# Report - DD2419 - 2019-08-16

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

**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, a preparatory individual part ("flight camp") and a group project. The first is aimed at introducing the basic concepts that will be needed to contribute to the project. Passing this part is needed before entering the second phase, which is the group project. This is where most of the time in the course is spent. All teams are given the same task to solve. To support these learning activities there are lectures and seminars running in parallell. In the first part the lectures introduce the different parts that are worked on by the students and offer a forum to discuss problems and solutions. After flight camp the students are divided into groups and from then on the focus in the discussion are on the project work. There is one seminar per week where some of the groups are asked top present what they have done since last week and then there are workshop like focued topic discussions related to the challenges faced in the project. The aim is that the groups seem themselves as collaborating towards solving the task and that these seminars is when information is shared so that all groups can move forward faster than would have been possible if they worked alone. At the end of flight camp the students have to pass an oral examination where they present their solution to a final flight camp assignment and that they have general knowledge needed to move on to the project. After this the students need to show that they understand the overall system that they design and the solutions. This is assessed during the seminars and in individual reports at the end of the course. Throughout the course the students are asked to keep tack of the time that they spend on the course.

**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?**

The median time seems to be a bit over 20h/week. This is a bit on the high side given the credits awarded in teh course. However, it does not match the time reported by the students during the course which for most ended up inside the 240h that a course worth 9hp could be expected to consume. This shows how difficult it is to assess how much time you spend on something unless you keep track.

**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?**

Overall the students did quite well in the course. They did not quite accomplish the level of performance that I had expected from the beginning but given that it was the first time the course was given there could be many reasons for this.

**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?**

I think that the setup with the seminars where the groups shared information on a weekly basis worked well. It created less competition and stress. The downside of this was that for some this reduced the stress too much, to the point where learning was hampered.

**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?**

Overall the responses were very positive. There are two items in the LEQ for which there is a significant difference between males and females (females giving lower values 4.7 vs 5.8 and 6 vs 6.4 respectively)
9: I understood what the teachers were talking about
20: I had opportunities to influence the course activities
It is not so easy to say exactly what this difference is caused by.

An even larger difference is found between international master students and Swedish students, which Swedish students being more positive in many questions. This difference is could be caused by the format of the course and the freedom offered being much larger than in courses outside Sweden.

**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?**

Overall the feedback is positive. Starting early is probably the most important advice in this course and other. Make sure that you understand what has to be done early on. You do not need to solve it completely but you need to know what has to be done and what you are missing to be able to accomplish that.

**PRIORITY COURSE DEVELOPMENT**

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

Try adding a few more lectures after flight camp that introducing some more key concepts that all groups are likely to benefit from. There is a delicate balance though. One of the foundational ideas with the course is that one should use knowledge from other courses to solve a problem rather than be told exactly how each sub-problem should be addressed. Knowing what method to use and how to break the problem down is something that is not taught in many other courses at this scale and it is important to keep.

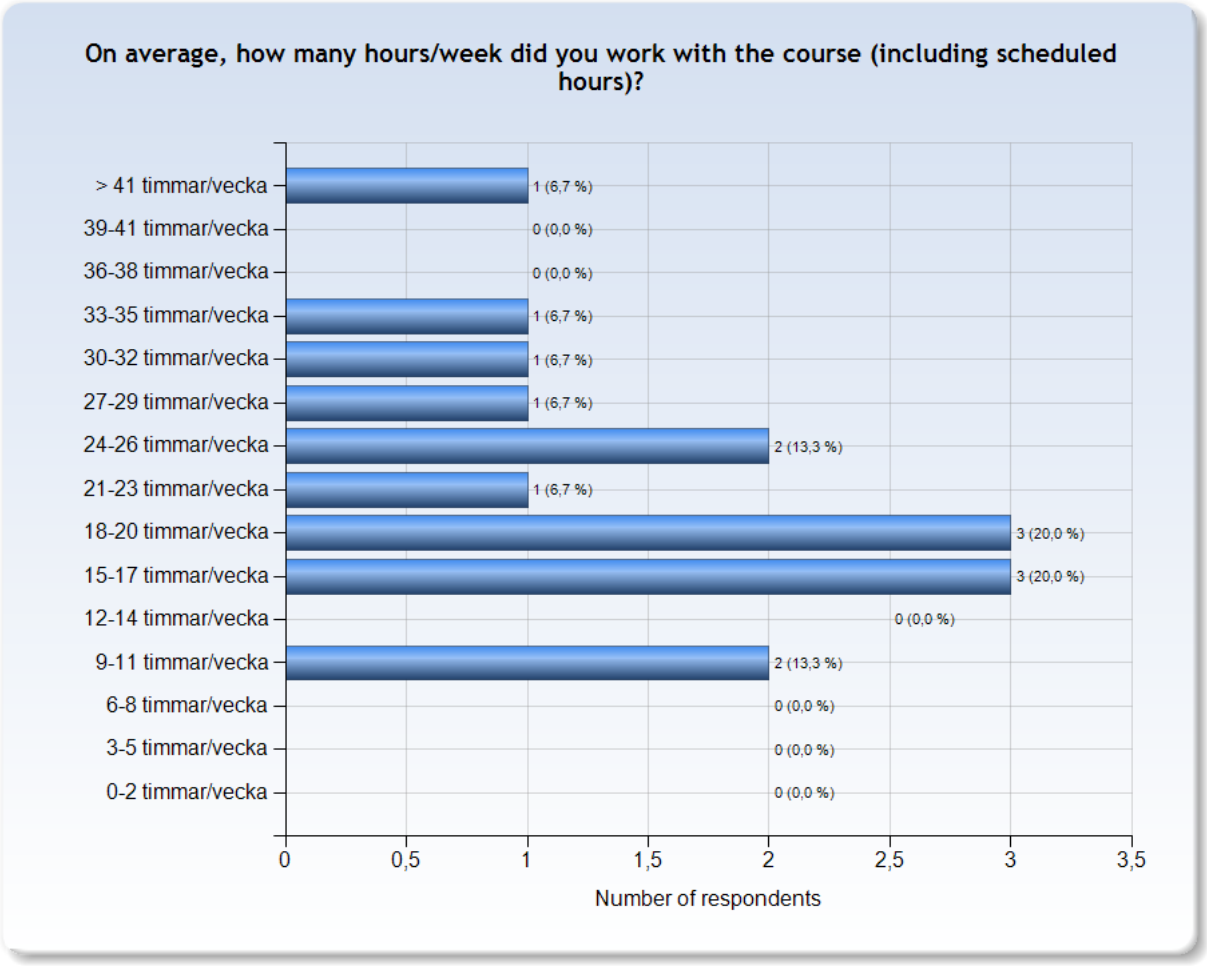
Comparing DD2419 to the course which it and DD2410 replaced, DD2425, the students in DD2425 where a lot more independent in their problem solving and project work. The seminars held once a week gave the impression that one could simply wait a week and be given the answer to any problem. This needs to be addressed somehow so that expectation on the the groups are made more clear. The problems are meant to be solved within the group. It is great to talk to other groups but expecting the teaching team to step in and debug code throughout the course is not good.

We also need to make sure to make everyone transition from simulation to the real world earlier. Too many worked in simulation up until the end and then seemed surprised when the "real world did not work as expected". It is not enough to say that a simulator is often a poor model of the real world in words, one might need to implement something into the process to emphasis this.

# DD2419 - 2019-06-05

Antal respondenter: 44
Antal svar: 15
Svarsfrekvens: 34,09 %

# ESTIMATED WORKLOAD




**Comments**

| Comments (I worked: 15-17 timmar/vecka) |
|---|
| 320 h spent in total divided by 20 weeks => 16 h/week. |
| Spending more time than than 9.0 credits suggests was not due to high workload, but rather an interesting course. |
| I spent way more hours in the second part of the course (around 18-20/week with peaks of 32) rather than in the first part |

| Comments (I worked: 24-26 timmar/vecka) |
|---|
| In the beginning the workload is pretty low. In the weeks before the final, more hours is needed for debugging. |

| Comments (I worked: 33-35 timmar/vecka) |
|---|
| I could have worked less. |

| Comments (I worked: > 41 timmar/vecka) |
|---|
| On an average I put in lots of hours and it was a good learning experience |

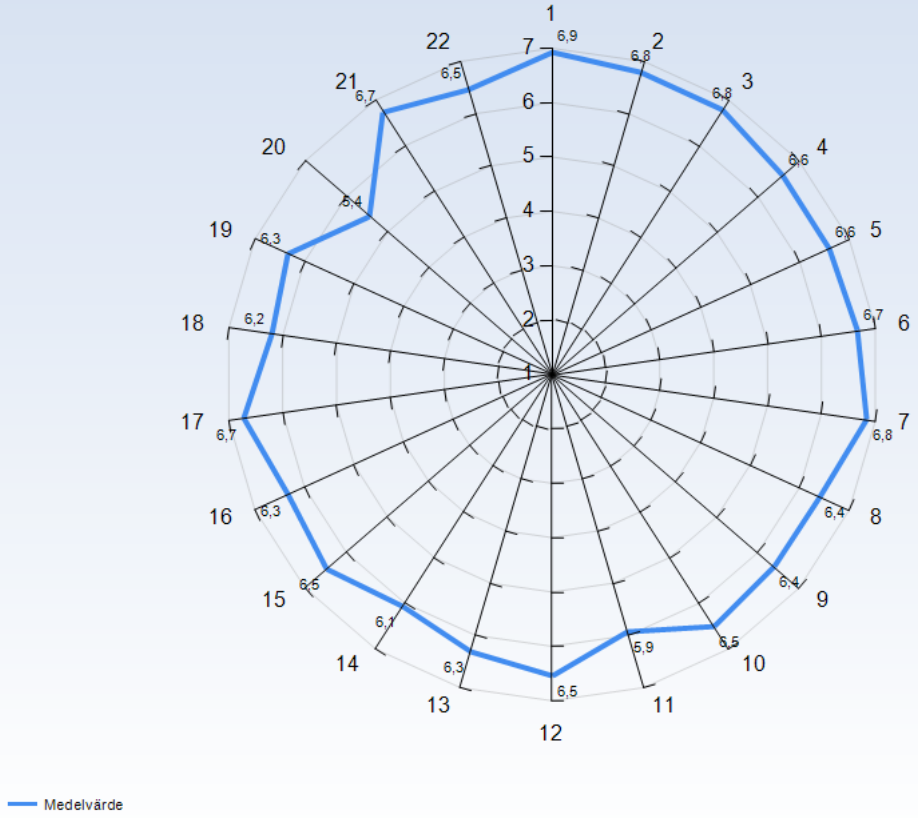
# LEARNING EXPERIENCE

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**

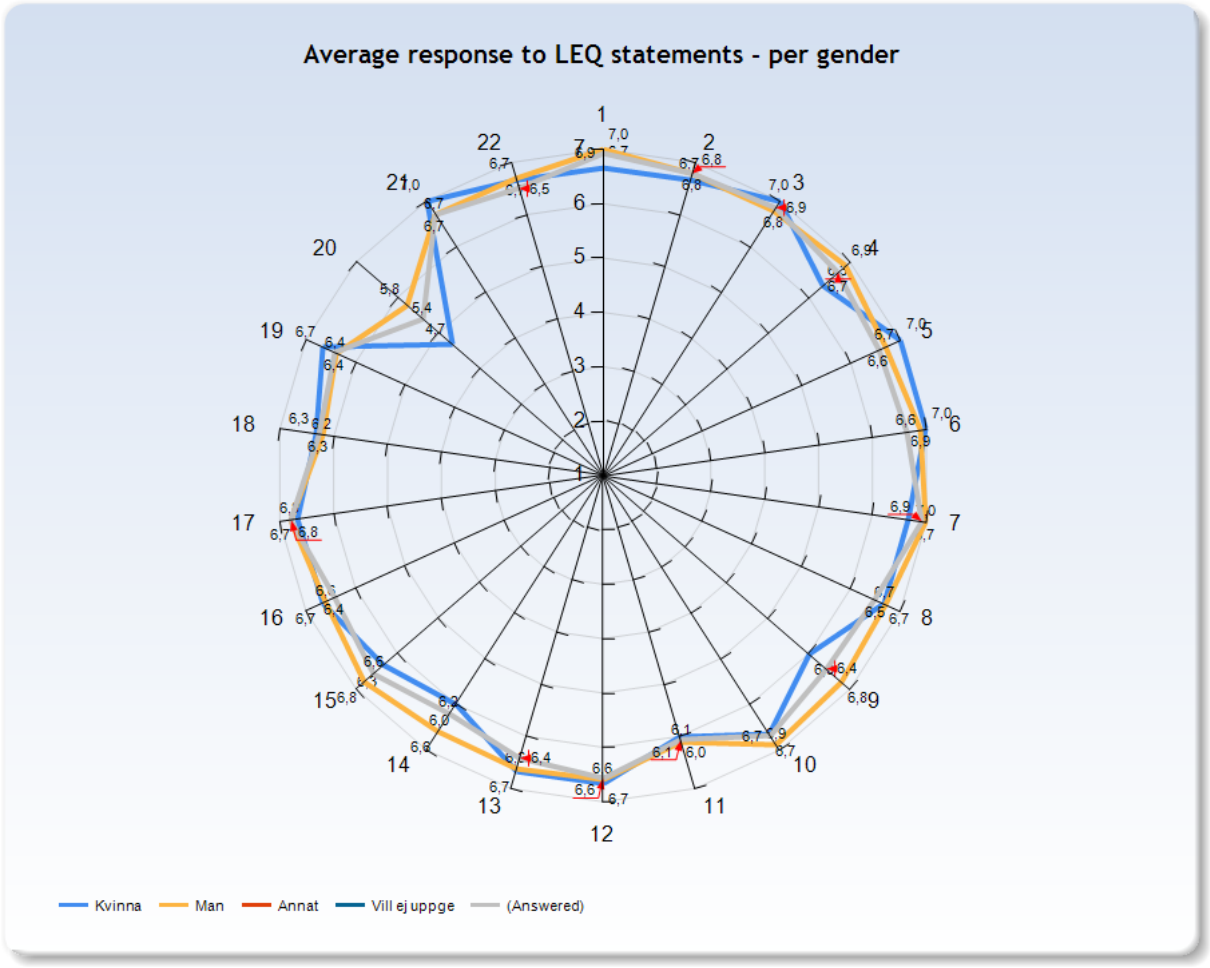
Bain, K. (2004). *What the Best College Teachers Do*, Chapter 5, pp. 98-134. Cambridge: Harvard University Press.

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.

