

## Report Course Evaluation

Course name	Empirical Methods for Designers
Course code	201500008
Contact person	Dr.ir. F. Schuberth
Teaching staff	Dr.ir. F. Schuberth
Credits	5 EC
Phase	M
Study period	2019-2020 1B
Report date	February 17 <sup>th</sup> , 2020
Reporter	Catharina Wiersma, Evaluation Committee S.G Daedalus
Number of respondents	26% (8 respondents)
Overall appreciation	<b>8.1</b>

### Introduction

At the end of the examination of the course Empirical Methods for Designers, a questionnaire had been sent to all participating students of this examination. The results of this questionnaire can be found below. Unfortunately, the number of respondents did not exceed the empirical minimum (14 students) to draw representative conclusions about this specific course. Therefore, results might need to be taken with a grain of salt. The open question at the end of the questionnaire have been used for the interpretation of the results. The past has learned that this question is often used to express what is bothering the students the most. Therefore, this last part of the questionnaire is considered as very important. **An overview of these answers can be found in the appendix.**

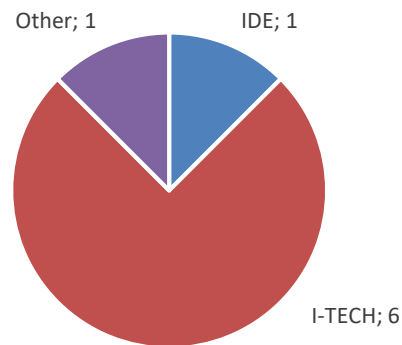
The final grade for the course (**8.1**) is calculated by taking the average of the final valuation granted to this course in general by the students (to be specified by a number between 1 and 10).

The first part of the results of the questionnaire provides information about facts concerning the effort taken by the students, like the percentage of attending the lectures and the accomplishment of the assignments. The second part provides information about the opinion of the students on different aspects. If necessary, the results of the first part are taken into consideration for the right interpretation of the results of the second part.

## Results: Part 1

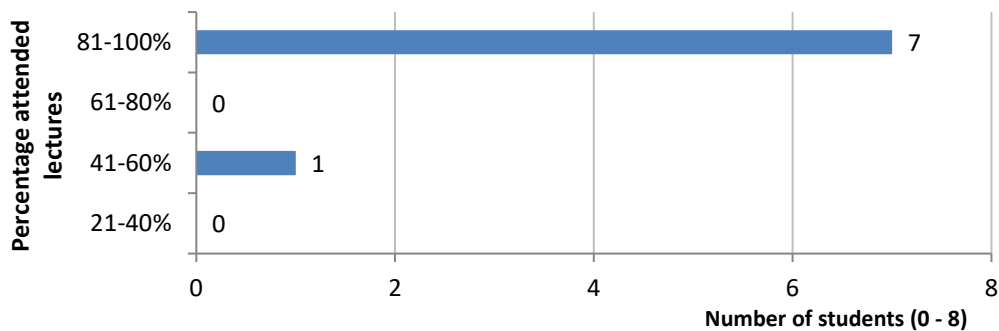
The first part of the results of the questionnaire provides information about which master program the students followed as well as facts concerning the effort taken by the students, like the percentage of attending the lectures and the accomplishment of the assignments. The results are shown below.

### Composition of respondents



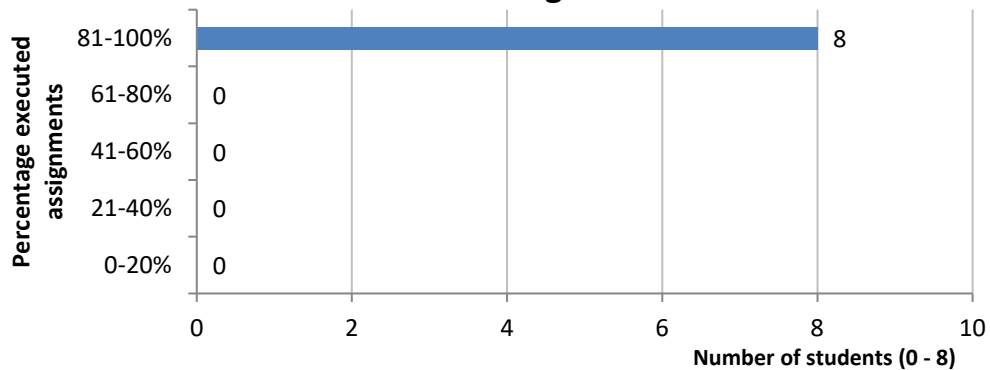
As shown above, the biggest number of respondents follow an I-TECH master program, 6 to be precise. One other student follows an IDE master track and it is known that another student follows a master track besides ME, BME or CS.

