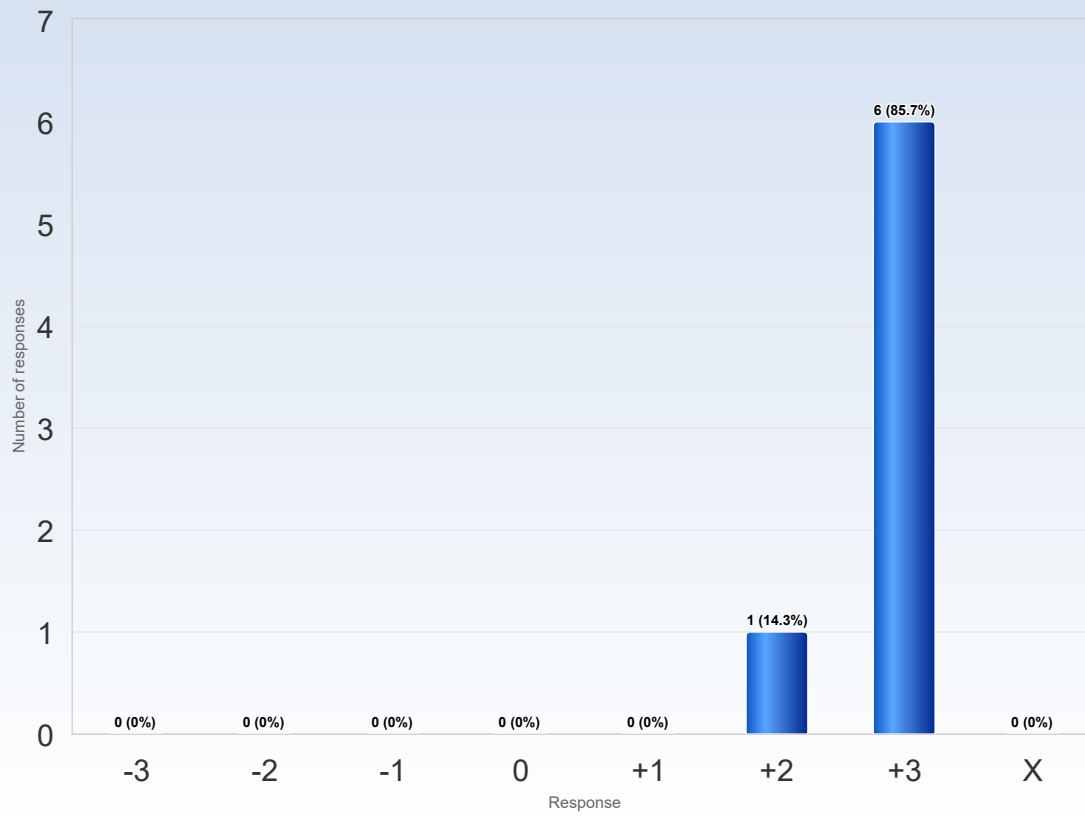
15. I was able to practice and receive feedback without being graded



16. The assessment on the course was fair and honest



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



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