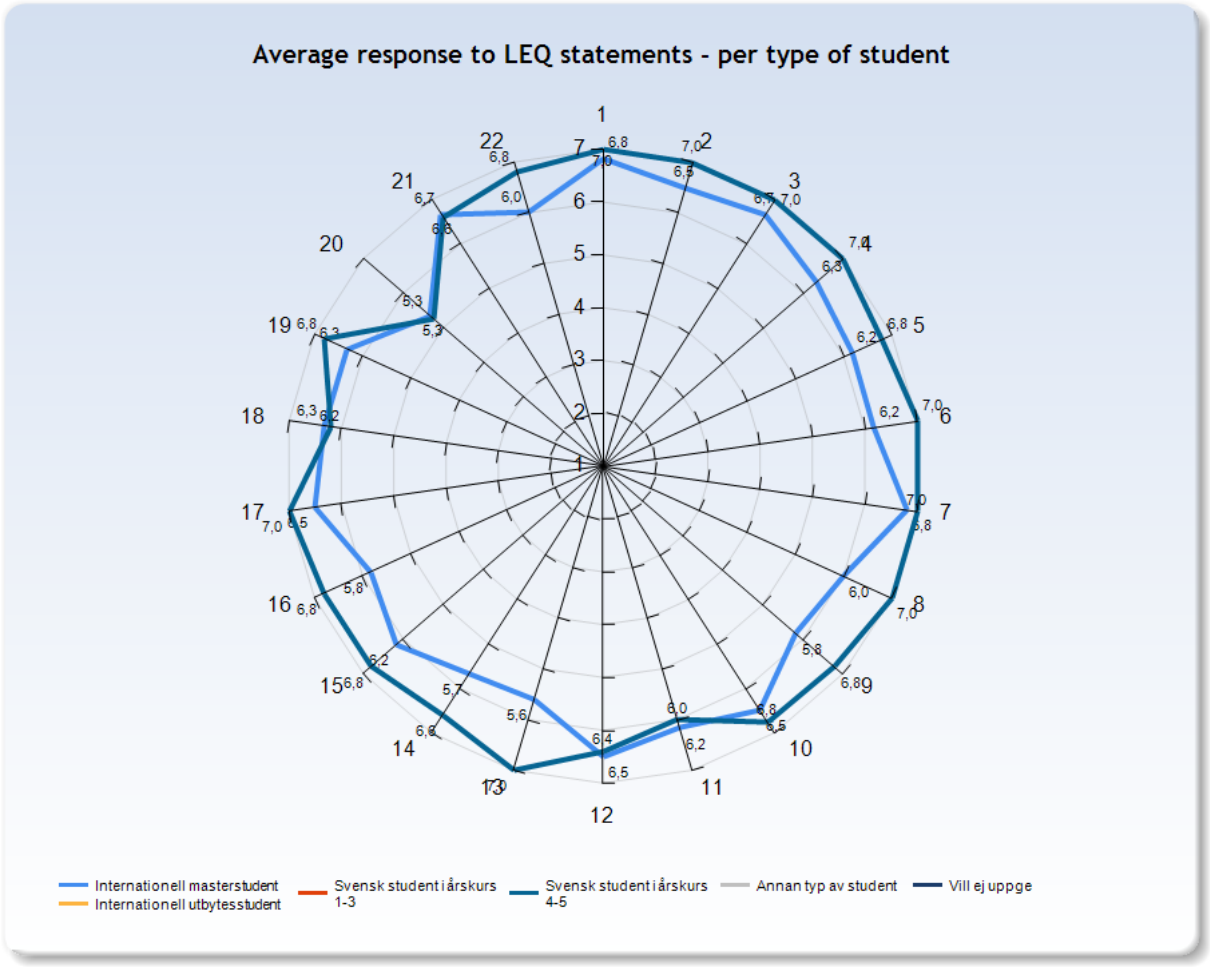
Ramsden, P. (2003). *Learning to Teach in Higher Education*, Chapter 6, pp. 84-105. New York: RoutledgeFalmer.




**Comments**

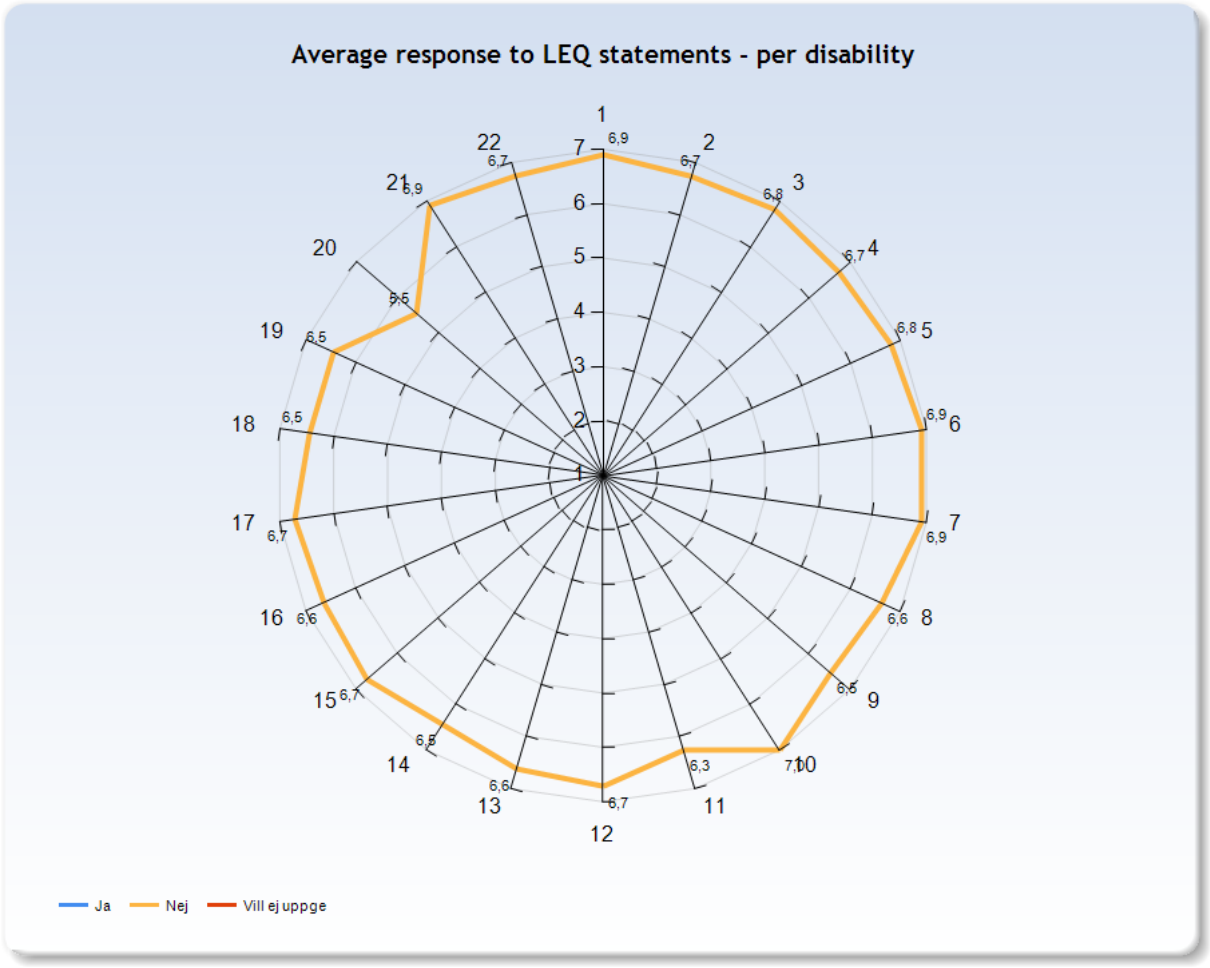
| Comments (I am: Kvinna) |
| --- |
| The course and interactions were adequate to all genders |
| I almost forget about my gender when I'm at KTH. |

| Comments (I am: Vill ej uppge) |
| --- |
| NA |




**Comments**

| Comments (I am: Internationell masterstudent) |
|---|
| Excellent |
| NA |




**Comments**

| Comments (My response was: Vill ej uppge) |
| --- |
| NA |

# GENERAL QUESTIONS

**What was the best aspect of the course?**

| What was the best aspect of the course? (I worked: 15-17 timmar/vecka) |
|---|
| Continuous interaction between groups and with teachers. |
| Solving the problem in any way you liked. Sharing experience with others working on same problem. |
| I really appreciated how the course was structured: the close contact and the dialogue with other students is the best part. I have nothing to complain about. |

| What was the best aspect of the course? (I worked: 18-20 timmar/vecka) |
|---|
| Made us realize what might happen when we implement a code in real time. Starting from hardware constraints to technical constraints, we had a good experience in dealing with situations and finding out a good strategy, working in a team etc. |
| Projektet har varit grymt kul! |

| What was the best aspect of the course? (I worked: 21-23 timmar/vecka) |
|---|
| That we got to design and experiment freely within our projects, I learnt a ton. |

| What was the best aspect of the course? (I worked: 24-26 timmar/vecka) |
|---|
| That we were so free during the project. |

| What was the best aspect of the course? (I worked: 27-29 timmar/vecka) |
|---|
| A good project, with good hardware |

| What was the best aspect of the course? (I worked: 33-35 timmar/vecka) |
|---|
| Working with hardware, trying out your own ideas and that it wasn't many students taking the course. |

| What was the best aspect of the course? (I worked: > 41 timmar/vecka) |
|---|
| Integration of components. |

**What would you suggest to improve?**

| What would you suggest to improve? (I worked: 15-17 timmar/vecka) |
|---|
| The presentations needs to be more strictly regulated. Both in total time for each group and what they are talking about. Debugging tf during presentation does not provide interesting insight to the rest of the course participants. Perhaps more focus on "we had this idea and this is our experience from it".<br><br>It might also be advantageous to have separate and simultaneous presentations for planning/localisation/perception during some seminars, if logistically feasible. When presenting for everyone it is preferable to do it on a level which is interesting for everyone. Mixing in some separated presentation slots could led to presentations and discussion of higher technical depth without excluding two thirds of the audience. Also parallelism. Converging in one classroom for smaller discussions during the second hour should still be done.<br><br>The provided .launch-files and the interface could do with an upgrade to become more flexible and make it easier to switch between crazyflie and Gazebo. |
| - |

| What would you suggest to improve? (I worked: 18-20 timmar/vecka) |
|---|
| Although I had a balanced team to work with, most of the students who finished late in the flight camp did not. It would be nice, if the faculties found a way to balance out the team. |
| Perception-delen är väldigt svår. Både att förutspå rätt skyltar och att uppskatta avståndet är väldigt svårt att få till på rätt sätt, så ni får gärna ge tips om hur man räknar ut detta avstånd med Crazyfliens kamera på ett smidigt sätt eller kanske ändra poängsystemet så att det tar sådant i åtanke. T.ex. blir uppskattningarna ofta fel när drönaren svänger för att tidsstämpeln för bilden inte exakt matchar drönarens position när avståndet uppskattas. |

| What would you suggest to improve? (I worked: 21-23 timmar/vecka) |
|---|
| To put the navigation challenge before the perception challenge, or closer in time. |

| What would you suggest to improve? (I worked: 24-26 timmar/vecka) |
|---|
| Maybe to have more challenges and to have the navigation challenge 1 or 2 weeks earlier |

| What would you suggest to improve? (I worked: 27-29 timmar/vecka) |
|---|
| I wished  we had tools to assess the complexity required by the different algorithm |

| What would you suggest to improve? (I worked: 33-35 timmar/vecka) |
|---|
| Match group members by ambition or by the way they work. People that always does thing in the last minute could be paired together. |

| What would you suggest to improve? (I worked: > 41 timmar/vecka) |
|---|
| NA |

**What advice would you like to give to future participants?**

| What advice would you like to give to future participants? (I worked: 15-17 timmar/vecka) |
| --- |
| Be prepared to invest time and energy on this course. |
| Visualise what you are doing. For example drawing the planned path and showing localisation uncertainty in rviz is easy and very convenient when debugging.<br><br>Research what algorithms and best practices you should use. Don't get stuck on making the first simple solution work, when something else would solve the problem. |
| Keep in mind that the second part of the course takes quite a bit of hours/week (if you're into it). Don't take the course if you don't want to put the effort, or you're going to ruin everybody's experience |

| What advice would you like to give to future participants? (I worked: 18-20 timmar/vecka) |
| --- |
| Don't wait for the deadlines to come. Regular work during the course would remove the pressure off during the last minute. |
| Fokusera på att lära dig saker! Försök att jobba utifrån en simpel grund som ni förstår, och inte massor av olika system ni kopierat från internet utan att förstå hur de påverkar er ROS-implementation. |

| What advice would you like to give to future participants? (I worked: 21-23 timmar/vecka) |
| --- |
| This course requires time and some effort. You'll have more fun the more effort and interest you put into your project, so get invested in it. You'll learn more and get more out of the course. Talk to other groups and discuss your ideas. |

| What advice would you like to give to future participants? (I worked: 24-26 timmar/vecka) |
| --- |
| Try to divide the work between you and if you're working on the same thing try to divide that into smaller tasks. Also to have your own laptop with ubuntu. |
| Do the basic part like localization first. Make enough time for integrated debugging. |

| What advice would you like to give to future participants? (I worked: 27-29 timmar/vecka) |
| --- |
| Communication, do not be afraid to say that you do not know |

| What advice would you like to give to future participants? (I worked: 33-35 timmar/vecka) |
| --- |
| Start with the localization and start working the first week. |

| What advice would you like to give to future participants? (I worked: > 41 timmar/vecka) |
| --- |
| NA |

**Is there anything else you would like to add?**

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

| Is there anything else you would like to add? (I worked: 15-17 timmar/vecka) |
| --- |
| Maybe try to encourage collaboration between members of the same team on the different tasks of the project, so that people do not feel entitled of completely overlook other's part and put the blame on them if their parts do not work well. |

| Is there anything else you would like to add? (I worked: 18-20 timmar/vecka) |
| --- |
| Den mest givande kursen jag har gått hittills! |

| Is there anything else you would like to add? (I worked: 21-23 timmar/vecka) |
| --- |
| It really felt like teacher and TA:s had put a lot of thought into the design of the course, I appreciated it. It's definitely top 5 courses I've taken at KTH. |

| Is there anything else you would like to add? (I worked: 24-26 timmar/vecka) |
| --- |
| Thank you so much for such a great course! |

| Is there anything else you would like to add? (I worked: > 41 timmar/vecka) |
| --- |
| NA |

# SPECIFIC QUESTIONS

**Feedback on Flight camp**

| Feedback on Flight camp |
|---|
| Excellent |
| I liked the content and difficulty of the flight camp. |
| Necessary. |
| SUUUUPER GOOD. I think I understood more ROS during the flight camp rather than the whole Introduction to Robotics course. (Or maybe it's because I already kinda knew ROS at that point) |
| A good brush up on ROS. Could include more "optional" challenging tasks (like assignments from IROB), to strengthen the concepts of perception, localization and path planning. |
| Flight camp gives a great introduction. For the perception part, please talk about more advanced algorithms that people possibly can use later, because most people have not encountered that type of problem before (while they have encountered the rest)<br>Also, please tell people that they need to run Gazebo without the viewport if their drone crashes and only use RVIZ to verify that it works. It took a week for me to learn this, and I saw people still having this problem when the course was almost over. Many students have laptops with weak hardware, so take it into account. |
| Maybe more basic knowledge about final task can be given in this task |
| NA |

