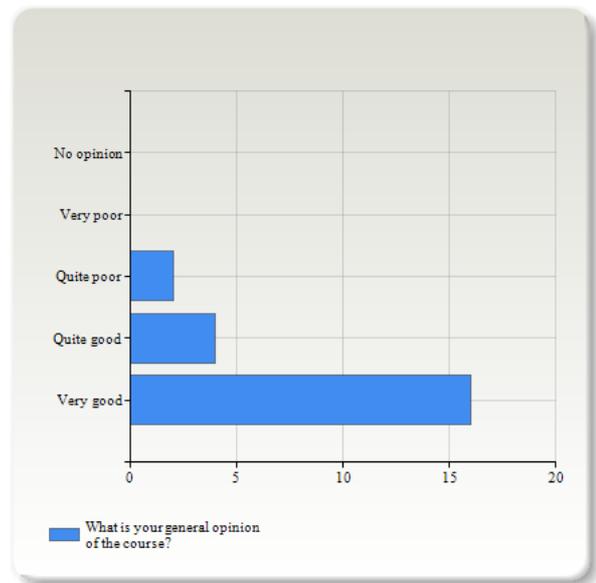


## VT18-1DV534-Objektorienterad programmering med C++-7,5hp-KALMAR-50%-Distans

Respondents: 60  
Answer Count: 22  
Answer Frequency: 36.67 %

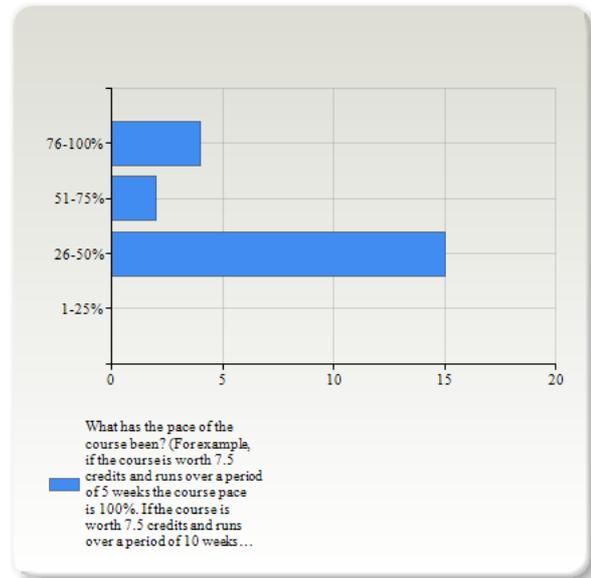
### What is your general opinion of the course?

What is your general opinion of the course?	Number of Responses
Very good	16 (72.7%)
Quite good	4 (18.2%)
Quite poor	2 (9.1%)
Very poor	0 (0.0%)
No opinion	0 (0.0%)
Total	22 (100.0%)



**What has the pace of the course been? (For example, if the course is worth 7.5 credits and runs over a period of 5 weeks the course pace is 100%. If the course is worth 7.5 credits and runs over a period of 10 weeks the course pace is 50%.)**

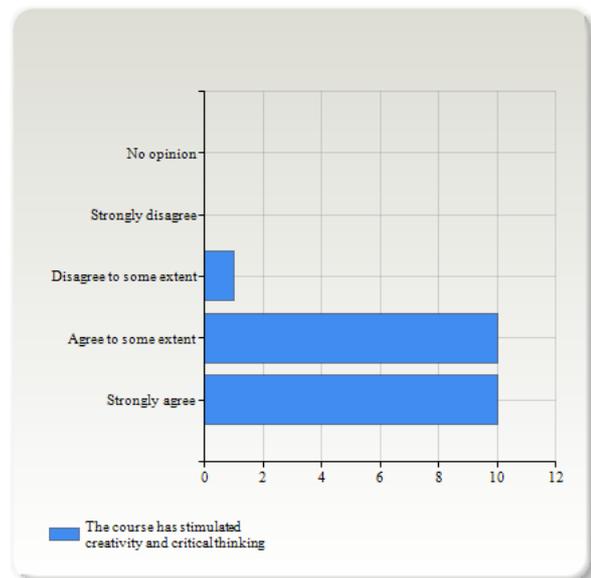
What has the pace of the course been? (For example, if the course is worth 7.5 credits and runs over a period of 5 weeks the course pace is 100%. If the course is worth 7.5 credits and runs over a period of 10 weeks the course pace is 50%.)	Number of Responses
1-25%	0 (0.0%)
26-50%	15 (71.4%)
51-75%	2 (9.5%)
76-100%	4 (19.0%)
Total	21 (100.0%)