### Attendance lectures



The percentage of attending the lectures was high. As can be seen above, almost 90% of the students attended 81-100% of the lectures. Only one other student followed about half the lectures, between 41-60% of the total. There were no students known who attended less lectures than this percentage.

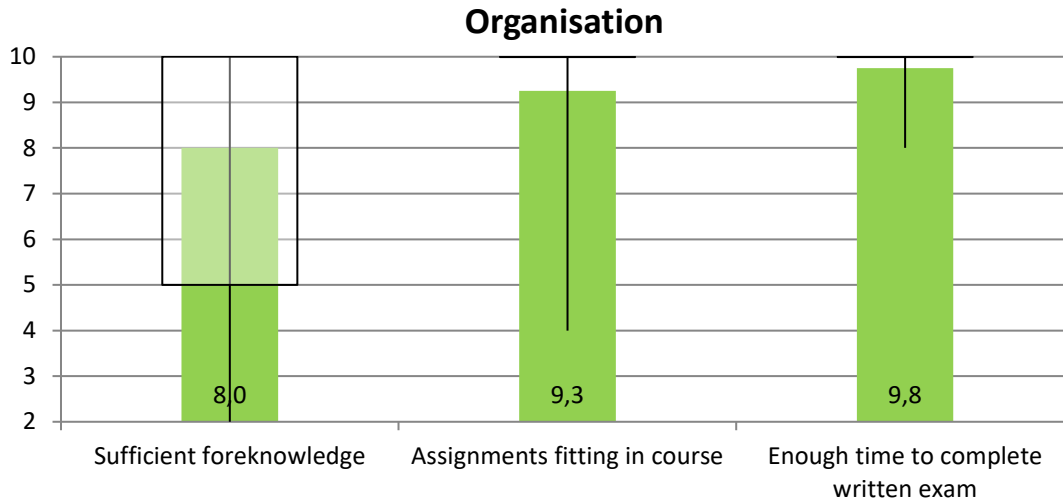
### Execution assignments



It appears that all students participating in this questionnaire, filled in that they executed 81-100% of the total number of assignments.

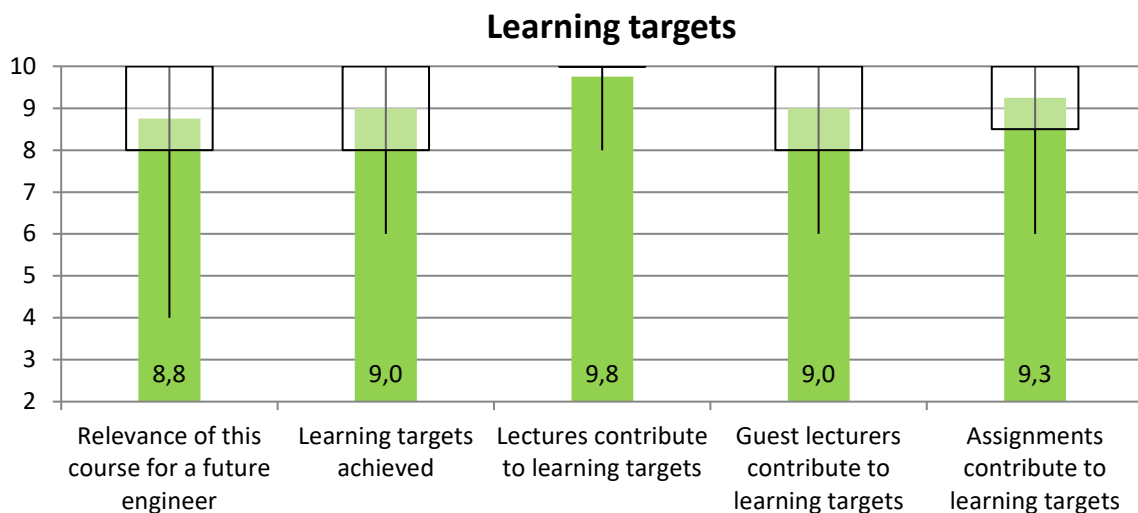
## Results: Part 2

The second part provides information about the opinion of the students on different topics. The marks that the students have given are discussed per topic. The available options on the questionnaire were given on a 1-5 scale and have been converted to a 2-10 scale. This means that a mark below 6 means insufficient, anything above 6 is considered as sufficient. All these results are shown below.