**Feedback on hardware**

| Feedback on hardware |
|---|
| There were some issues with hardware, it would have been better if the course team was quicker to react to the groups' requests |
| Give us access to some soldering equipment so that we can repair the drone if breaks. Also we broke quite a few props in the beginning of the course, could be nice to have some more spares. |
| Fun working with a drone despite the problems that occured. |
| I don't think that we could have had anything easier. |
| A bit greedy feedback, it would be nice to have a battery with more storage capacity. |
| Fantastic, some problems where the antenna was not registered and had to be plugged in again (sometimes several times). Also it would be great if you demonstrated, maybe live, how it is possible to remove the yellow numbers from the camera image. |
| Giving some advice about how to debug the hardware could helps |
| NA |

**Feedback on project task**

| Feedback on project task |
|---|
| Excellent |
| Super fun project!<br>One small thing: perception was a bit too loosely coupled with the rest of the project. Many groups chose to have one dedicated person for perception, but this often led to this person working on their own thing without much cooperation with the rest of the group. |
| It was a good task. |
| It was perfect! |
| Project task felt realistic and serious, and the final map was good. Not overly complex, but it made sure to test the functions vigorously, especially with the double loo |
| the task is pretty interesting |

**Feedback on setup of progress seminars**

| Feedback on setup of progress seminars |
| --- |
| Excellent |
| I really liked the discussions after the presentations that really helped me a lot. |
| Good idea overall. I see no reason to discontinue progress seminars during the exam period since we are still supposed to work on the project. Also see suggested improvements. |
| Nice to meet and present progress. |
| Perfect balance between presentation and discussions. |
| No improvements!!! |
| The discussion died towards the end of the semester, which made the seminars less helpful. Before that it was a great way to share and discuss ideas. |
| Sometimes it was hard to make yourself heard when sitting in the groups. I once joined a group and someone had a problem when updating the odometry frame. I knew the solution to this, which was that you can't update it manually with its own reference, but others resumed talking about problems so quickly I didn't have a chance to say it. I don't know how to solve it but the groups somehow felt a little bit too large to make all discussion flow smoothly, and I feel I could've helped more people if I had just had a chance to say stuff. |

**Feedback on challenges**

| Feedback on challenges |
| --- |
| Few groups could complete them on time and were a bit stressful but the challenges itself were good. |
| Navigation challenge:<br>Super useful! It was quite hard finding somewhere safe and large enough to test early on. Also allowed more discussion between the groups since there existed a natural gathering place. If possible set it up even earlier next year. |
| Was a bit hard for us, but I still like them. The challenges was good milestones. |
| More intermediate deadlines. I guess that would motivate groups to align and finish the project on time. |
| The best idea you've ever had, without them most of us would probably fail. It's great that they connect directly to the project tast as well. |

**Feedback on contest setup**

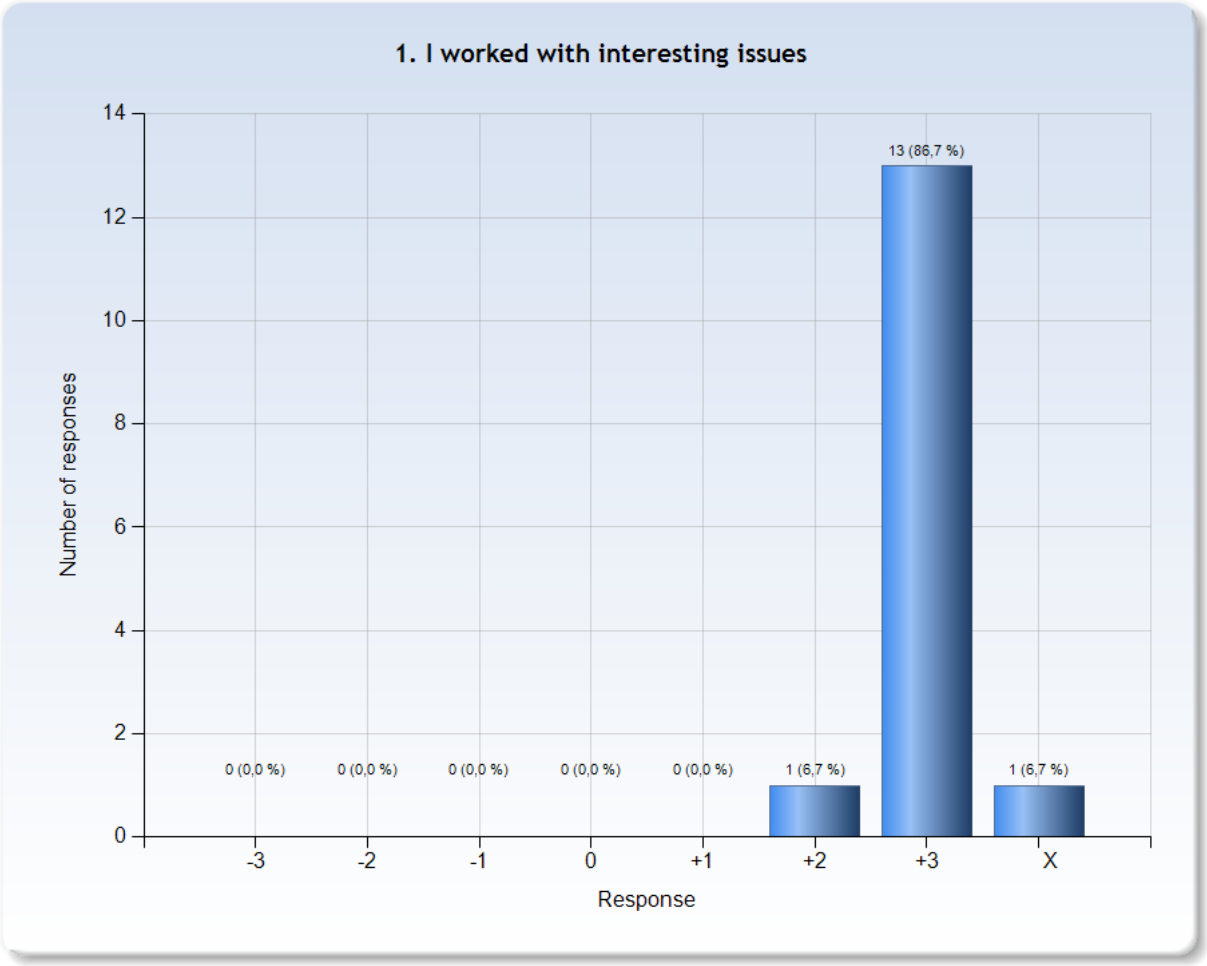
| Feedback on contest setup |
| --- |
| Great |
| The contest map was somewhat disappointing. For example there was no advantage to have 3D-planning at all when flying around the track and only one potential shortcut during exploration. The double gates were interesting though! |
| I liked it probably just because we did well. It was well organized. |
| Nice. Maybe have a demo setup course in the same room before? |
| This was perfect too! |
| Pizza was the best, more of that (and great vegan pizza too) |
| If we have the chance to run and test in the final track, we could run in a "better day" |

# RESPONSE DATA

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

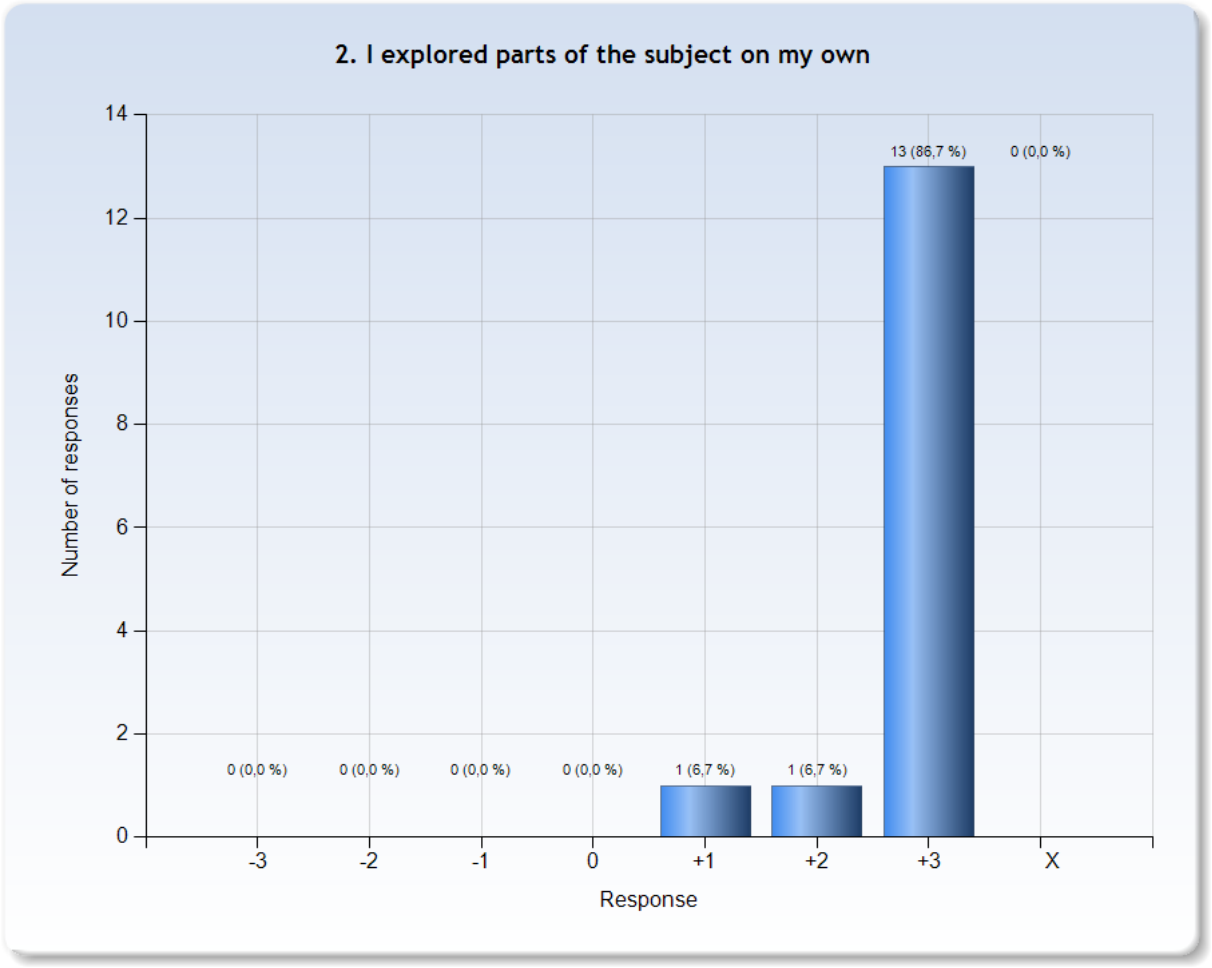
-3 = No, I strongly disagree with the statement
0 = I am neutral to the statement
+3 = Yes, I strongly agree with the statement