**Below are some statements relating to the educational and knowledge environment of the course you have just read, please indicate your level of agreement with each statement:**

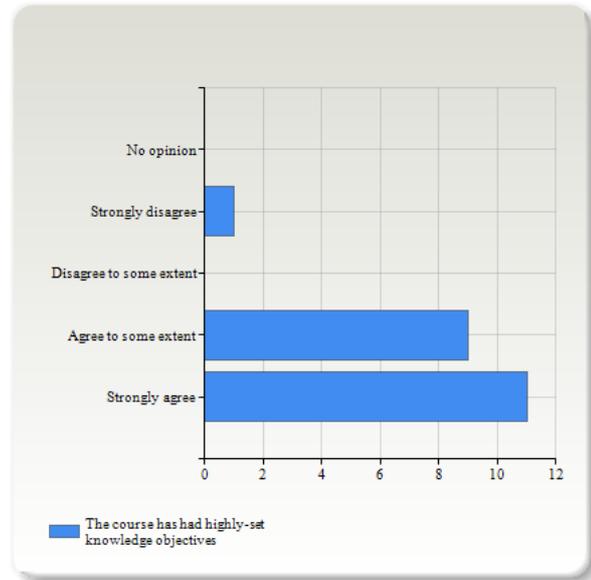
**The course has stimulated creativity and critical thinking**

The course has stimulated creativity and critical thinking	Number of Responses
Strongly agree	10 (47.6%)
Agree to some extent	10 (47.6%)
Disagree to some extent	1 (4.8%)
Strongly disagree	0 (0.0%)
No opinion	0 (0.0%)
Total	21 (100.0%)



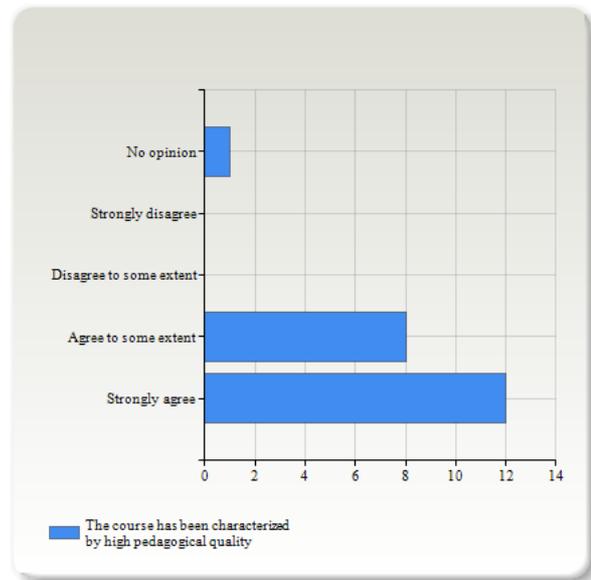
### The course has had highly-set knowledge objectives

The course has had highly-set knowledge objectives	Number of Responses
Strongly agree	11 (52.4%)
Agree to some extent	9 (42.9%)
Disagree to some extent	0 (0.0%)
Strongly disagree	1 (4.8%)
No opinion	0 (0.0%)
Total	21 (100.0%)