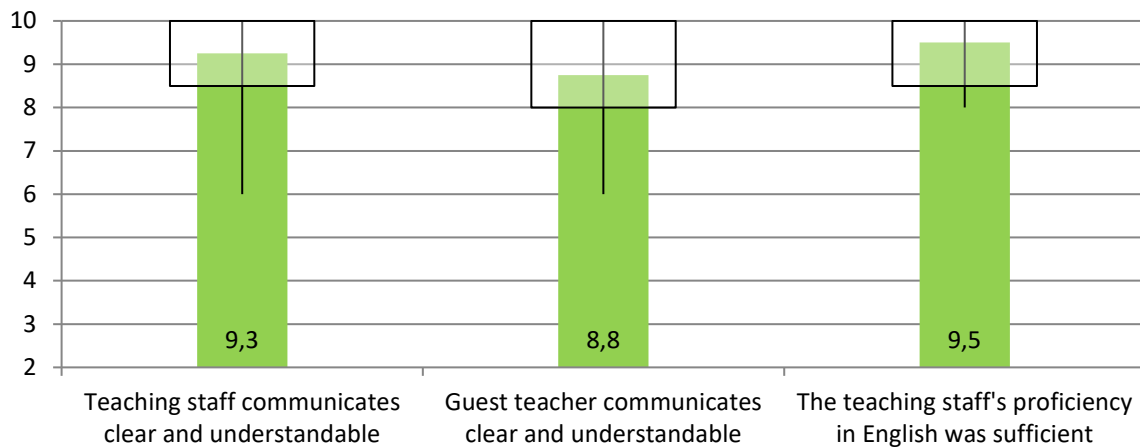
The organization of this course was graded rather high and comes down to an average of 9,0. Overall, it shows that students had sufficient foreknowledge to follow this course (8,0). However, the graph shows a great deviation of marks, with a rating as low as 5 and another as high as 10. This indicates that the levels of foreknowledge differed among students following this course. A comment was made by one student noting their insufficient foreknowledge on the subject, as well as saying that they would have liked a broader introductory lecture. The full comment can be found in the appendix.

The assignments fit the course very well, as this topic was graded high by the students (9,3). Besides this, there was enough time to complete the written exam (9,8). The graph shows almost no deviation between the grades given, which indicates that all the respondents of the questionnaire gave ratings that were very close to one another on these two topics.