X = I decline to take a position on the statement

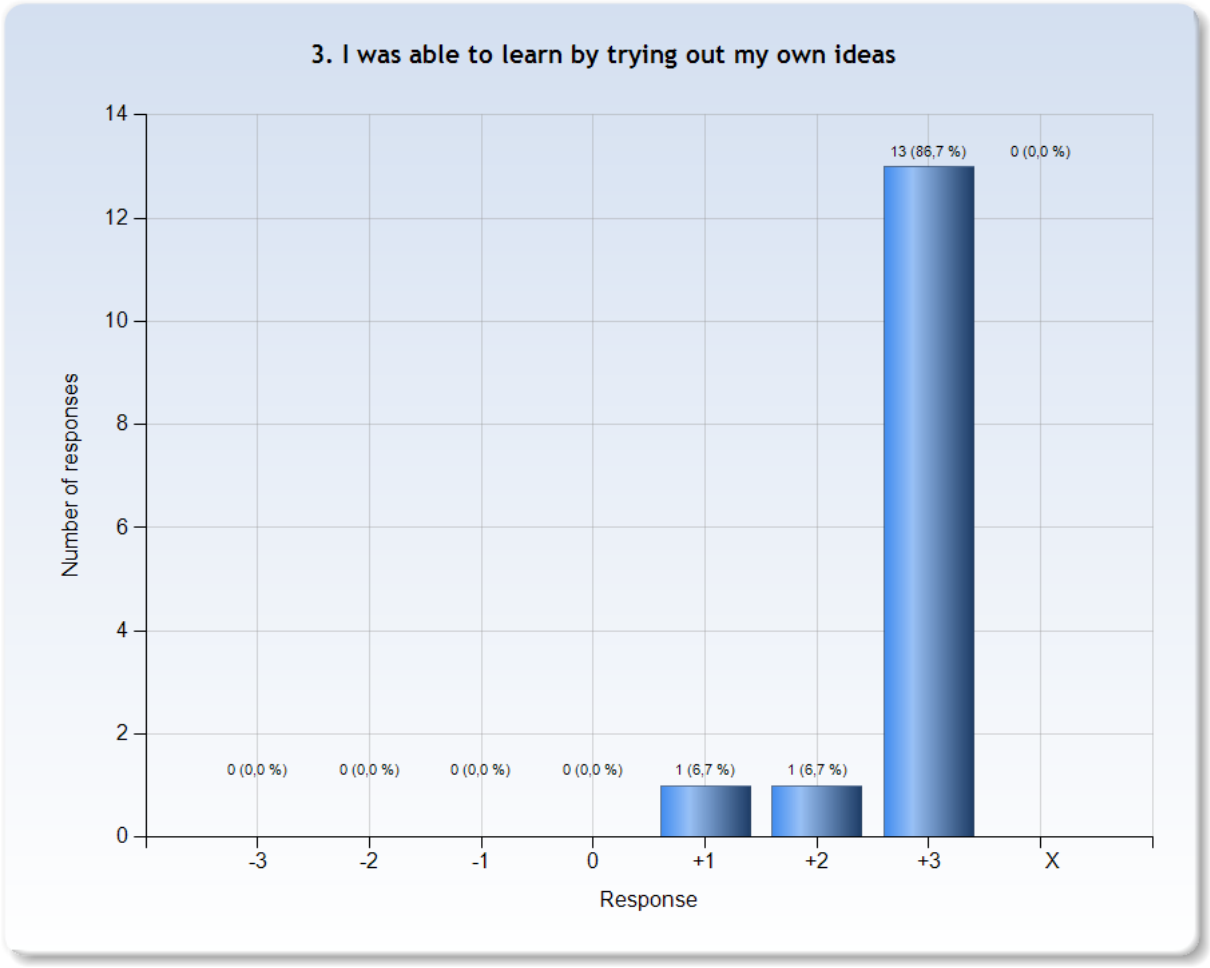



**Comments**

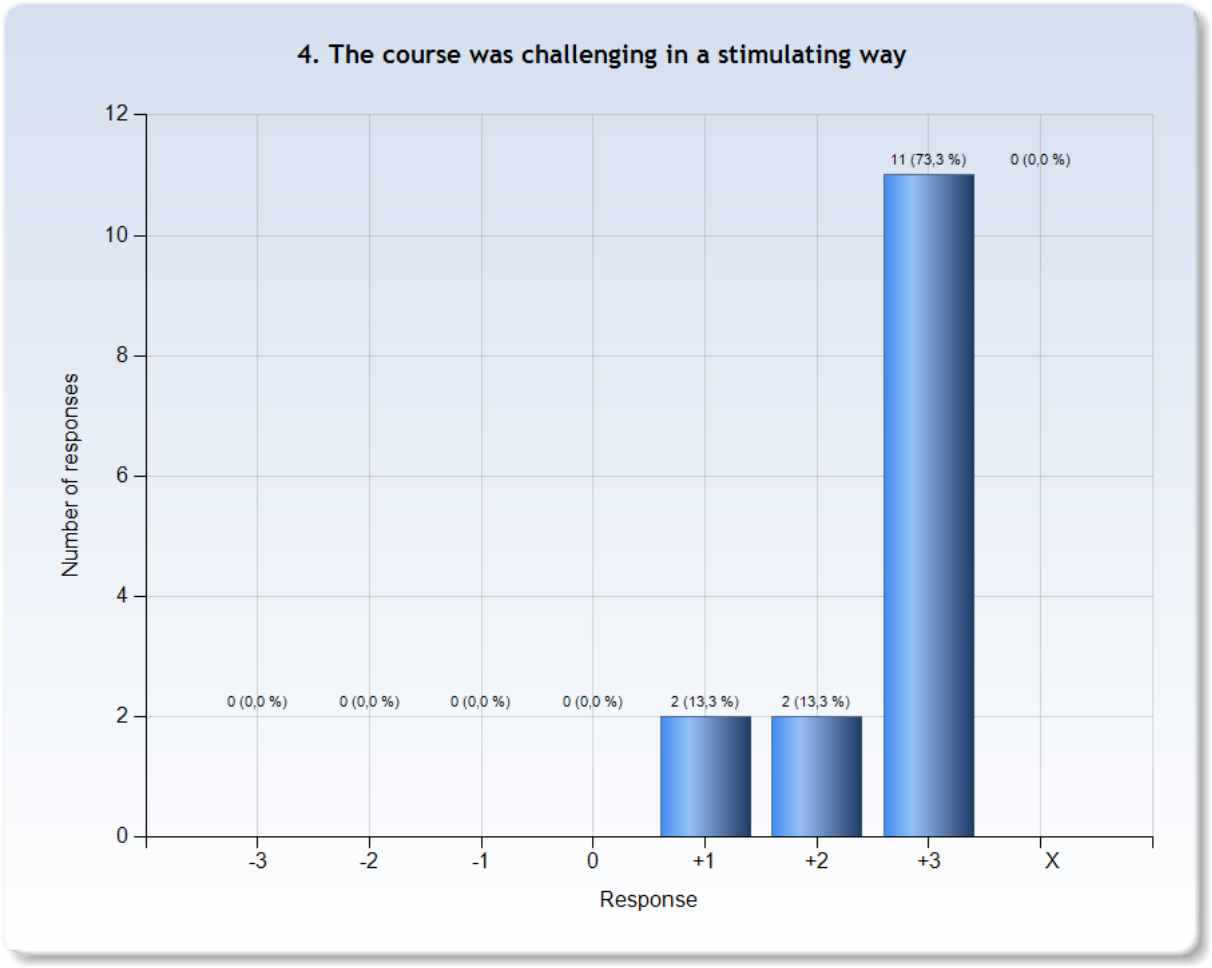
Comments (My response was: X )
10000


2. I explored parts of the subject on my own
14
12
10
8
6
4
2
0
Number of responses
13 (86,7 %)
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
1 (6,7 %)
1 (6,7 %)
-3
-2
-1
0
+1
+2
+3
X
Response

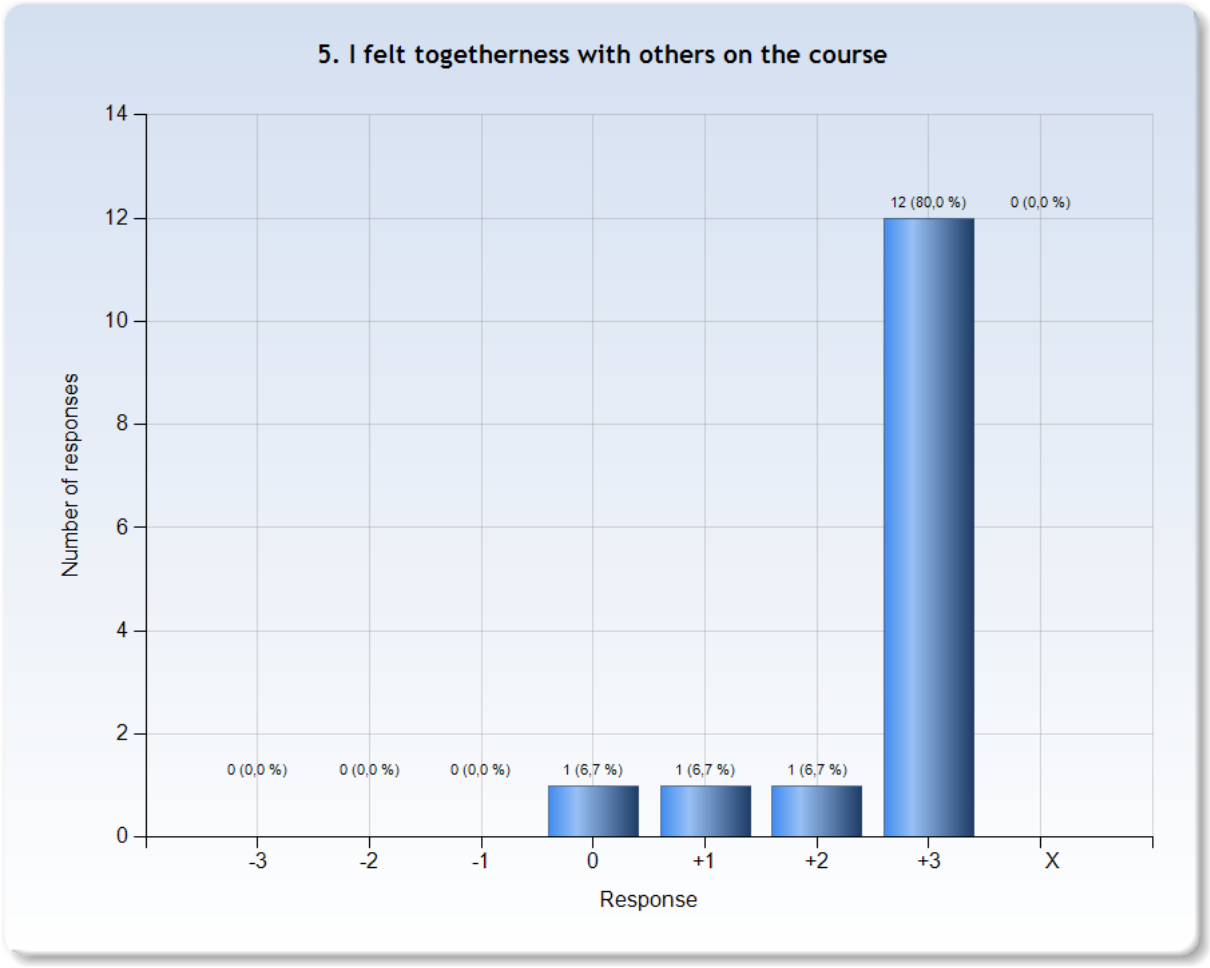
**Comments**


3. I was able to learn by trying out my own ideas
Number of responses
Response
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
1 (6,7 %)
1 (6,7 %)
13 (86,7 %)
0 (0,0 %)
-3
-2
-1
0
+1
+2
+3
X

**Comments**

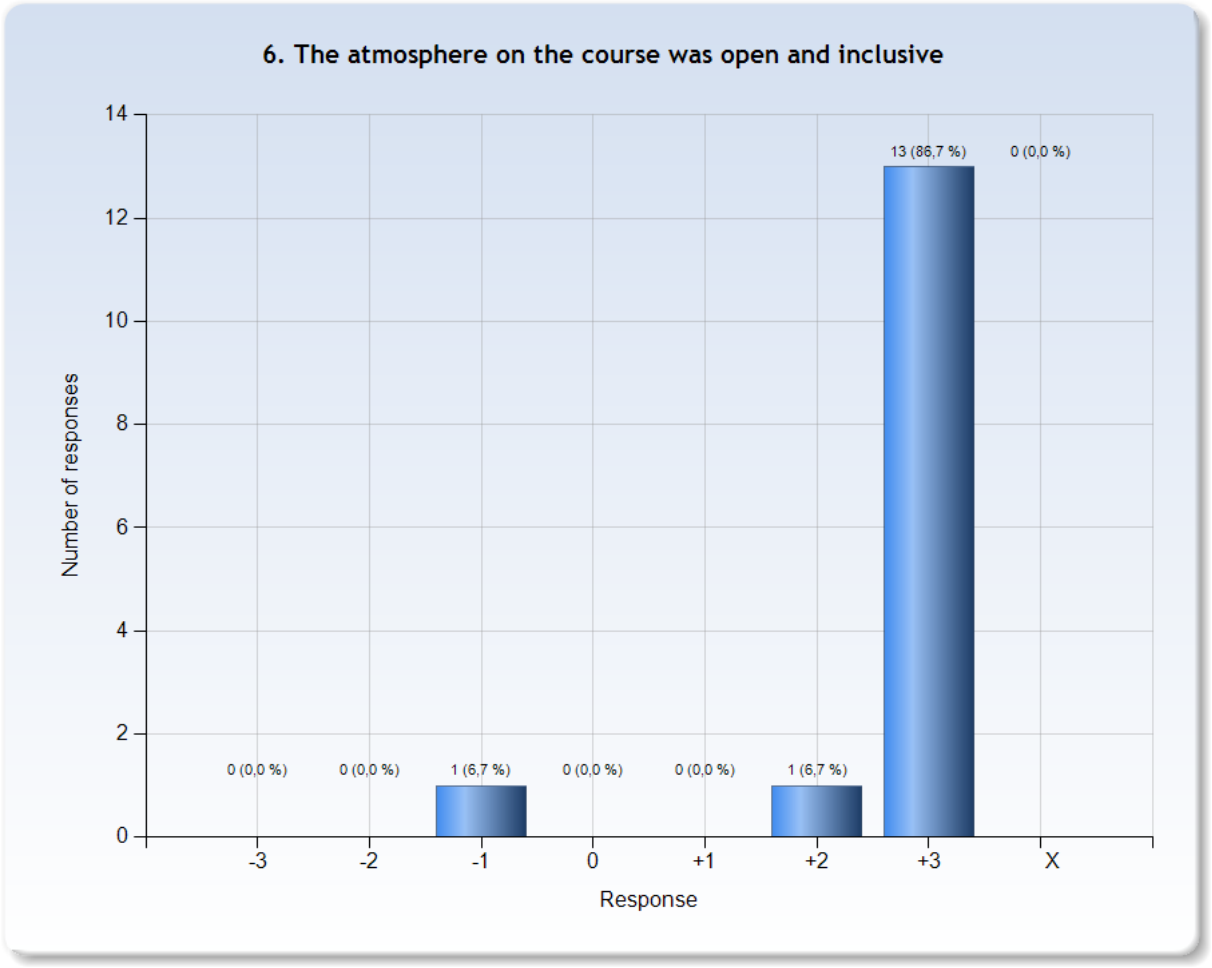

4. The course was challenging in a stimulating way
Number of responses
12
10
8
6
4
2
0
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
2 (13,3 %)
2 (13,3 %)
11 (73,3 %)
0 (0,0 %)
-3
-2
-1
0
+1
+2
+3
X
Response

**Comments**

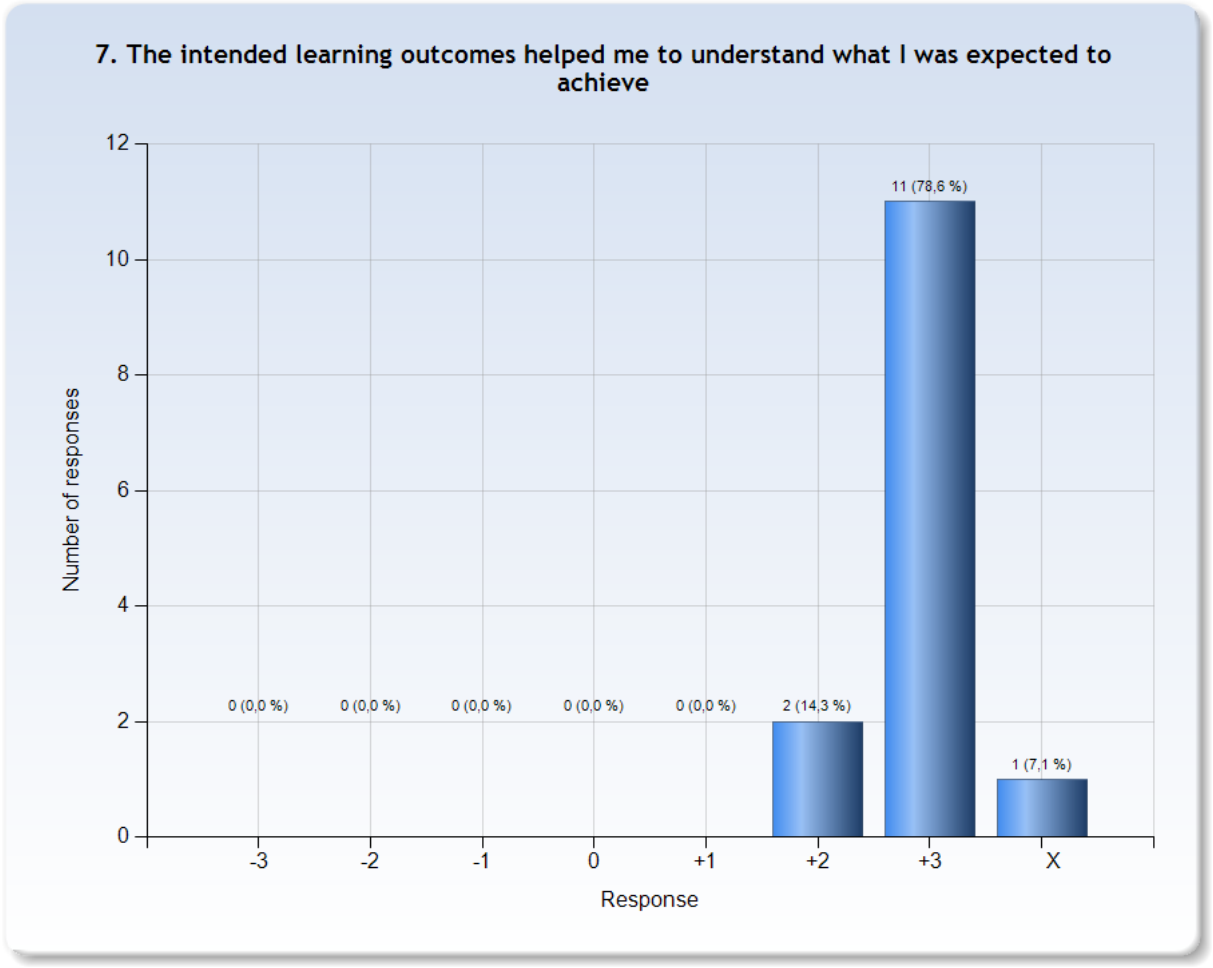



**Comments**

| Comments (My response was: +3) |
| --- |
| Best part of the course |
| Group 7 forever!!! |