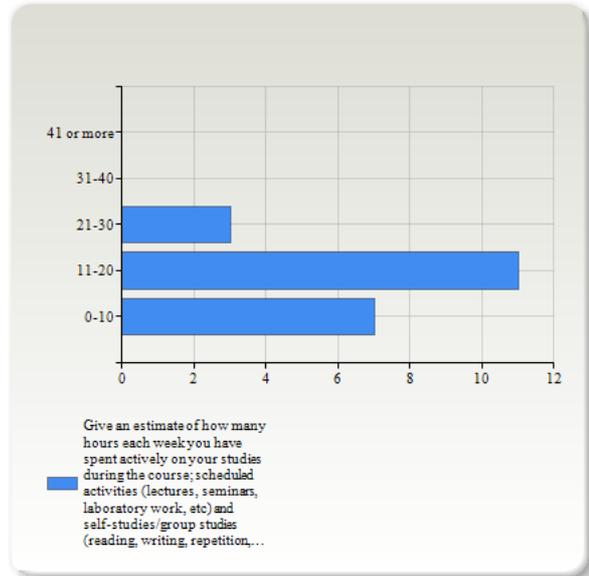
### The course has been characterized by high pedagogical quality

The course has been characterized by high pedagogical quality	Number of Responses
Strongly agree	12 (57.1%)
Agree to some extent	8 (38.1%)
Disagree to some extent	0 (0.0%)
Strongly disagree	0 (0.0%)
No opinion	1 (4.8%)
Total	21 (100.0%)



**Give an estimate of how many hours each week you have spent actively on your studies during the course; scheduled activities (lectures, seminars, laboratory work, etc) and self-studies/group studies (reading, writing, repetition, preparation).**

Give an estimate of how many hours each week you have spent actively on your studies during the course; scheduled activities (lectures, seminars, laboratory work, etc) and self-studies/group studies (reading, writing, repetition, preparation).	Number of Responses
0-10	7 (33.3%)
11-20	11 (52.4%)
21-30	3 (14.3%)
31-40	0 (0.0%)
41 or more	0 (0.0%)
Total	21 (100.0%)

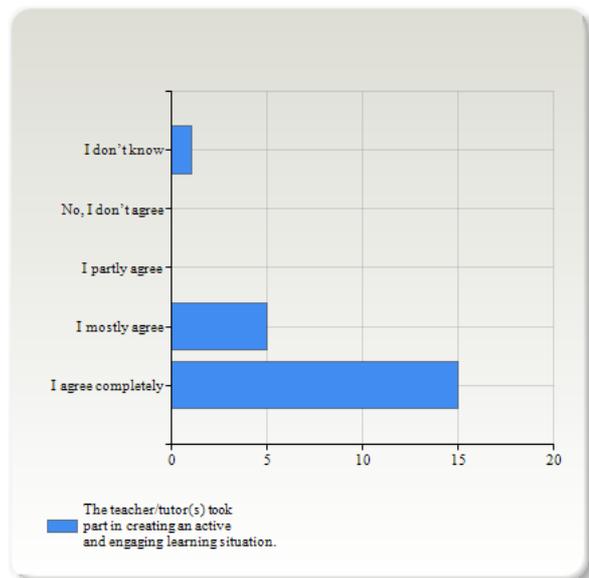


**Computer Science has the following questions**

**Learning situation:**

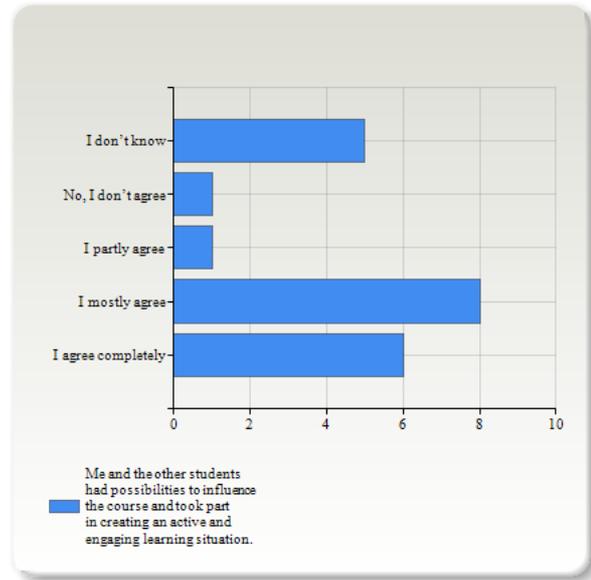
**The teacher/tutor(s) took part in creating an active and engaging learning situation.**

