Using LMS Studium in tutorial classes

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Summary

MOTIVATION

Our goal is to actively engage students in problem solving tutorials. This requires the students to solve problems and answer questions rather than passively watching the instructors. In addition to the improved learning, better insights into students' understanding are also expected. Given the size of the course, about 100 participants, another requirement is not to increase the work load for the instructors.

METHOD

A new learning management system (LMS) Studium is being introduced at Uppsala University. We have investigated possibilities for auto-correcting assignments, feedback options, and performance tracking in Studium. The work was done in frame of the course Electric Measurement Techniques.

OUTCOMES

- Studium is a great system with many advantages over Studentportalen.
- Self-correcting tests provide continuous formative assessment as well as instantaneous feedback to the students.
- Significant start-up effort is required in Studium, though reusing the material is easy.

CHALLENGES

- Difficult to implement mobile compatible test for use during classes, other student-response systems easier to use.
- The current status of Studium at UU remains unclear.
- Information overflow for instructors is possible.

Test design

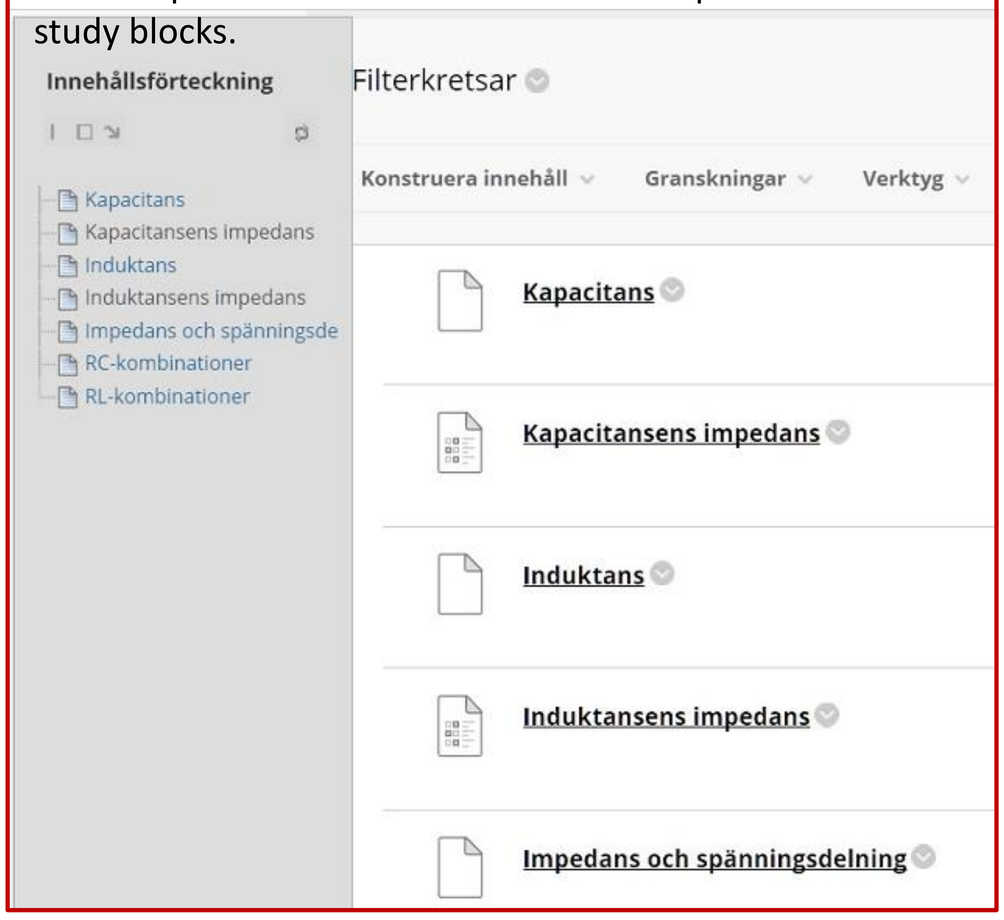
Questions pools: each pool is related to one topic, questions can be used in a number of tests

Test: One or more questions, questions are either fixed or randomly selected from a specific pool or according to a criteria

Automated evaluation and feedback: Different feedback on correct/wrong answer, adjustable level of feedback

Results statistics: various degree of detail is available to instructors

An example of a course module. Tests are placed between study blocks.

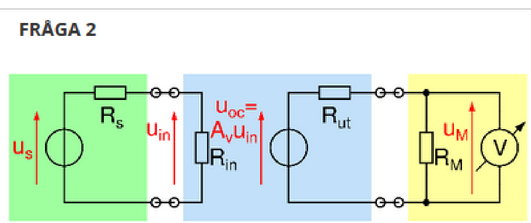


Question types

We have used the following questions types:

- Calculated formula (Beräkningsfråga)
- Multiple choice (Fler**vals**fråga)
- Matching (Para ihop-fråga)
- Multiple blanks (Fler**svars**fråga)
- Hot spot

Calculated formula question

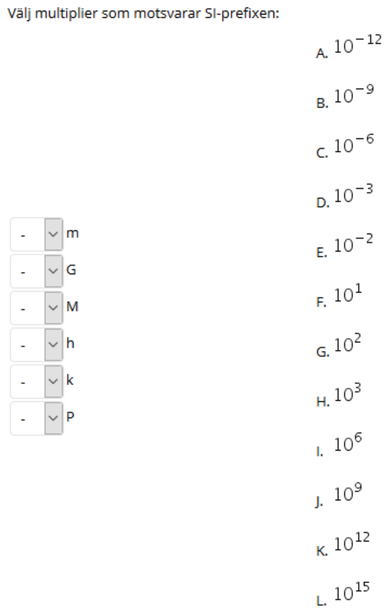


u_s = 5,9 V, R_s = 600 Ω, R_{in} = 50 Ω, A = 65, R_{ut} = 1 000 Ω och R_L = 2 000 Ω.