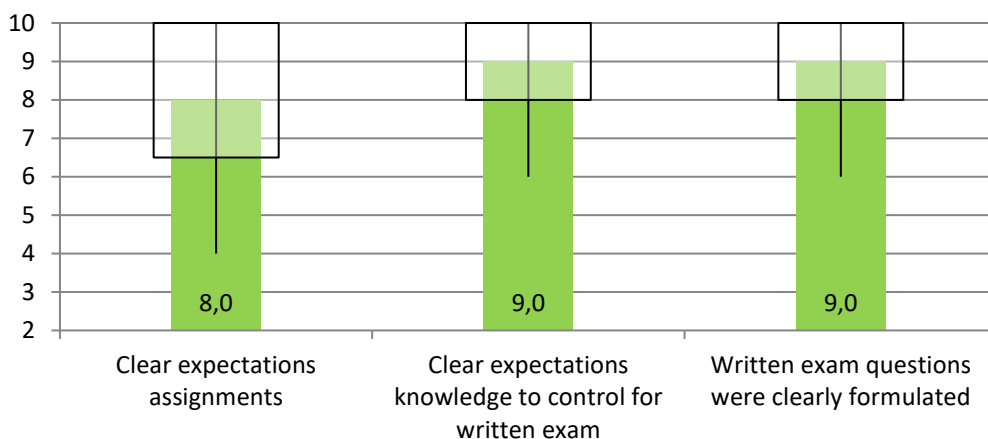
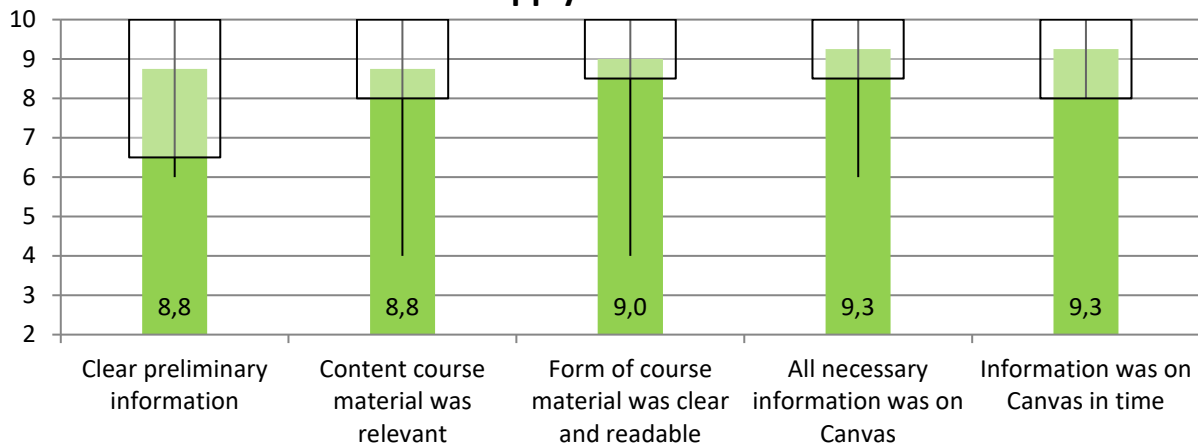
The course is considered as highly relevant for a future engineer (8,8). The learning targets are well achieved by following this course (9,0), the (guest) lectures contribute extensively in achieving these (9,8 and 9,0), as well as the assignments given to the students (9,3). Overall, each individual topic shows little deviation between the grades, indicating that the students are relatively on the same page when it comes to the learning targets.

### Study guidance



The average grade for study guidance of this course, comes down to a 9,2. With little deviation, the communication from the lecturer was graded very high (9,3). With a somewhat lower grade and larger deviation, the guest teacher also scored quite good on his communication (8,8). The English proficiency of the teaching staff was considered exceptionally high (9,5). A student mentioned that the head lecturer was very clear as well as enthusiastic in conveying the material and answering questions.

### Supply of information



The supply of information was graded rather well, with an average of 8,9. Overall, the preliminary information was very clear, and the content of the course material was considered relevant (both 8,8). However, the deviation is rather big on the first topic. This indicates that at least one student found the clarity of the preliminary information to be sufficient to say the least, while another believed it to be excellent. Despite this,

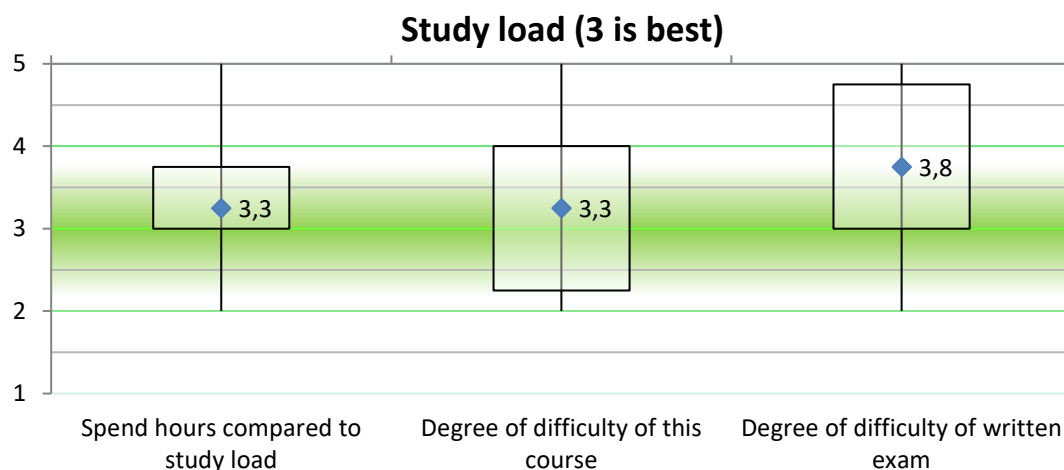
both marks are nonetheless positive, and therefore considered sufficient. Unfortunately, there were no further comments made on this by students.