The teacher/tutor(s) took part in creating an active and engaging learning situation.	Number of Responses
I agree completely	15 (71.4%)
I mostly agree	5 (23.8%)
I partly agree	0 (0.0%)
No, I don't agree	0 (0.0%)
I don't know	1 (4.8%)
Total	21 (100.0%)



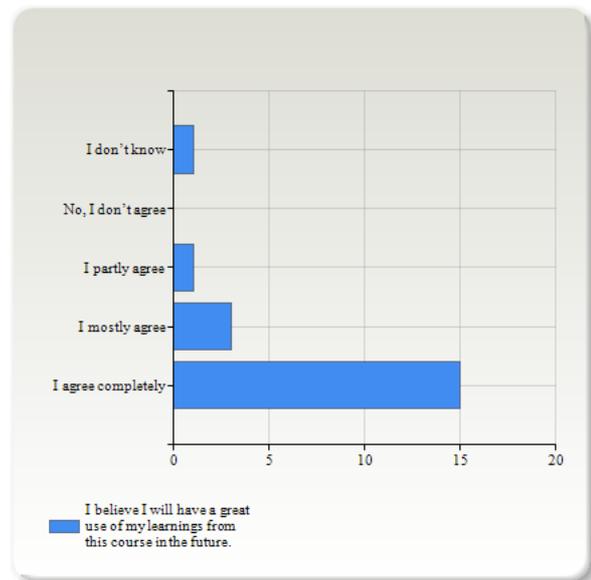
**Me and the other students had possibilities to influence the course and took part in creating an active and engaging learning situation.**

Me and the other students had possibilities to influence the course and took part in creating an active and engaging learning situation.	Number of Responses
I agree completely	6 (28.6%)
I mostly agree	8 (38.1%)
I partly agree	1 (4.8%)
No, I don't agree	1 (4.8%)
I don't know	5 (23.8%)
Total	21 (100.0%)



**I believe I will have a great use of my learnings from this course in the future.**

I believe I will have a great use of my learnings from this course in the future.	Number of Responses
I agree completely	15 (75.0%)
I mostly agree	3 (15.0%)
I partly agree	1 (5.0%)
No, I don't agree	0 (0.0%)
I don't know	1 (5.0%)
Total	20 (100.0%)

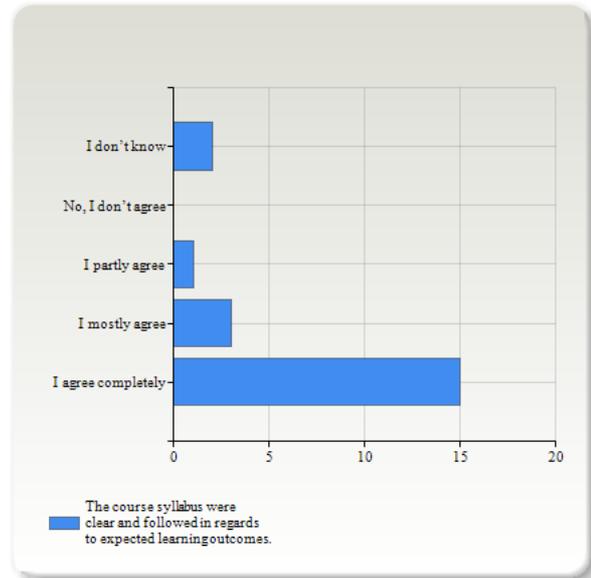


**Is there something else you would like to describe? Did you have any extra positive experiences from the course? In what way can the course be improved? Tell freely! What do you think?**