Beräkna spänningen U_M som voltmetern visar.

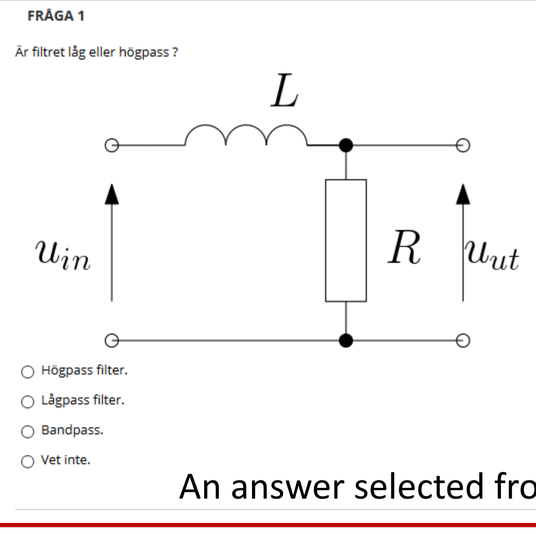
The answer is a numerical value calculated from values generated by the system.

Matching question



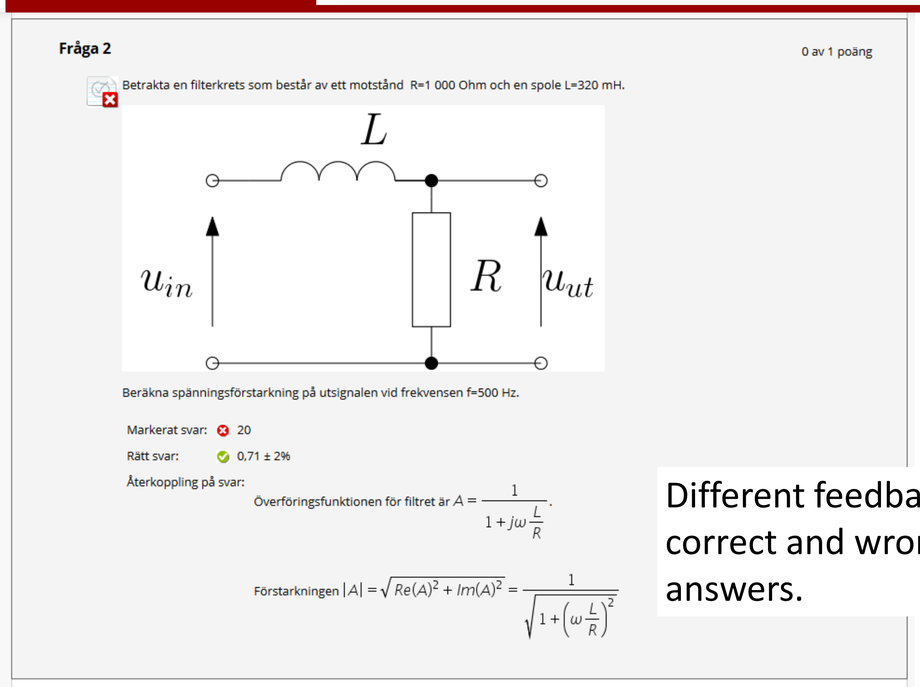
Several answers selected from a list of suggestions.

Multiple choice question



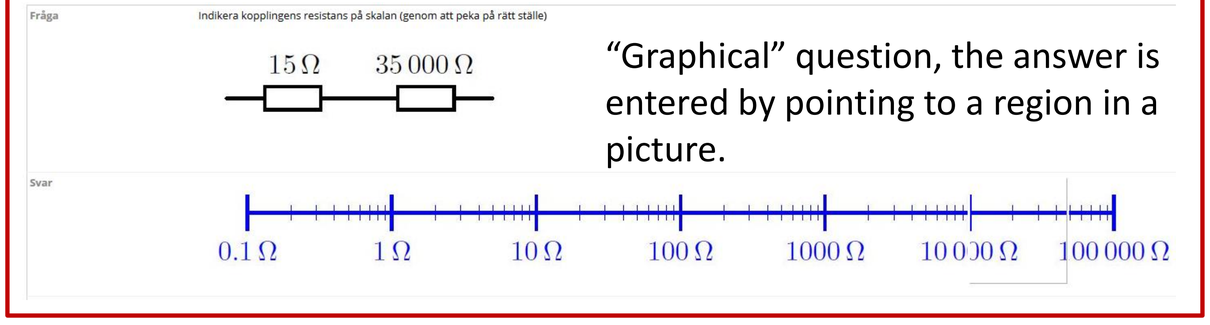
An answer selected from a list.

Feedback



Different feedback on correct and wrong answers.

Calculated formula question



"Graphical" question, the answer is entered by pointing to a region in a picture.

Acknowledgement

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