Evaluation report Transport Phenomena

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The evaluation committee has evaluated the course Transport Phenomena by sending an online questionnaire to 86 students. 41 students filled in the questionnaire, which gives a response of 48%.

The course Transport Phenomena scores an average grade of 3.0 which is not sufficient for a master course. This grade is worse than last year's evaluation. The content and learning goals are important, but the learning goals are not accomplished during the course. The lectures were not good and it looked like the lecturer did not prepare them very well. The PowerPoint-presentation was full with errors and the lecturer also made some mistakes in the examples. Last year it was also recommended to prepare the lectures better. It is unfortunate that the lectures are not better prepared, because this could improve the course a lot. Respondents also mention that the given book is difficult and not very useful. Furthermore, the structure of the book does not correspond with the structure of the lectures. The exam was difficult, especially the last question, which was not clear at all. The exam was too long for the maximum of 3 hours. Chemical engineering students do not fully understand specific terms that are well-known in mechanical engineering. The tutorials however did score well, students say that the subjects became a lot clearer during the tutorials.

These are the main conclusions of the evaluation. The interpretation is based on the remarks of the respondents. For an overview of the results, see the graph at the end of this report.

Recommendations of previous evaluation

The last evaluation was in 2013/2014

- Prepare lectures better/more thoroughly to prevent mistakes on the blackboard.
- Improve the slides and fix the mistakes.
- Check if questions on the exam are only interpretable in a single way.

Recommendations by the committee

The quality of the course can be improved. Based on the results of the questionnaire, some recommendations for improvement are provided. The most important recommendations are:

- Prepare lectures better/more thoroughly to prevent mistakes on the blackboard.
- Improve the slides and fix the mistakes
- Make better study material, the given book was difficult and not very useful.
- Continue with the tutorials, students say the subjects became clearer in the tutorials.

Response lecturer

The lectures were not good and it looked like the lecturer did not prepare them very well. The PowerPoint-presentation was full with errors and the lecturer also made some mistakes in the examples. Last year it was also recommended to prepare the lectures better. It is unfortunate that the lectures are not better prepared, because this could improve the course a lot.

I do prepare my lectures, but I can imagine that for the audience it sometimes does not look like that. During the lectures it sometimes happens that I am confused, despite of a good preparation. I am afraid that a better preparation will not change this. Indeed does the powerpoint presentation contain some mistakes. I can imagine that the confusion, which hits me once in a while, is not beneficial for the understanding of the students. The small errors in the sheets are irritating and should be corrected, but to my opinion are of minor influence to the complaints about the clearness of the lectures.

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Indeed I have chosen not to follow the structure of the book, which first treats momentum transfer, than heat transfer and at last mass transfer. I follow the path of increasing mathematical complexity of the pdv's. In my first lecture I give a guideline which chapters from the book correspond to which lectures. The book has the same idea as the tutorials. It contains a lot of problems which are solved. I know the book is not easy, but to my opinion it has added value. During the course two PDEng students wrote a reader. I am now busy completing this reader. When it is available the course is better suited for self study. The drawback will be that students will study the book even less, which I would pity.

The exam was difficult, especially the last question, which was not clear at all. The exam was too long for the maximum of 3 hours. Chemical engineering students do not fully understand specific terms that are well-known in mechanical engineering.

The exam started with a very simple, maybe too simple question. It took the students a very long time to come up with the answer to this first question. This caused immediately a delay, which I had not foreseen. The last question indeed appeared to be unclear. Mainly because of the word "entrainment" which I used in the problem statement. This word was not familiar to most groups, while only some groups raised a question for clarification. I think to overcome this kind of problem in the future by first discussing and explaining the problems with all groups together, before the individual groups will start with the problem solving. This can also be done during the tutorials.

I realize that the course is not easy. I hope to improve the quality of the course with the presence of the reader and with a better presentation of the problems during the tutorials and during the exam. I will try to prepare the lectures better, but am afraid that I will not get rid of the image of "de verstrooide professor". I am open for further suggestions.