## Learning content and examination:

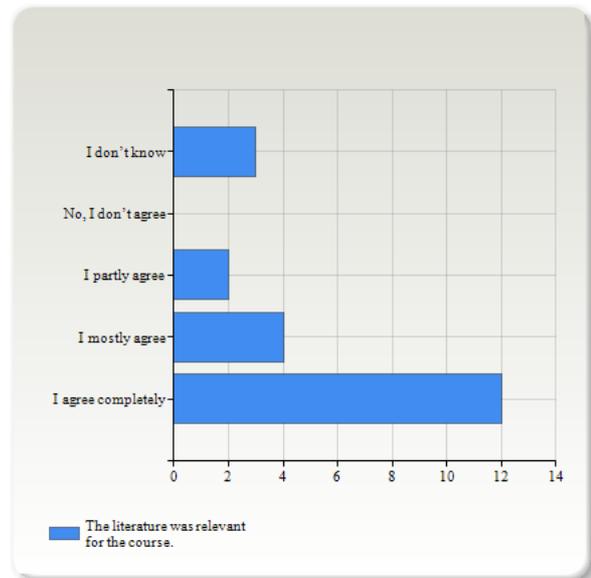
**The course syllabus were clear and followed in regards to expected learning outcomes.**

The course syllabus were clear and followed in regards to expected learning outcomes.	Number of Responses
I agree completely	15 (71.4%)
I mostly agree	3 (14.3%)
I partly agree	1 (4.8%)
No, I don't agree	0 (0.0%)
I don't know	2 (9.5%)
Total	21 (100.0%)



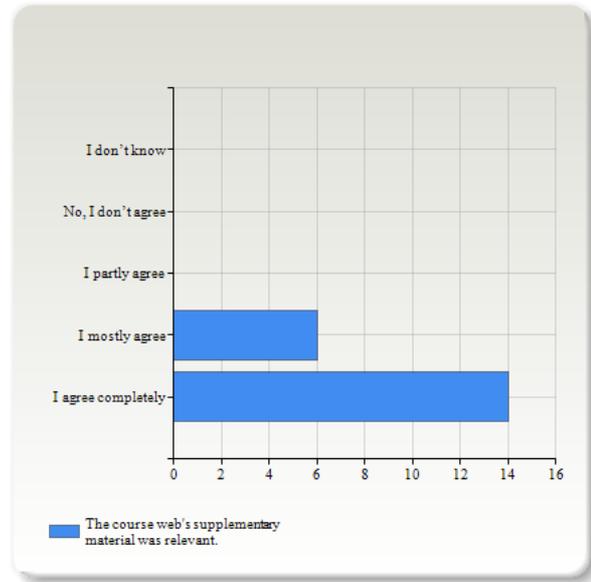
**The literature was relevant for the course.**

The literature was relevant for the course.	Number of Responses
I agree completely	12 (57.1%)
I mostly agree	4 (19.0%)
I partly agree	2 (9.5%)
No, I don't agree	0 (0.0%)
I don't know	3 (14.3%)
Total	21 (100.0%)



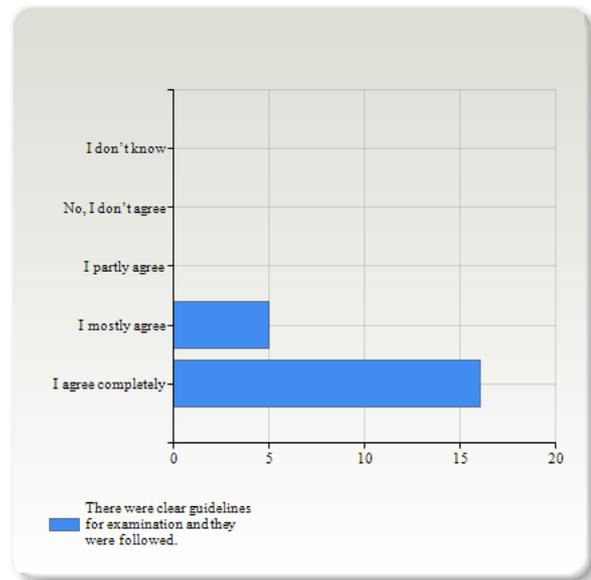
**The course web's supplementary material was relevant.**

The course web's supplementary material was relevant.	Number of Responses
I agree completely	14 (70.0%)
I mostly agree	6 (30.0%)
I partly agree	0 (0.0%)
No, I don't agree	0 (0.0%)
I don't know	0 (0.0%)
Total	20 (100.0%)