Many students agreed that the form in which the course material was given, was very clear and readable (9,0). Besides that, all the necessary information could be found on canvas (9,3) and was always on time as well (9,3).

Overall, students had clear expectations of the assignments (8,0), but deviation is shown to be rather large. This indicates that at least one student experienced the assignments to not be that far from their initial expectations, whereas at least one other student considered the assignments to be exactly as they expected. No further comments on this were made by the students, but the result might tie in with the topic on clarity of the preliminary information. When the preliminary information is unclear, it can result in a student not having clear expectations of the assignments.

The expectations in regards to what knowledge students needed to control for the written exam, scored higher, and had a smaller deviation than the previous topic (9,0). This excellent grade shows that the students considered themselves to be well-informed on what to expect of the written exam. Besides this, the students found the questions of the written exam to be very clearly formulated (9,0).

In this part of the questionnaire the students were asked to rate statements from 1 to 5. A value 3 is the best possible result, everything below 3 is considered too little and everything above 3 is considered too high. **The greater the distance from the centre value (3), the more negative the assessment is.**

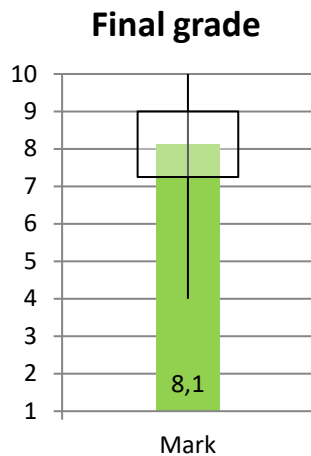


In the graph it can be seen that students experienced the study load to be slightly heavier than expected. Nonetheless, it seems to be quite balanced as the appreciation is only 0,3 points off from the target value (3,0).

This is also the case for the degree of difficulty of this course (3,3). However, here it shows quite a big deviation compared to the previous topic. It indicates that at least one student experienced the course to be rather easy, while other students experienced it to be on the difficult side. Most students lean towards the latter, as the average is above the 3,0-target value.

Compared to the other topics on study load, an important point of attention is the degree of difficulty of the written exam. The graph shows a value of 3,8, which is quite far off from the target value when compared to the other values. This indicates that the average student experienced the written exam to be rather difficult. However, it shows quite a big deviation with extremes of students thinking the exam was the right degree of difficulty, to students thinking the exam was extremely hard. Unfortunately, students made no direct comments on the written exam as to why. However, from the results of the questionnaire it can be concluded that it is *not* to blame on differing expectations of the exam and is probably due to the inherent difficulty of the subject itself.

## Conclusion



In general, this course has been judged very positively by the students participating in the questionnaire. No topics were identified that need to be addressed very urgently. On average, this course gets a 9,0, with the final grade being nearly one point lower (8,1). These can be considered as great results, since the final grade rather says something about whether students liked the course.

Overall, the average marks are excellent, with grades no lower than 8,0. However, some topics showed a rather big deviation in grading, indicating that some students had quite differing opinions from the average. Due to this, the main points of attention are drawn from the results with big deviations. These seem to be the on the topics of:

1. Sufficient foreknowledge
2. Clear preliminary information
3. Clear expectations of the assignments
4. Degree of difficulty of the written exam

It seems that the level of sufficient foreknowledge differed greatly between some students following this course. As one student mentioned, this could be improved upon by providing more extensive and broader introductory lectures, in order to create a more equal level of knowledge among the students from the start.

Besides this, some students thought the preliminary information could be clearer, as well as the expectations for the assignments. Unfortunately, it is not exactly known why some students' expectations differed. However, next time it might help to elaborate on these points more during the early stages of the course to avoid confusion for students in the rest of the course.