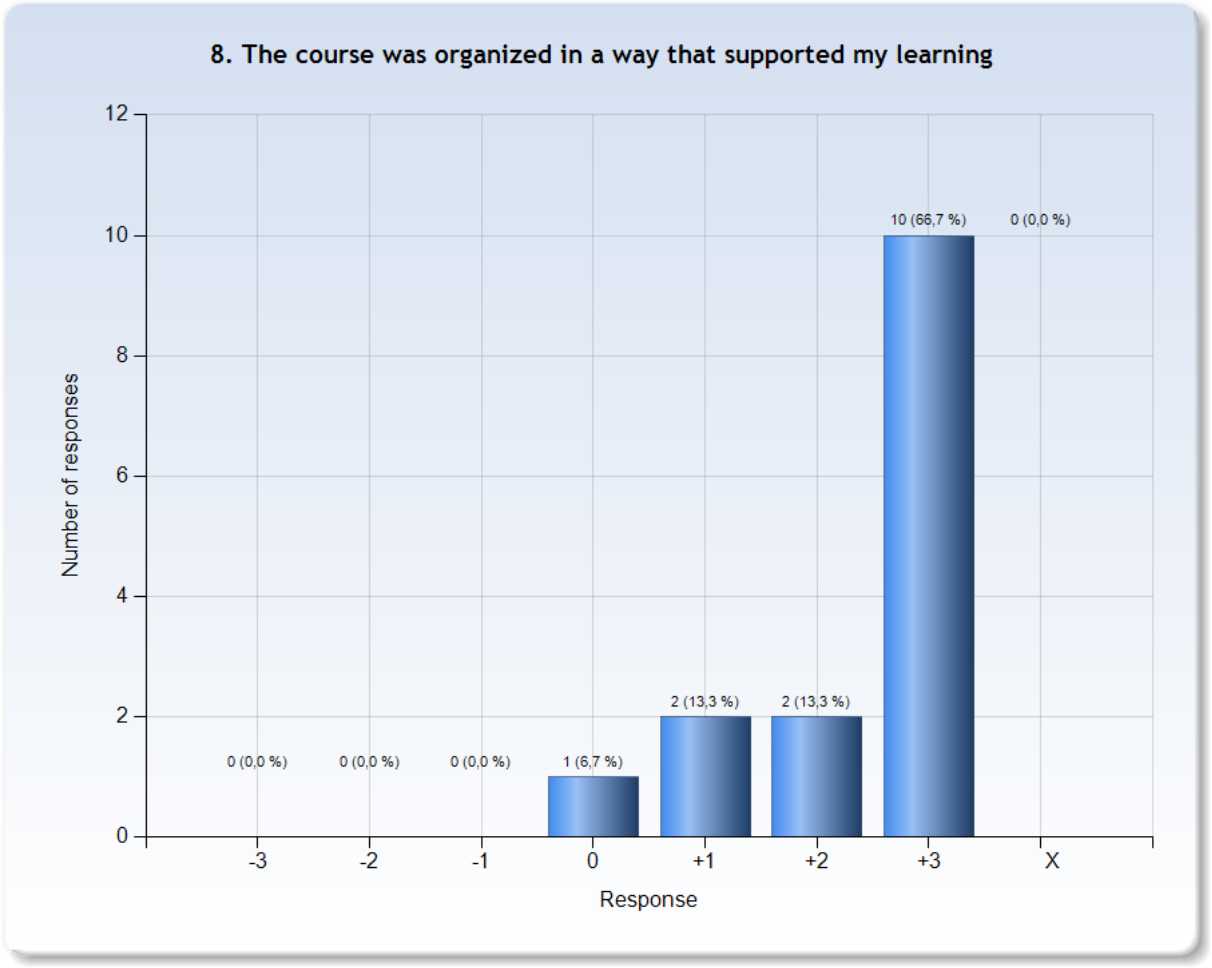

6. The atmosphere on the course was open and inclusive
Number of responses
Response
0 (0,0 %)
0 (0,0 %)
1 (6,7 %)
0 (0,0 %)
0 (0,0 %)
1 (6,7 %)
13 (86,7 %)
0 (0,0 %)
-3
-2
-1
0
+1
+2
+3
X

**Comments**

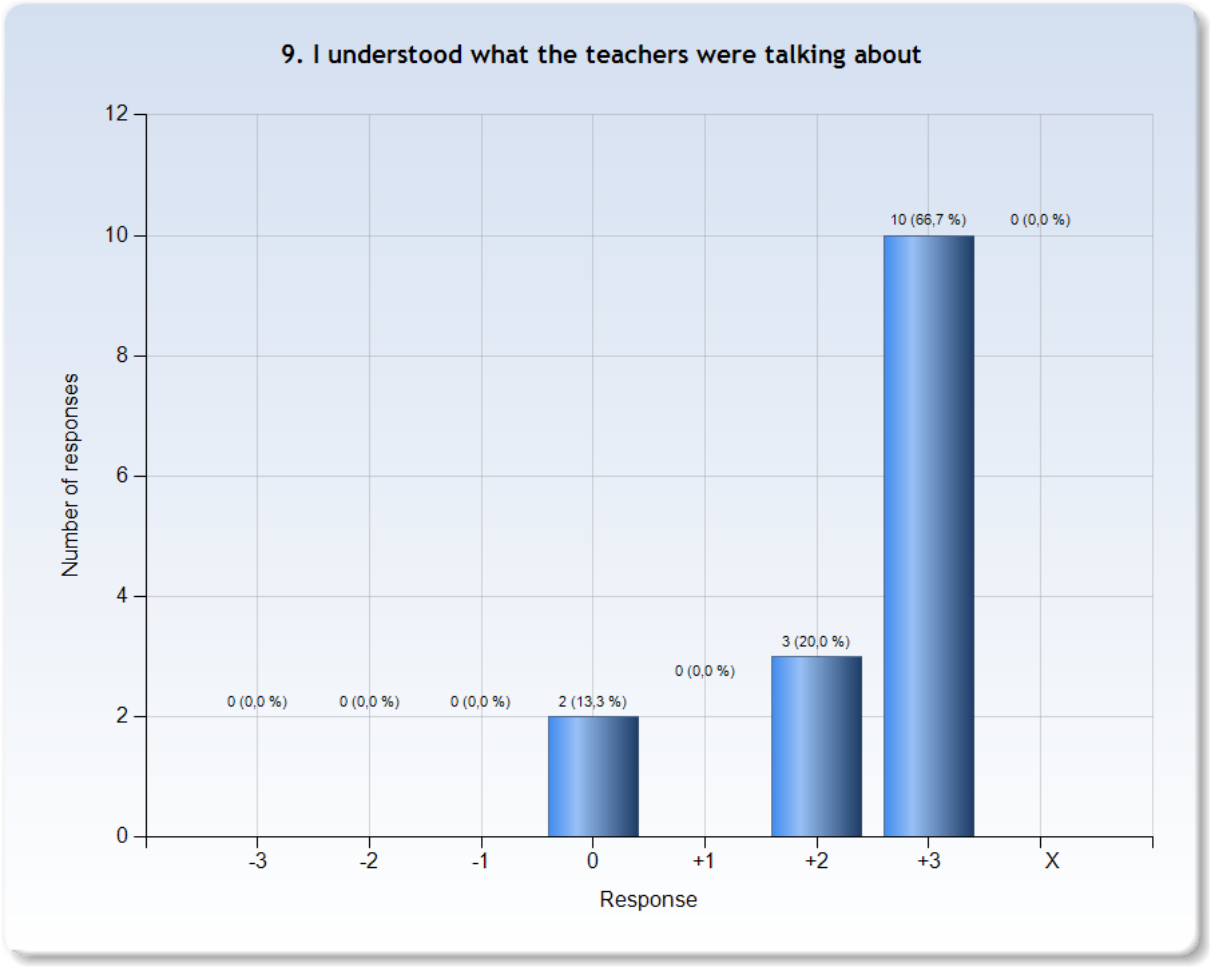



**Comments**

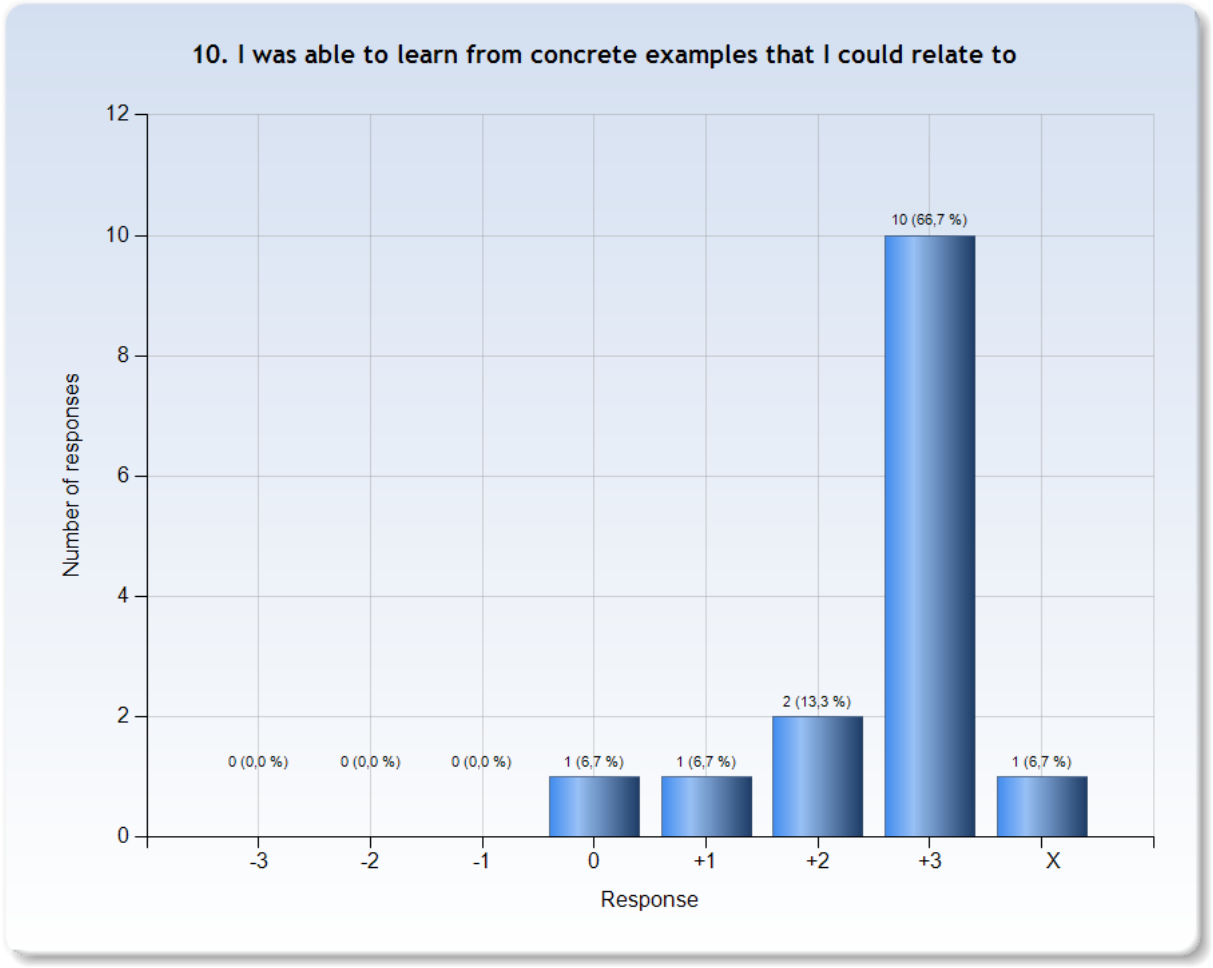
| Comments (My response was: X ) |
| --- |
| I did not have the ILO:s in mind at all until after the final competition. |


8. The course was organized in a way that supported my learning
Number of responses
Response
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
1 (6,7 %)
2 (13,3 %)
2 (13,3 %)
10 (66,7 %)
0 (0,0 %)
-3
-2
-1
0
+1
+2
+3
X

**Comments**


9. I understood what the teachers were talking about
Number of responses
Response
12
10
8
6
4
2
0
-3
-2
-1
0
+1
+2
+3
X
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
2 (13,3 %)
0 (0,0 %)
3 (20,0 %)
10 (66,7 %)
0 (0,0 %)