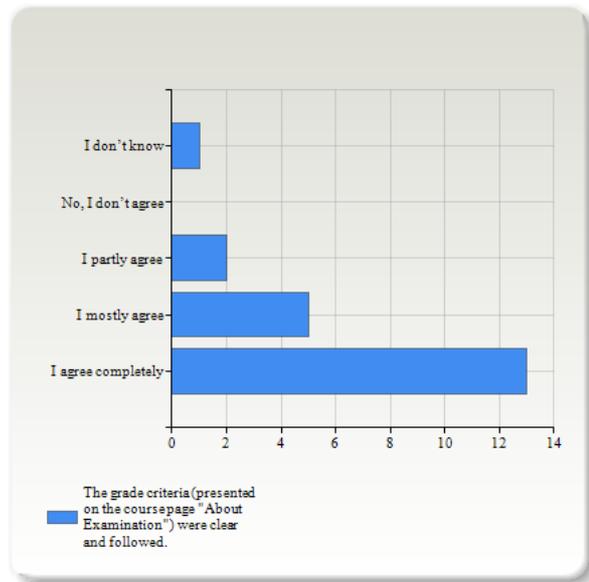
**There were clear guidelines for examination and they were followed.**

There were clear guidelines for examination and they were followed.	Number of Responses
I agree completely	16 (76.2%)
I mostly agree	5 (23.8%)
I partly agree	0 (0.0%)
No, I don't agree	0 (0.0%)
I don't know	0 (0.0%)
Total	21 (100.0%)



**The grade criteria (presented on the course page "About Examination") were clear and followed.**

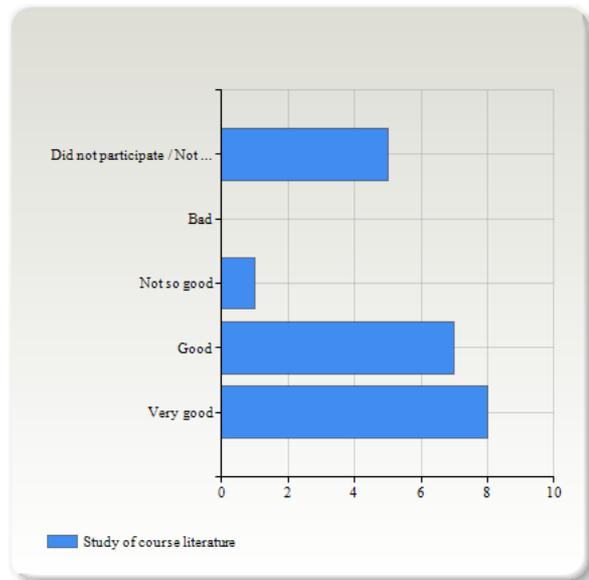
The grade criteria (presented on the course page "About Examination") were clear and followed.	Number of Responses
I agree completely	13 (61.9%)
I mostly agree	5 (23.8%)
I partly agree	2 (9.5%)
No, I don't agree	0 (0.0%)
I don't know	1 (4.8%)
Total	21 (100.0%)



**How do you value the different course elements?**

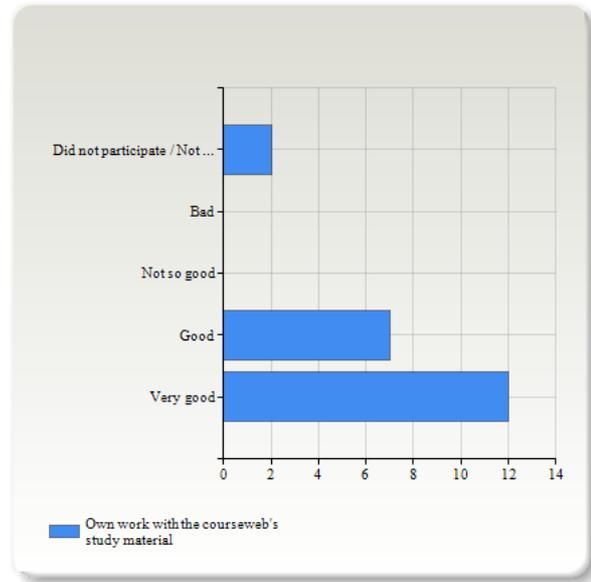
**Study of course literature**

Study of course literature	Number of Responses
Very good	8 (38.1%)
Good	7 (33.3%)
Not so good	1 (4.8%)
Bad	0 (0.0%)
Did not participate / Not applicable	5 (23.8%)
Total	21 (100.0%)