Lastly, the degree of difficulty of the written exam was thought to be rather high. In the future this could be avoided by making the exam slightly easier, or by preparing the students even better for their upcoming exam. This way, the average can be brought down closer to the right degree of difficulty experienced by the students.

Overall, the course scored very well, but the points mentioned could do with some attention to get to the same level of the rest of the course.

**Note:** Only 4 answers were given to the open question, which makes it hard for the evaluator to quantify these answers, and point out the most important one. However, from a teacher perspective, one of these answers might just hit the mark and give useful insights. Therefore, it is recommended to also read the answers to the open question in the appendix.

## Feedback of teaching staff

Thank you very much for your comments. I really enjoyed the group and I am happy to see that most of you did as well. It was really a pleasure to be your teacher. You were very engaged in solving the assignments and moreover, you asked critical questions about the content leading to interesting conversations. In the following my responses to the points of attention from the evaluation:

**Sufficient foreknowledge:**

In the future, I will provide students with more material that they can use to catch up. Although a broader introduction to descriptive and inferential statistics would be great, I think it is outside the scope of this course. In particular, against the background of the comment under "Other comments". To address the request about more (advanced) techniques: Originally, there was also a lecture on stated preferences including logit and probit models. Unfortunately, the person who originally gave that lecture left the UT and so far no replacement could be found. I hope for the next academic year, I can find a guest lecturer who can teach these techniques again.

**Clear preliminary information:**

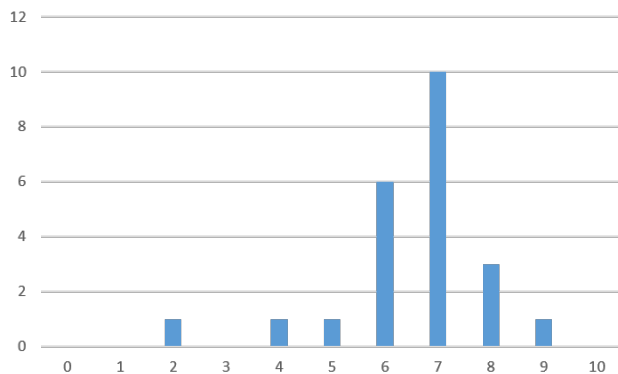
I agree that the description of the techniques discussed in the course is not very detailed. However, this is due to potential changes that will likely happen in the future to the course. As mentioned above, originally there was a second lecturer involved who should teach stated preferences. Since this lecturer is not available anymore, I am looking for a replacement that I hopefully find soon. If that has happened, I will update the information. I don't want to promise content that I cannot deliver.

**Clear expectations of the assignments:**

I will go through the assignments again to see whether I can spot ambiguities, and if, of course, I will give my best to rule them out.

**Degree of difficulty of the written exam:**

I showed an examples of the multiple choice part and to my opinion I have not asked unfair questions and gave enough time to work on the exam. So I cannot really say why the exam was experienced as rather difficult. Also the following graph on the grade distribution of the exam (first trial, i.e., resit excluded) does not indicate any problems:



Out of 23 students, 20 passed. Taking the resit into account, 21 passed.

## Appendix

Remarks about EMfD	Frequency
Response with comments / total response	4/8

## Lectures

2

- A student mentioned liking the theoretical lectures combined with the practical applications of the theory for the assignments. This helped greatly with understanding the topics.
- One student missed quite a lot of previous knowledge. They would have liked a broader introductory lecture and more like a content start at the beginning of each lecture.

## About EMfD in general

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- Cheers to the lecturer for being very clear as well as enthusiastic in conveying the material and answering questions.

## Other comments

1

- “In my previous education, I always missed the practical application of statistics; we only learned how to conduct statistical hypothesis tests by hand. So I'm really happy that this course provided me with the tools to manipulate and analyse large datasets, very cool! In my opinion, this is arguably the best choice between the research courses within Interaction Technology. I've also recommended it to everyone who I spoke at the I-Tech course market today, since I really believe students should take this opportunity to learn the basics of multivariate analysis for their thesis. I'm not sure how others experienced this, but I would have liked to learn more actually. Overall, I do not have the impression that I've spent 140 hours on this course. I'm very happy with everything I've learned, but I wouldn't mind having a higher workload. Maybe a bit more about effect size, power analysis, or (logistic) regression. But all in all, I think this was a really good course.”