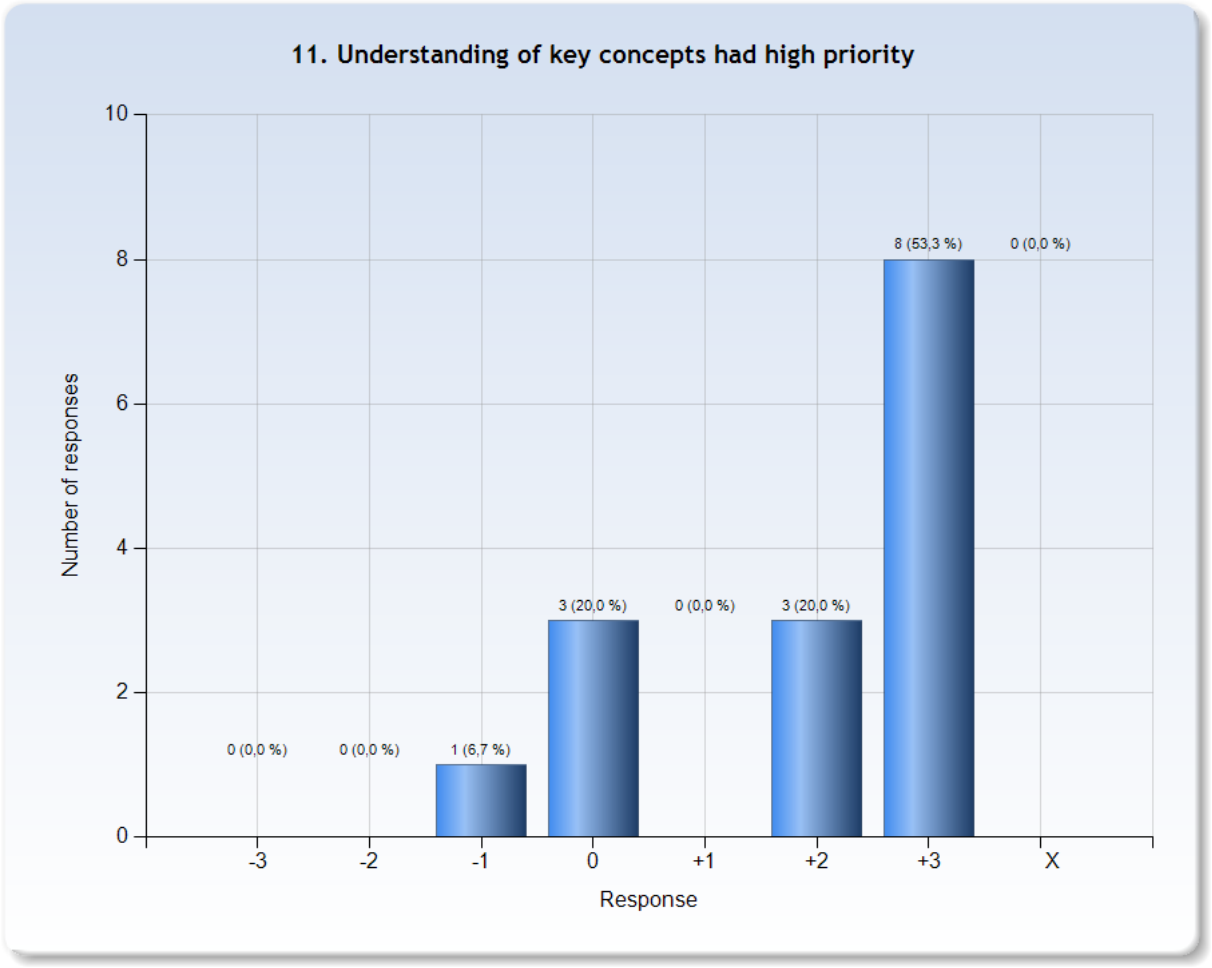
**Comments**




**Comments**

| Comments (My response was: 0) |
| --- |
| Very few examples |

| Comments (My response was: +2) |
| --- |
| Atleast if we regard wathching other groups fly as concrete examples. |

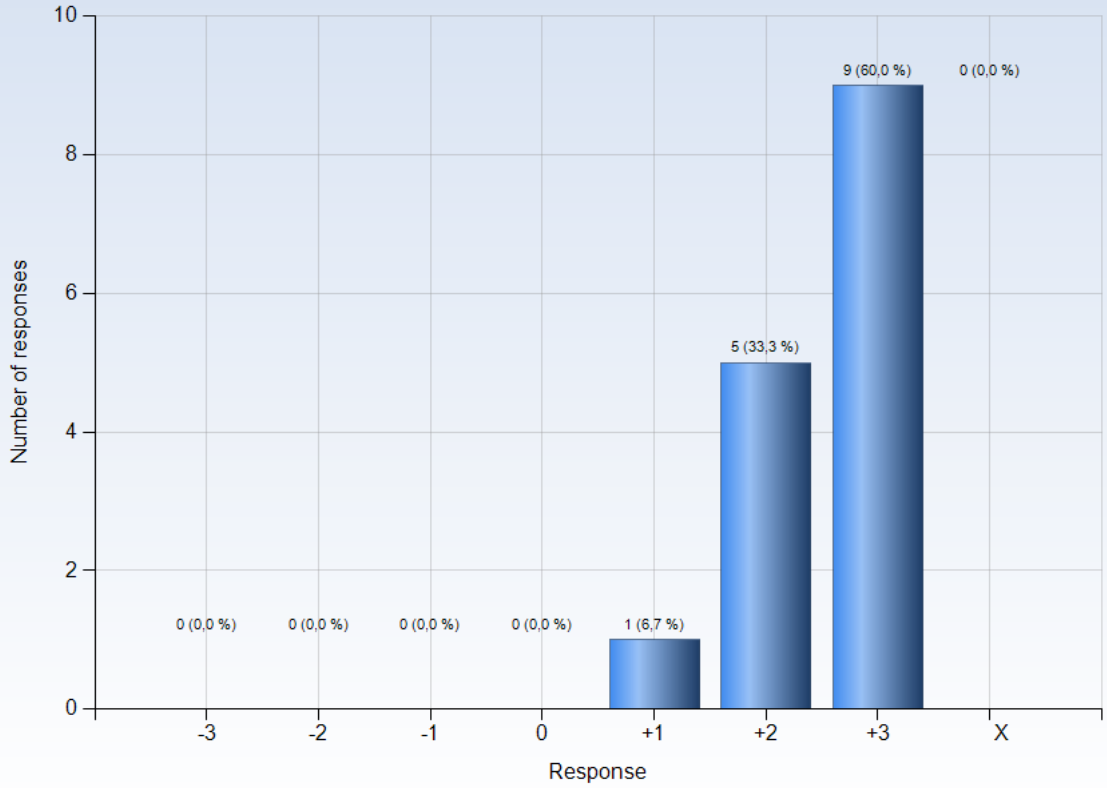



**Comments**

| Comments (My response was: -1) |
| --- |
| Felt like the conceptual parts of the course was often disregarded in favour of "just making it work". |

| Comments (My response was: 0) |
| --- |
| Not certain |

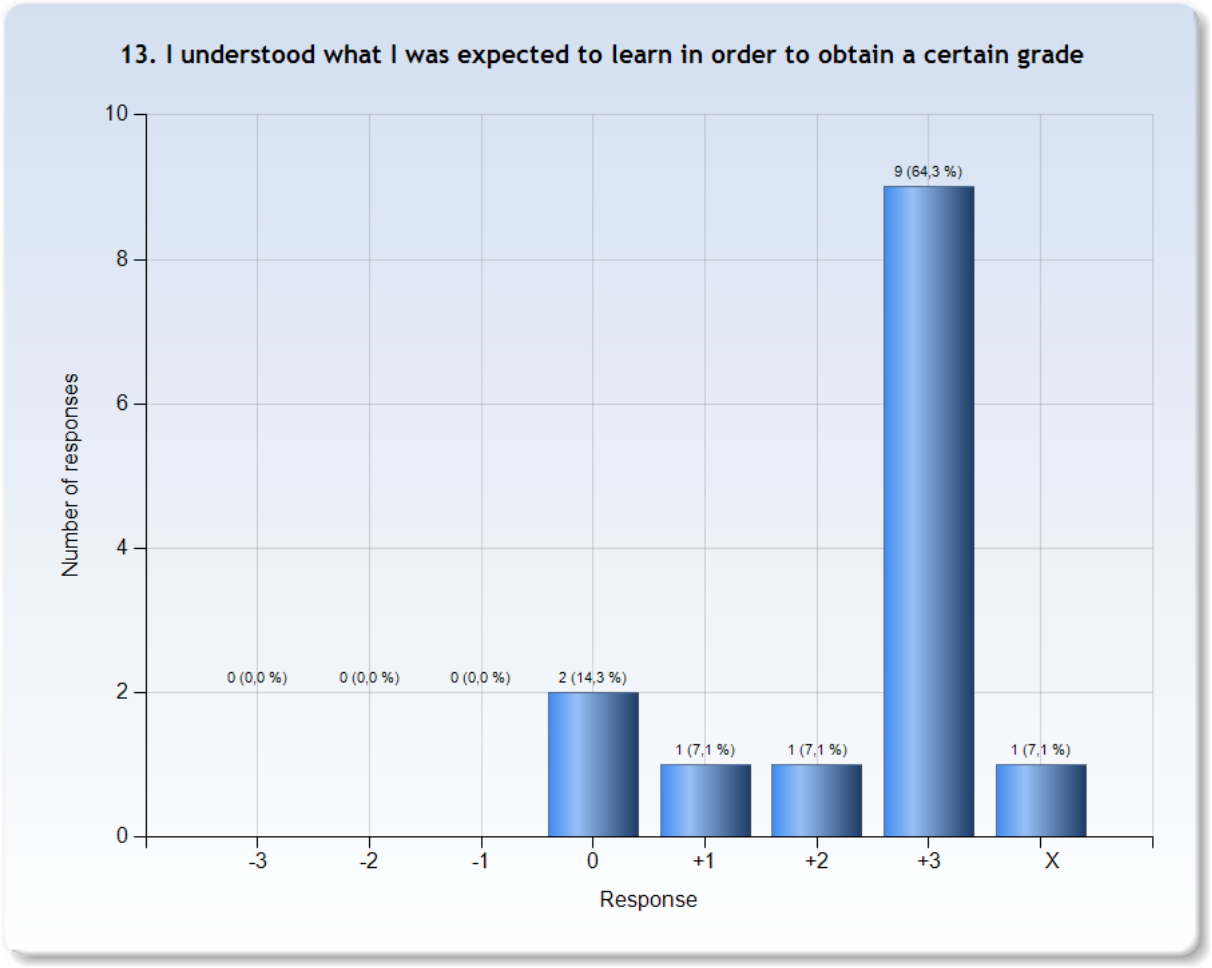
## 12. The course activities helped me to achieve the intended learning outcomes efficiently




**Comments**

(My response was: +2)

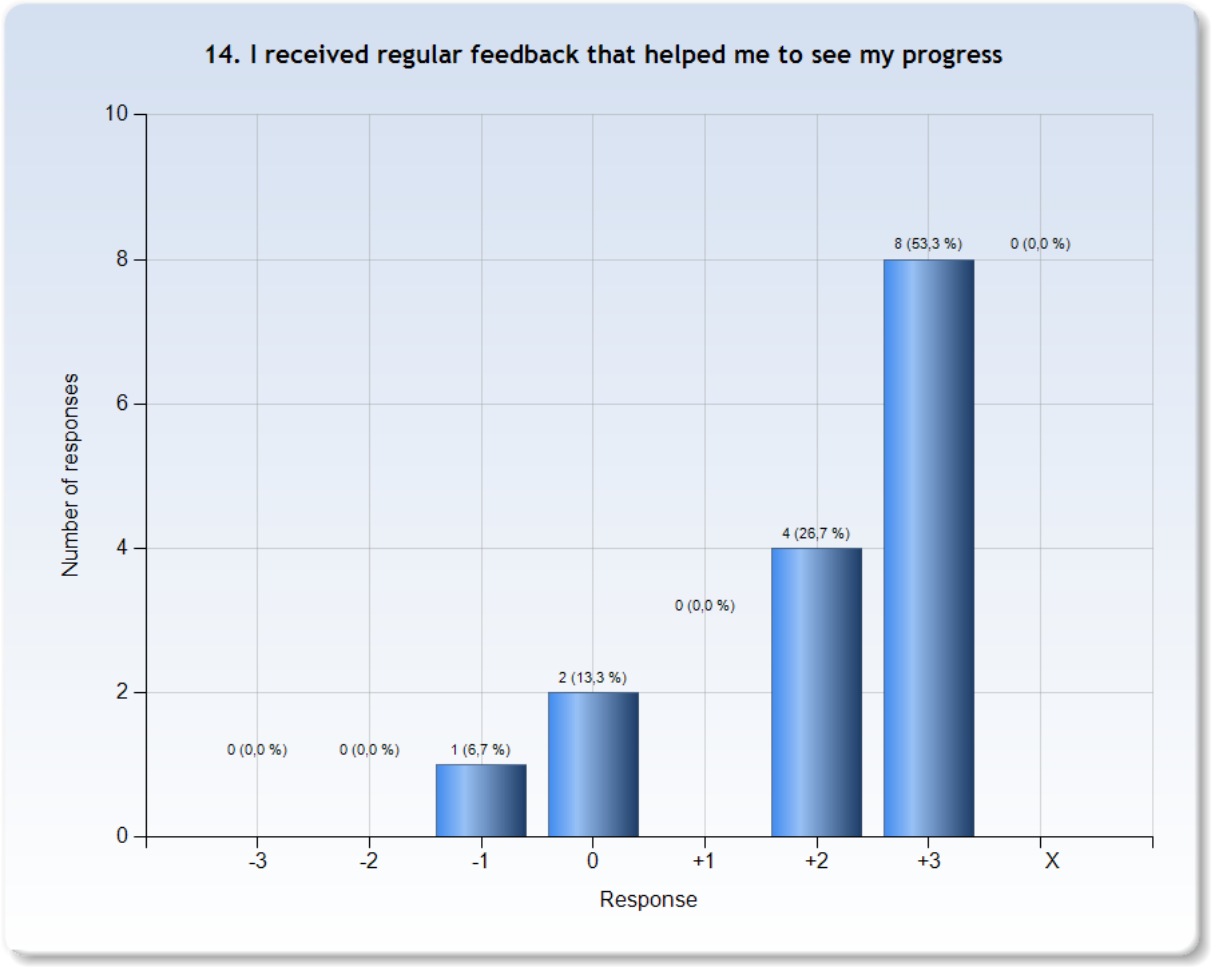
I worked too much, so I wasn't efficient.




