CiC NEXTBOOK

Co-created Interactive Courseware

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Case study report - KU Leuven: Feedback after exam in Applied Mechanics Part 1, 2020-2021

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The course material of this case study report is available here:

https://nextbook.io/book/modeloplossing-ttt-tm1-2021

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1. Context

This case study reports on an intervention with the interactive courseware platform Nextbook targeted at activating students around the exam feedback of a first-year bachelor course at KU Leuven.

The case study was executed at KU Leuven in Flanders, Belgium. KU Leuven is a highly ranked research-intensive university both regarding research and education. The course of this case study was a first-year bachelor course in engineering mechanics (Applied Mechanics, part 1), a mandatory course for students in the bachelor of Engineering Science and the bachelor of Engineering Science: Architecture. Applied Mechanics, part 1 is a course with around 700 engineering and engineering architecture students, with a low success rate (around 40%). It is considered to be a hard course by students because it is expected that they can apply basic mechanical principles of statics, dynamics, and kinematics to real-life applications.

2. Challenge

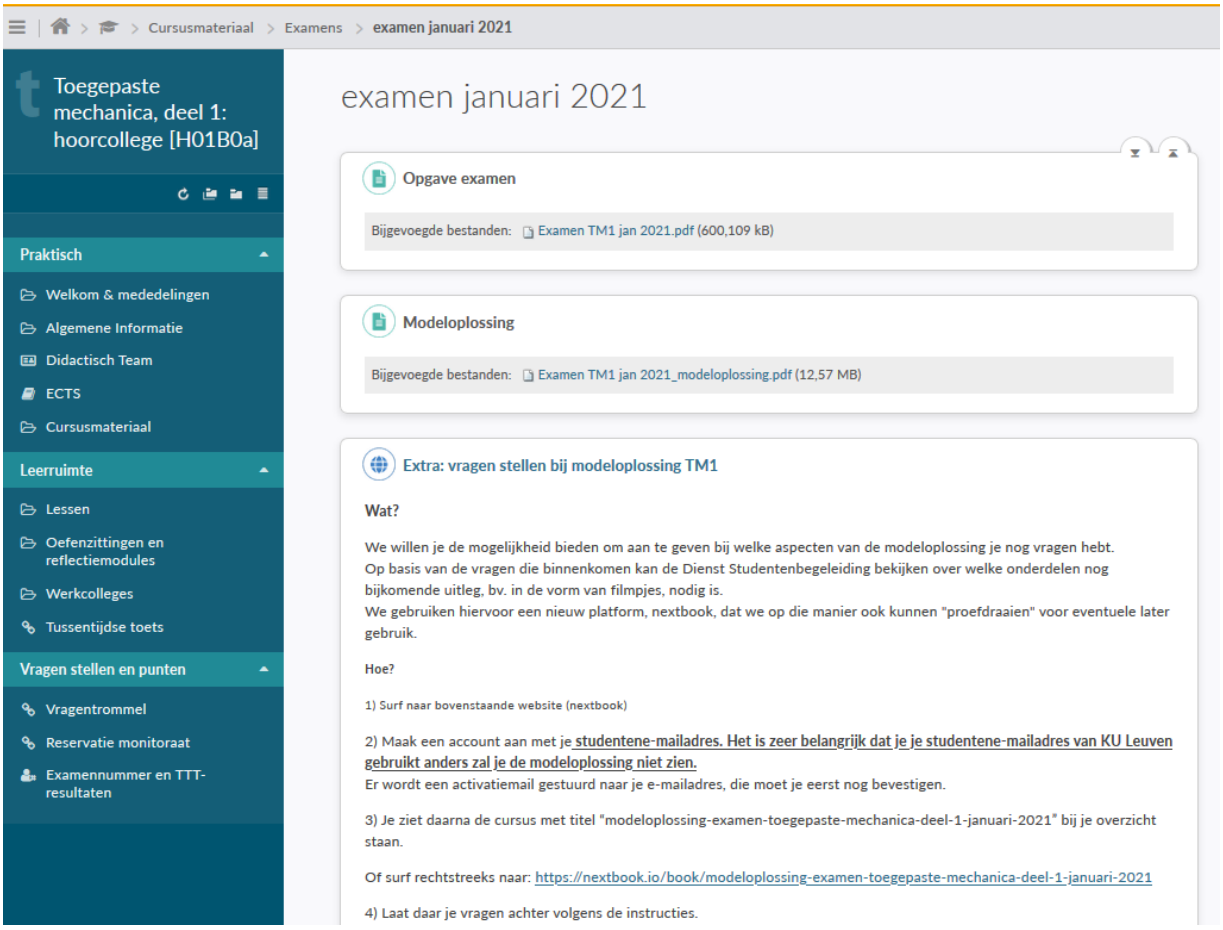
In order for students to be successful in their university studies, academic integration of first-year students is key. First-year students have to get familiar with the expectations of university education, especially regarding exams. Therefore, students can learn a lot from feedback on exams, especially after their first exams at university. At the same time, providing feedback to large groups of first year students is challenging, and activating students around this feedback seems to be even more challenging.