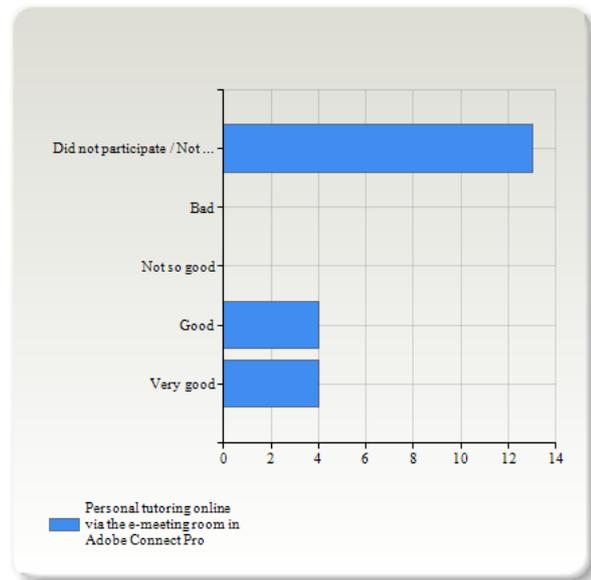
### Own work with the courseweb's study material

Own work with the courseweb's study material	Number of Responses
Very good	12 (57.1%)
Good	7 (33.3%)
Not so good	0 (0.0%)
Bad	0 (0.0%)
Did not participate / Not applicable	2 (9.5%)
Total	21 (100.0%)



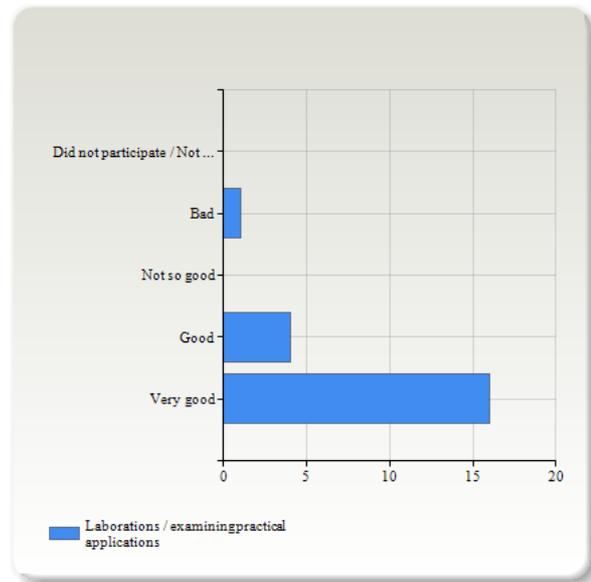
### Personal tutoring online via the e-meeting room in Adobe Connect Pro

Personal tutoring online via the e-meeting room in Adobe Connect Pro	Number of Responses
Very good	4 (19.0%)
Good	4 (19.0%)
Not so good	0 (0.0%)
Bad	0 (0.0%)
Did not participate / Not applicable	13 (61.9%)
Total	21 (100.0%)