**Comments**

| Comments (My response was: 0) |
| --- |
| Individual expectations were unclear |

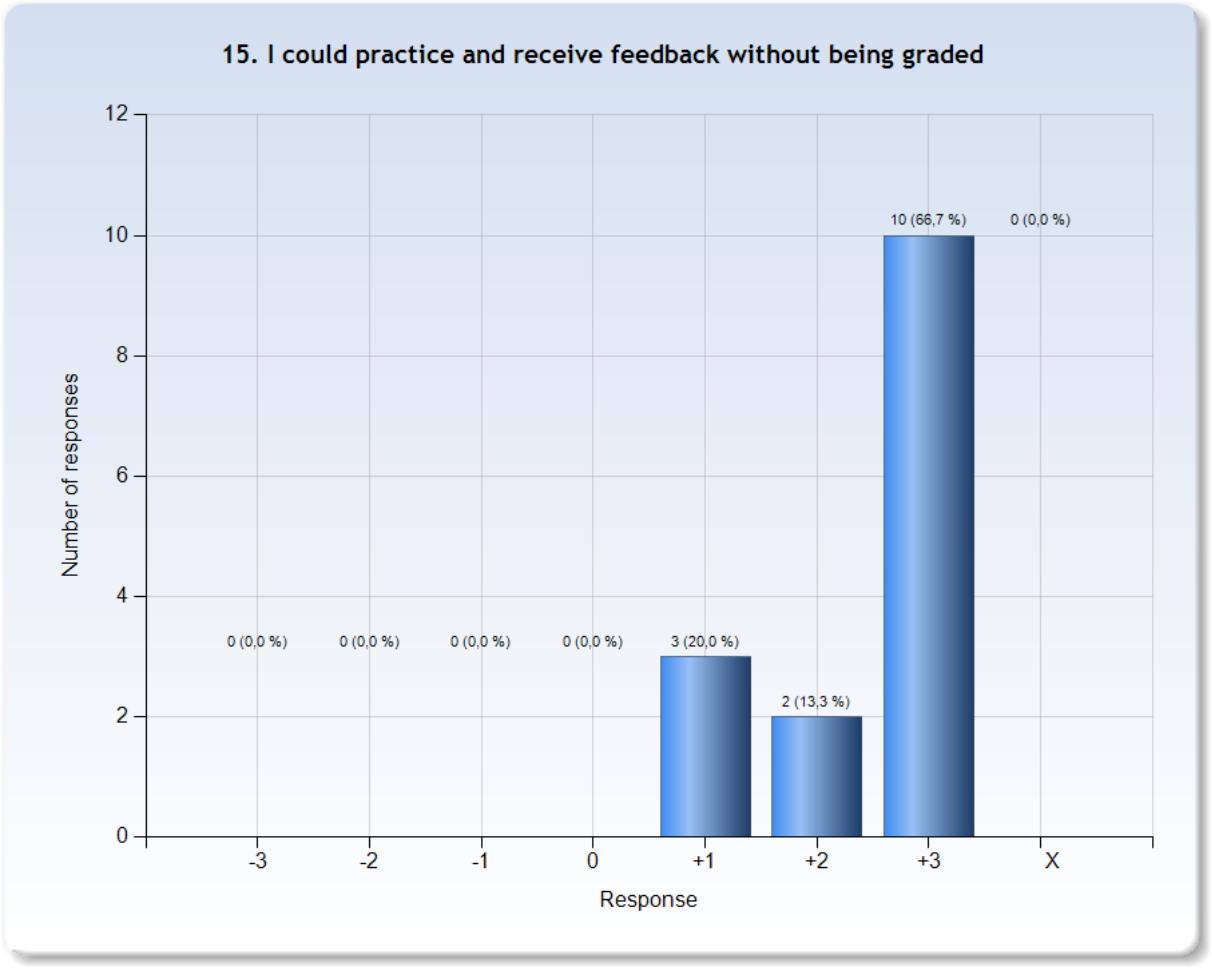
| Comments (My response was: X ) |
| --- |
| P/F-course |



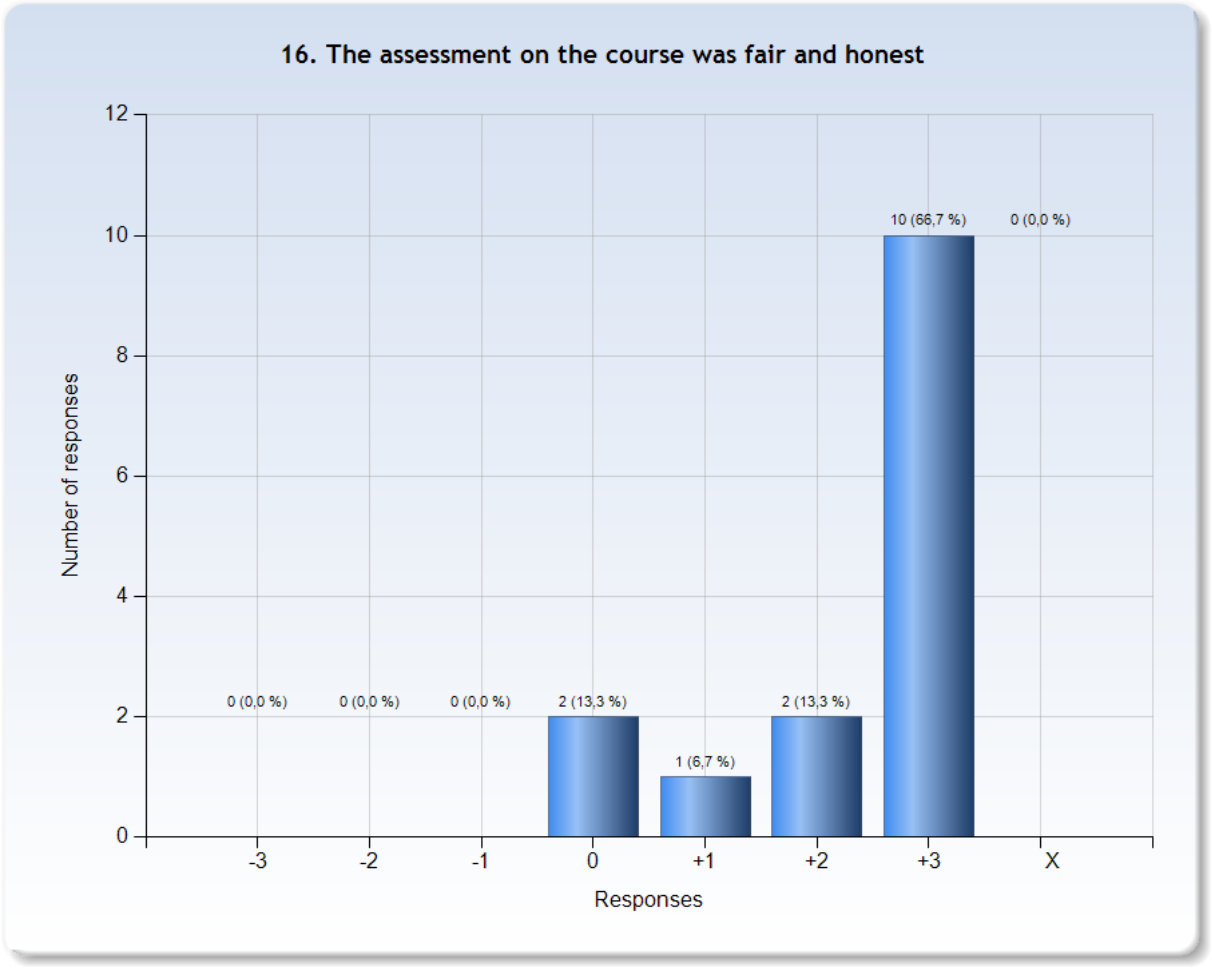

**Comments**

| Comments (My response was: 0) |
| --- |
| Peoject courses has minimal teacher help |

| Comments (My response was: +2) |
| --- |
| Yes during the weekly meetings |

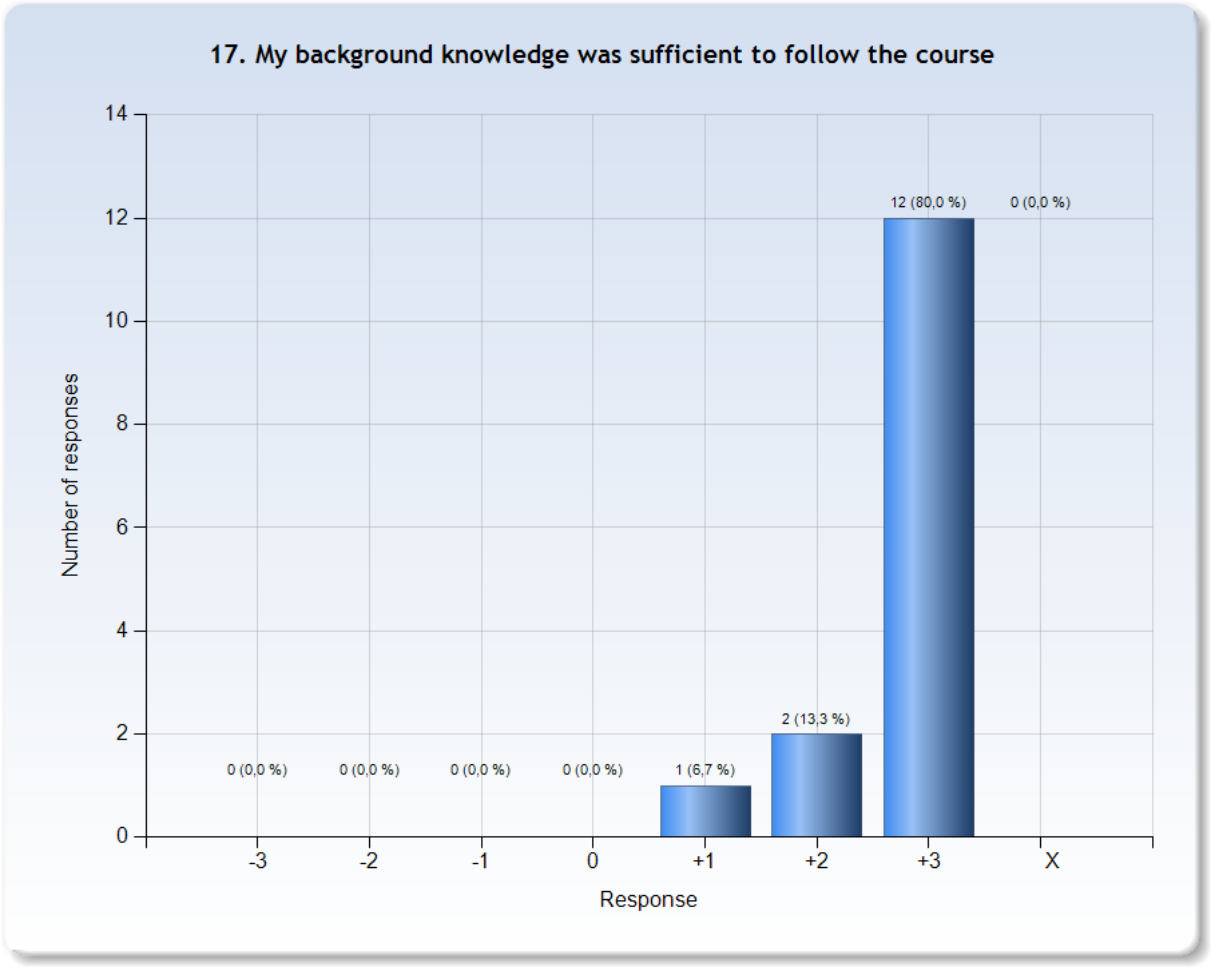

15. I could practice and receive feedback without being graded
Number of responses
Response
12
10
8
6
4
2
0
-3
-2
-1
0
+1
+2
+3
X
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
3 (20,0 %)
2 (13,3 %)
10 (66,7 %)
0 (0,0 %)

**Comments**



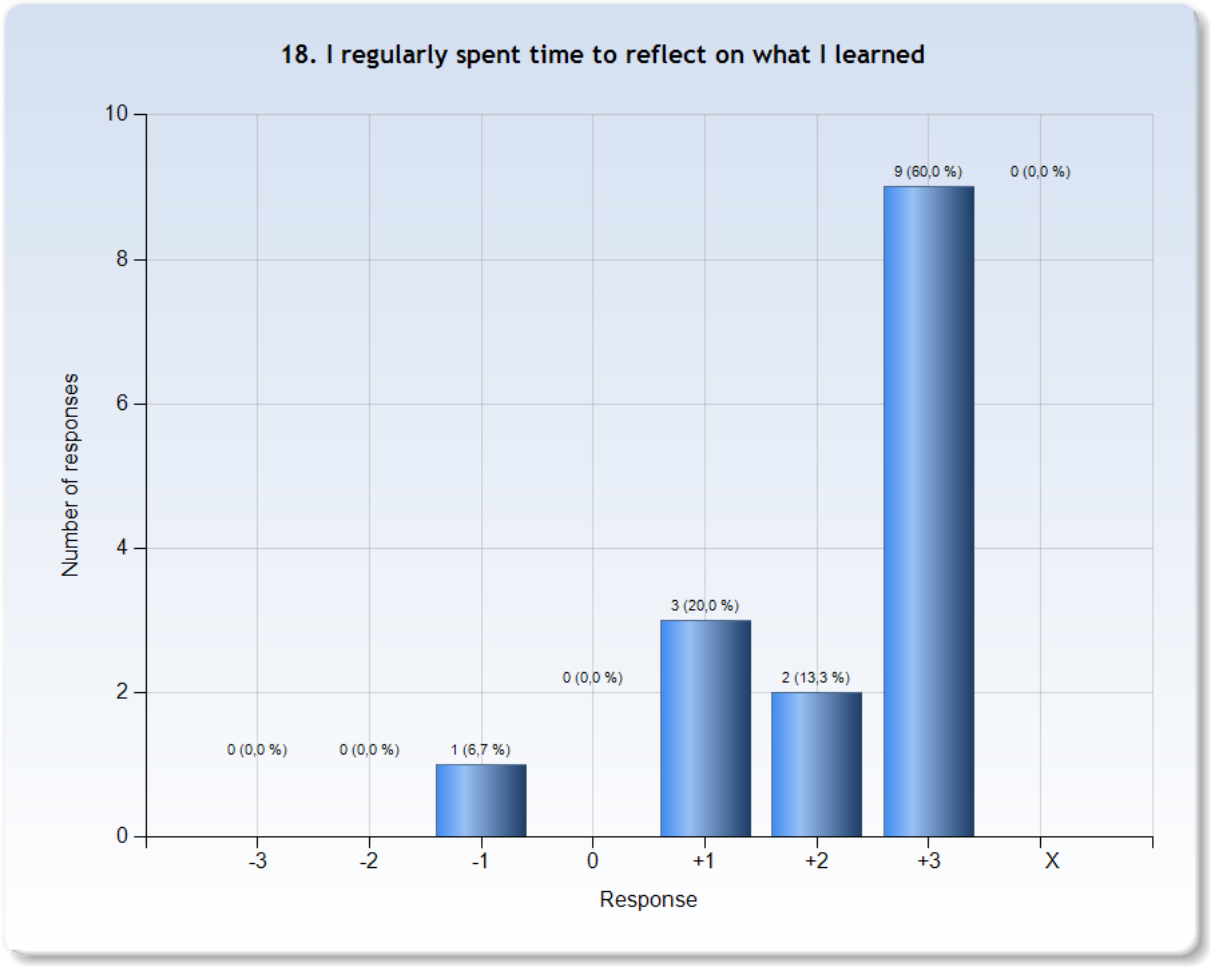

**Comments**

| Comments (My response was: 0) |
| --- |
| Group assessment was well defined but indivisual assessement was unclear |