In order to activate students around the exam feedback, a model solution was provided on the Nextbook platform and students were invited to ask questions connected to this model solution and to start discussions.

3. Co-creation solution

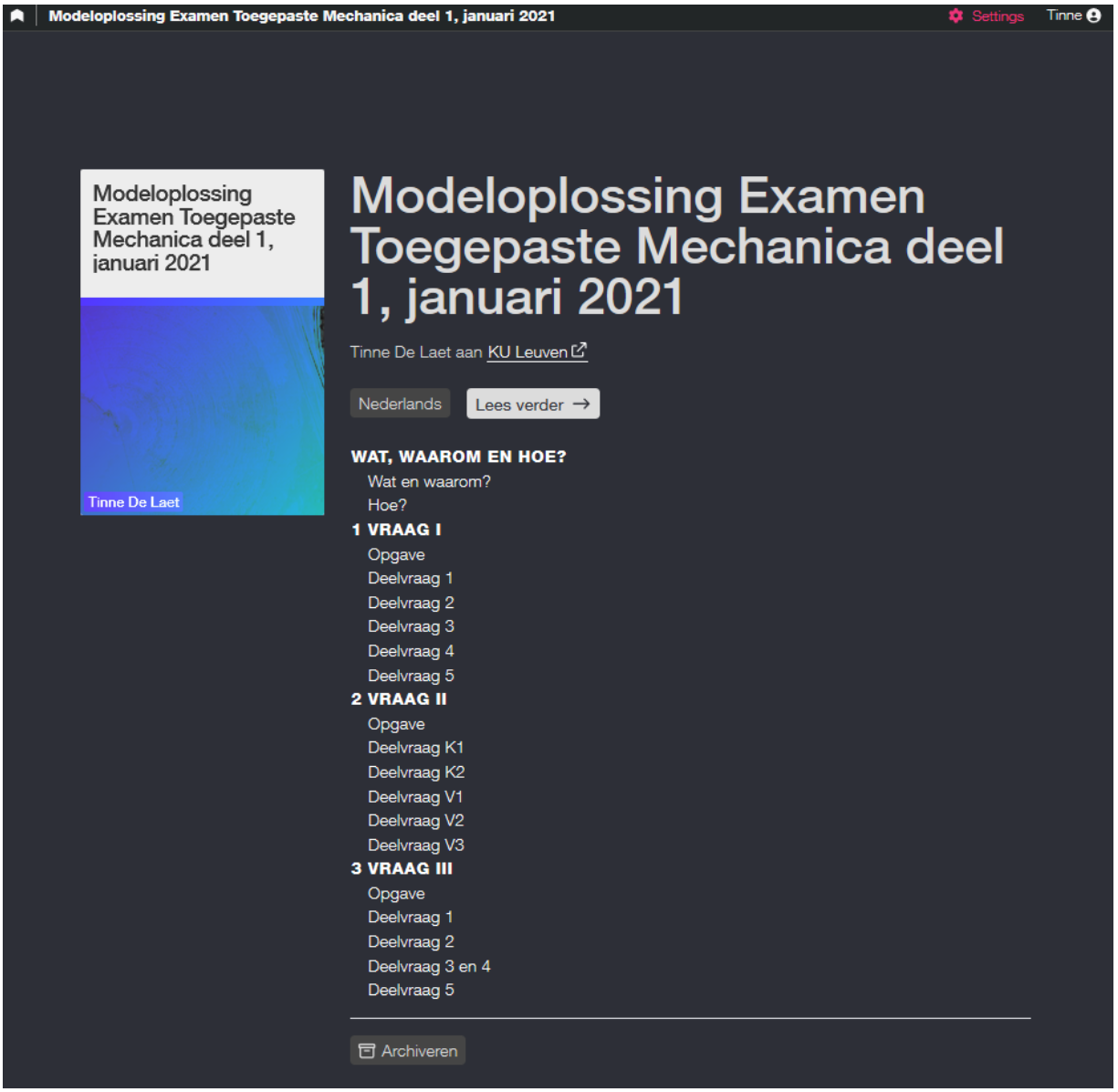
The feedback after the mid-term test was offered on the Nextbook platform to **713 students**.