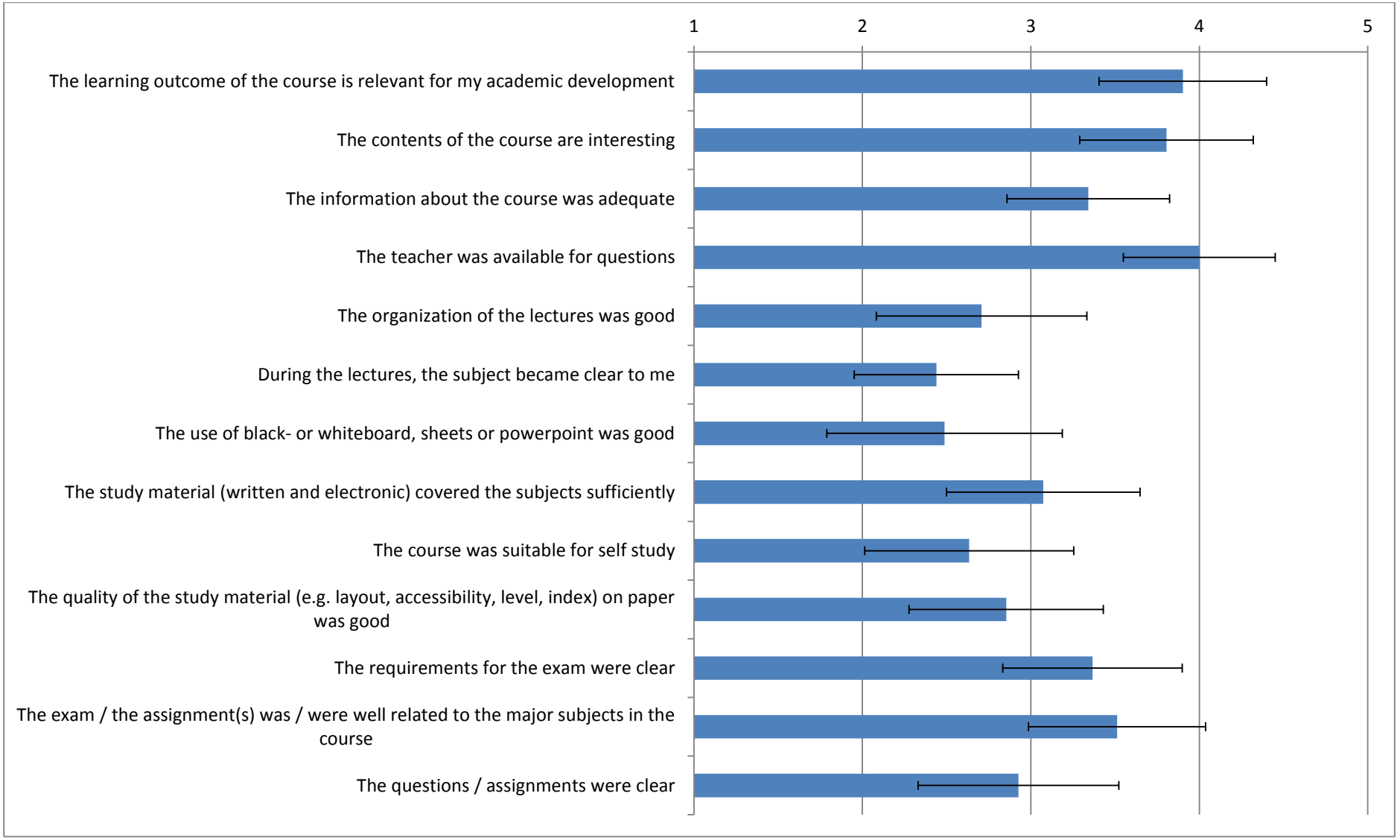
Overview

- All marks are given on a Likert-scale from 1-5. For master courses, a mark of 3.5 or higher is sufficient.
- The height of the bars in the graph represents the mark. The thin line at the top of the bars gives the standard deviation.

Explanation of marks

- Total 'first impression rating' is the mark given to the question: Overall appreciation.
- Ability to study is the average point of the marks given to the part of study material.
- Relevancy is the mark given to the question: Relevancy of the course.
- Quality of education is the average point of the marks given to the parts "lectures" and "practices".
- Coordination / Planning is the average point of the marks of "Adequate Information on Blackboard" and "Teacher available for questions".
- Examination / Assignments is the average point of the marks given to the Examination /Final Assignment part.
- Average is the mean of all given marks.

Marks	
First impression rating	**3.0**
Ability to study	**2.9**
Relevance	**3.9**
Quality of education	**2.5**
Coordination / planning	**3.7**
Examination / Assignments	**3.3**
Average	**3.2**


1
2
3
4
5
The learning outcome of the course is relevant for my academic development
The contents of the course are interesting
The information about the course was adequate
The teacher was available for questions
The organization of the lectures was good
During the lectures, the subject became clear to me
The use of black- or whiteboard, sheets or powerpoint was good
The study material (written and electronic) covered the subjects sufficiently
The course was suitable for self study
The quality of the study material (e.g. layout, accessibility, level, index) on paper was good
The requirements for the exam were clear
The exam / the assignment(s) was / were well related to the major subjects in the course
The questions / assignments were clear