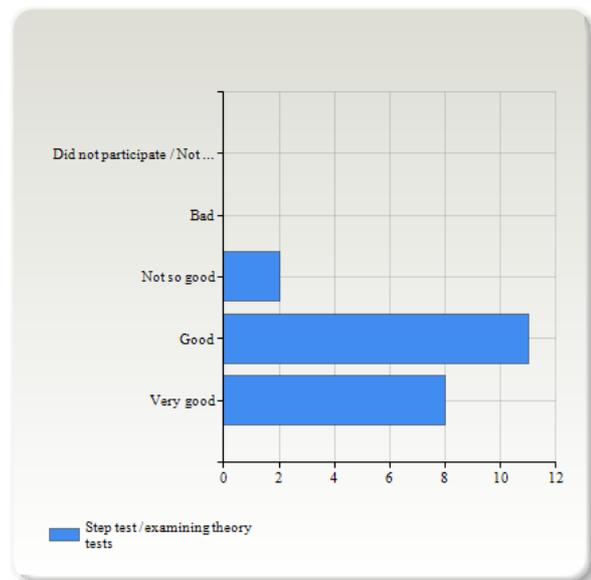
## Laborations / examining practical applications

Laborations / examining practical applications	Number of Responses
Very good	16 (76.2%)
Good	4 (19.0%)
Not so good	0 (0.0%)
Bad	1 (4.8%)
Did not participate / Not applicable	0 (0.0%)
Total	21 (100.0%)



## Step test / examining theory tests

Step test / examining theory tests	Number of Responses
Very good	8 (38.1%)
Good	11 (52.4%)
Not so good	2 (9.5%)
Bad	0 (0.0%)
Did not participate / Not applicable	0 (0.0%)
Total	21 (100.0%)



### **Strengths of the course according to the students (state 2-3 strengths)**

One student personally expresses three positive qualities that were experienced with the course:

"Good structure and content, very good organization, very good feedback."

These views are found in varying expressions from several students, so I choose to let this quote represent the three main "strengths" with the course from the students' perspective.

### **Students' suggestions for improvement opportunities (state 2-3 improvement opportunities)**

Suggested improvements in form of three student quotes:

"Maybe a bit more sample code to bridge the gap from theory to practice."

"I would suggest cutting down a bit on the file read/write and also the i/o parts of the practical assignments. It felt like they were present in almost all assignments, and often took most attention getting right which left other areas of equal importance less thoroughly examined. I would suggest trying to incorporate the c++ standard library more, and also explore templates more."

"Jag håller förvisso med om att det i en fortsättningskurs är bra att grundligt gå igenom saker som manuell minneshantering för de fall man senare kommer jobba med legacykod, men jag tycker att man samtidigt lika grundligt bör gå igenom nya säkrare alternativ som `std::unique_ptr` och `std::shared_ptr`. På samma sätt tycker jag att man bör tona ner användandet av c-arrays till förmån för de standardiserade containerklasserna (`std::vector`, `std::array`, `std::list` etc). Dito c-strängar mot `std::string` och `std::string_view`. Vidare skulle jag efterlysa en genomgång av viktiga c++-koncept som iteratorer, algoritmer, RAII och `type_traits`. Jag känner också att diskussionen om när man `_inte_` ska objektorientera saknas."

### **Course coordinator and / or the examiner's perspective on proposed improvements (from the organizational perspective , work environmental perspective , previous course evaluations, etc.)**

Proposed improvements appear to be highly relevant and should lead to a major upgrade for any future courses.

### **Suggestions for improvement measures**

An exchange of course literature, in the basic course that precedes this course, should be a suitable starting point for the renewal of focus and content in this deepening course in C++.

According to the students' suggestions, it would then be advisable to minimize the management of "raw" data types, arrays, pointers and memory management in this course. The treatment of these parts may perhaps be deepened in the basic course, in favor of an expanded scope for incorporating the C++ standard library, as well as (as suggested by students) exploring templates, algorithms and iterators to a greater extent in the 1DV534 course.

### **Other remarks**

A little fewer than half (i.e. 60) of the initially admitted students have remained as registered and active course participants this year, which is a noticeable increase since previous courses.

Also the response rate (22 out of 60 respondents, ie 36.67%) is higher than in previous years, but still too low to draw general conclusions from the evaluation. The critical position of this course at the end of the academic year (study period 4) is still the single biggest reason of both drop-outs and low response rates or low throughput. Many students study the course as an extra, supplementary course during their third year, which means that they often perform their major degree work in parallel. When this is intensified at the final stage, it's not difficult to understand which work is prioritized. Perhaps the 1DV534 course would therefore benefit from being placed in a different period than the last one.