**Comments**

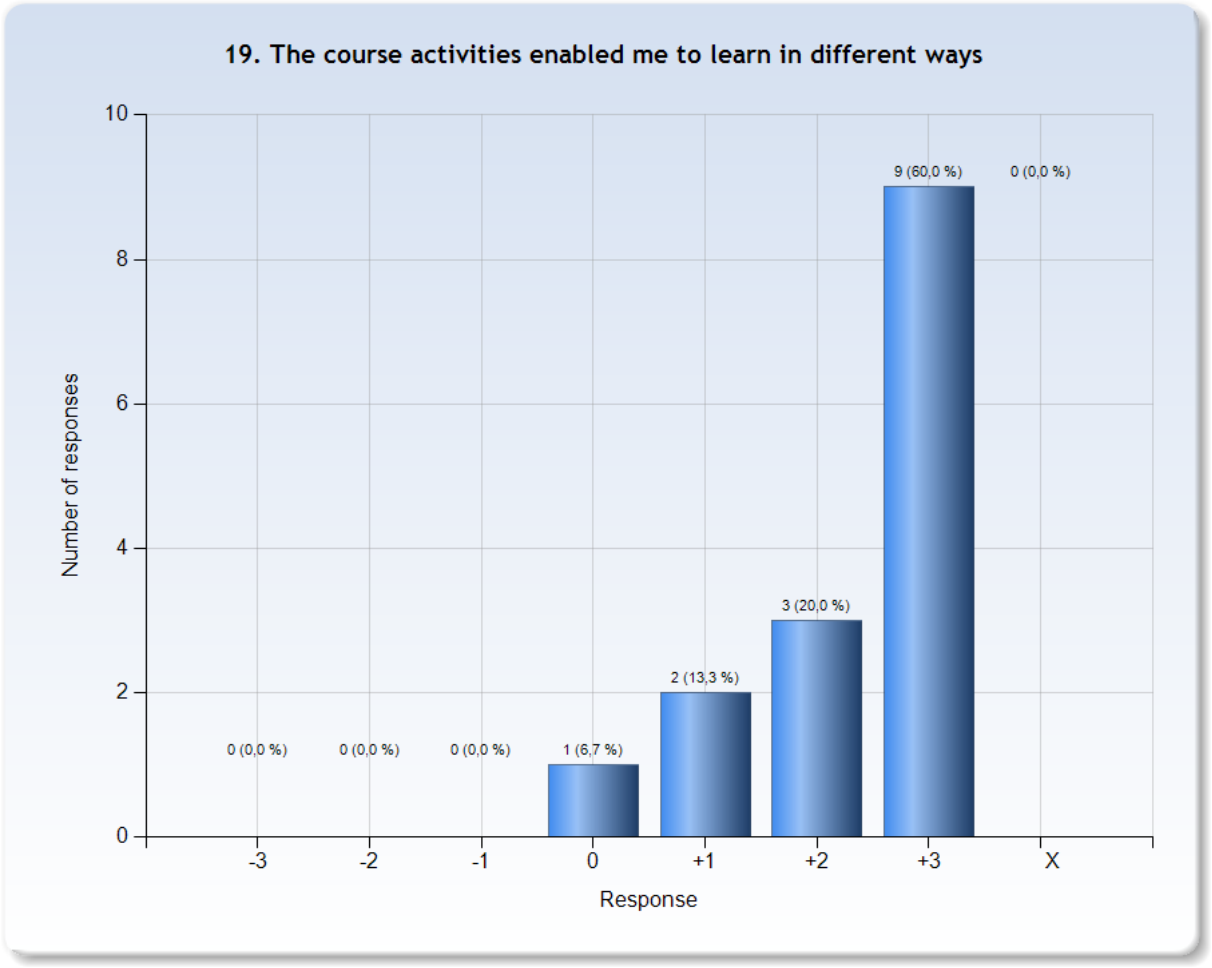
| Comments (My response was: +2) |
| --- |
| Needed more ros knowledge |



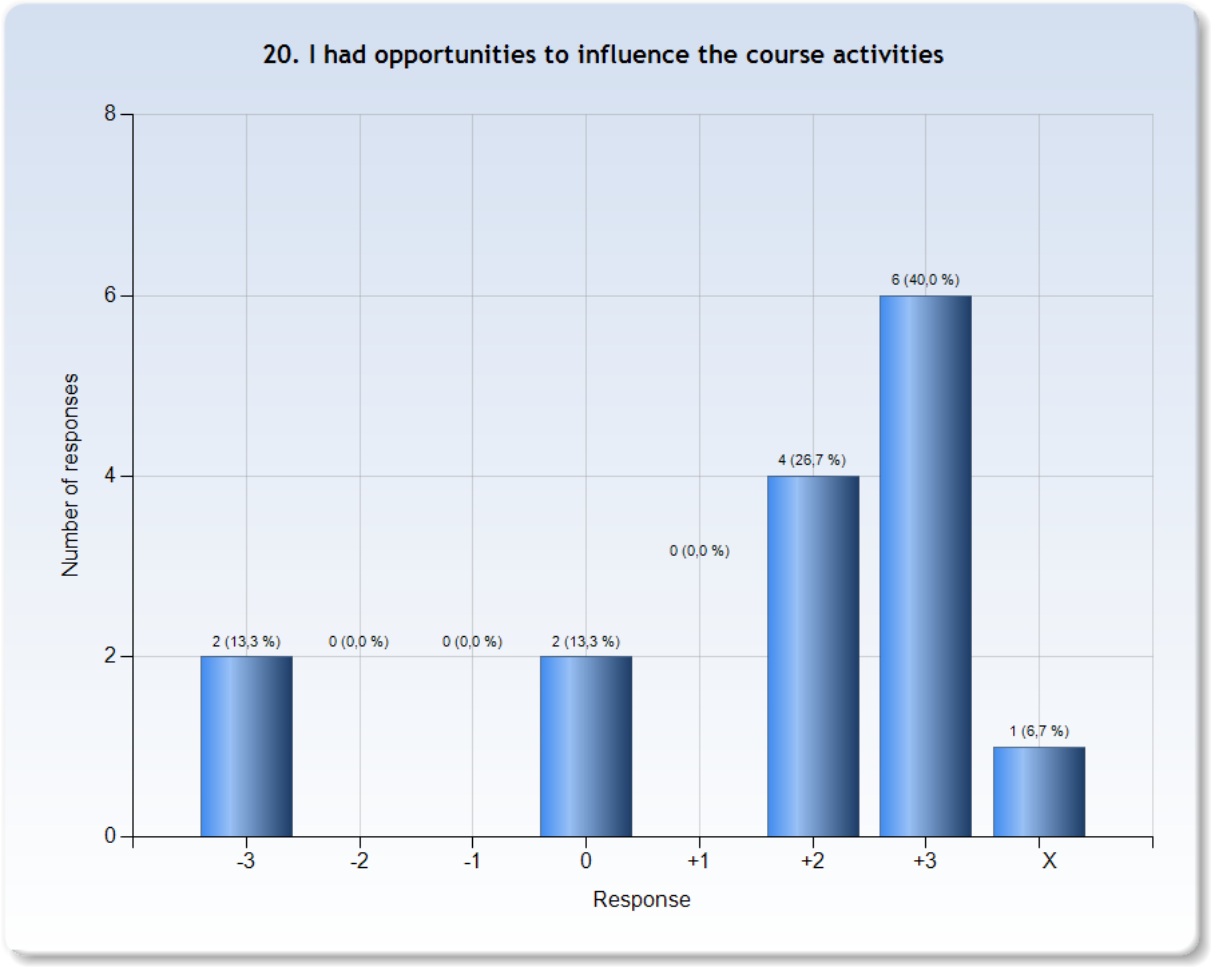

**Comments**

| Comments (My response was: -1) |
| --- |
| Blindly charging ahead! |

| Comments (My response was: +1) |
| --- |
| Was a long time ago. No more reflecting |

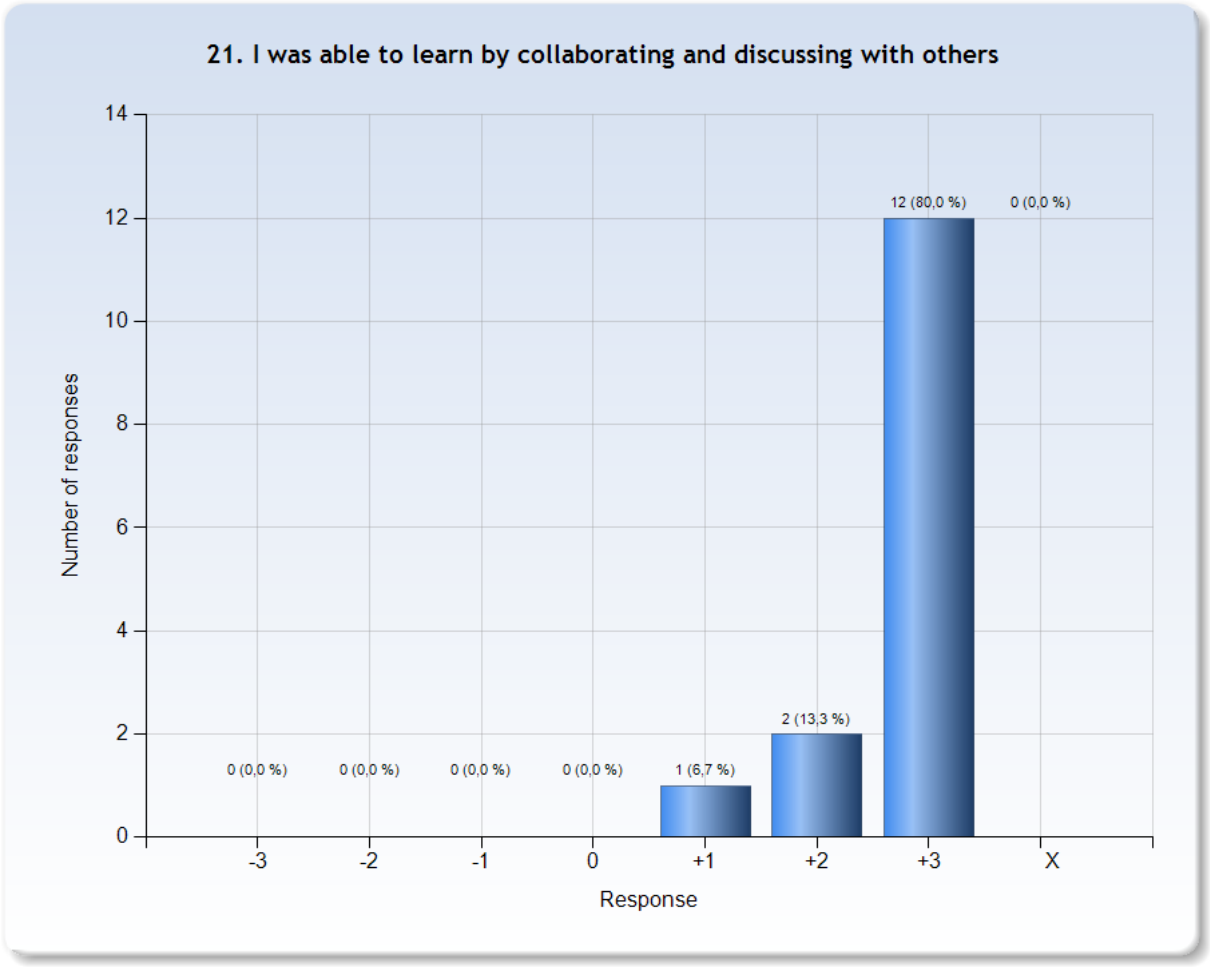

19. The course activities enabled me to learn in different ways
Number of responses
10
8
6
4
2
0
0 (0,0 %)
0 (0,0 %)
0 (0,0 %)
1 (6,7 %)
2 (13,3 %)
3 (20,0 %)
9 (60,0 %)
0 (0,0 %)
-3
-2
-1
0
+1
+2
+3
X
Response

**Comments**



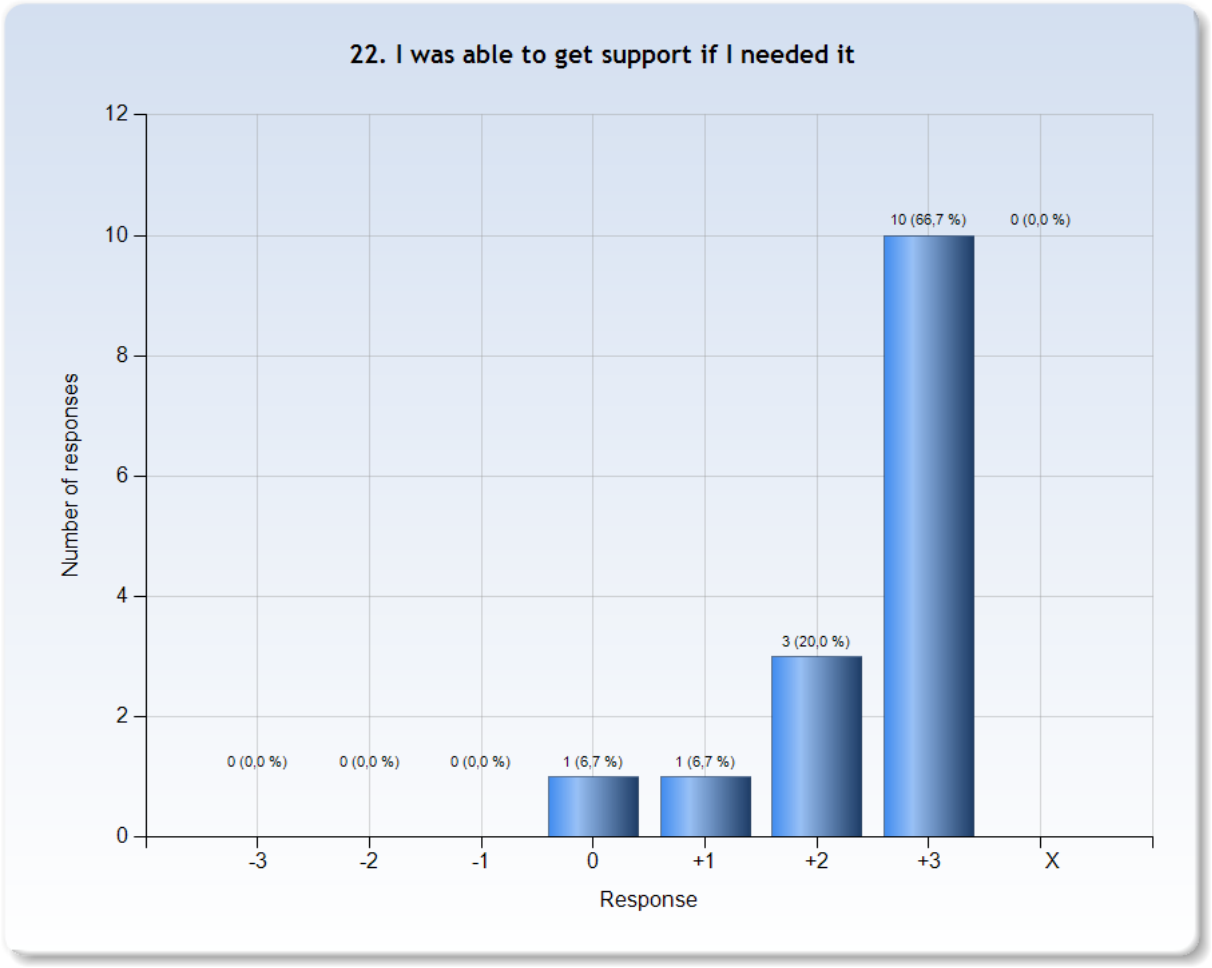

**Comments**

| Comments (My response was: -3) |
| --- |
| I think the course activities was already decided, but I didn't mind. |




**Comments**

| Comments (My response was: +3) |
| --- |
| I really liked the weekly meetings |




**Comments**

| Comments (My response was: +2) |
| --- |
| Would have gotten +3 if the presentations had been steered more towrds conceptual problems rather than 20 people trying to solve bugs without looking at the code. |
| From teammates |