In the virtual learning environment students were made aware that the model solution was available and that they could ask questions regarding the model solution through the Nextbook platform.



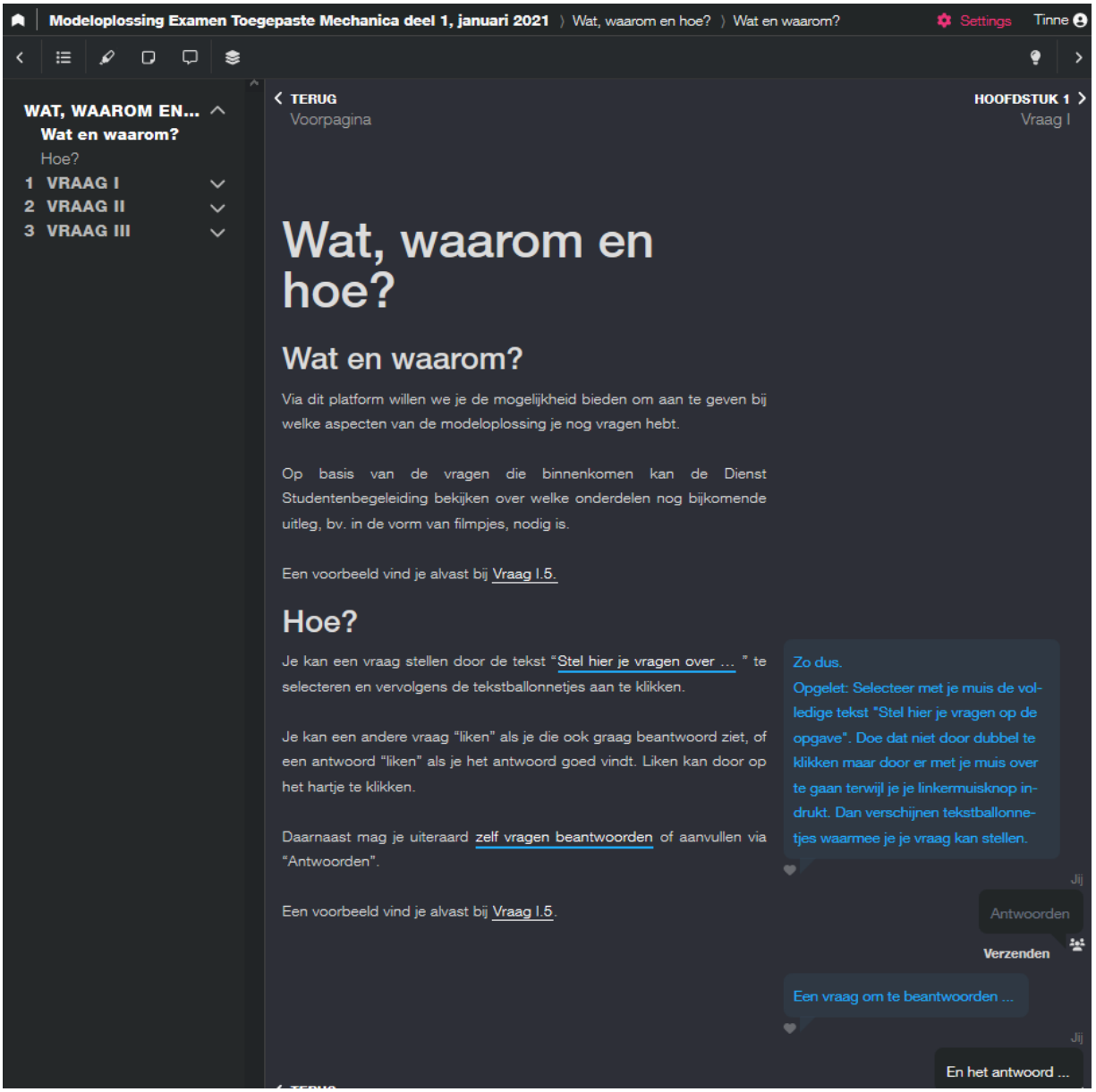
View of the virtual learning environment with the feedback after the exam. The item "Extra: vragen stellen bij modeloplossing TM1" refers to the material in Nextbook, where the model solution was made available with an opportunity for students to ask questions regarding the model solution.

The figure below shows how the Nextbook handbook, containing the model solution of the exam looks like.



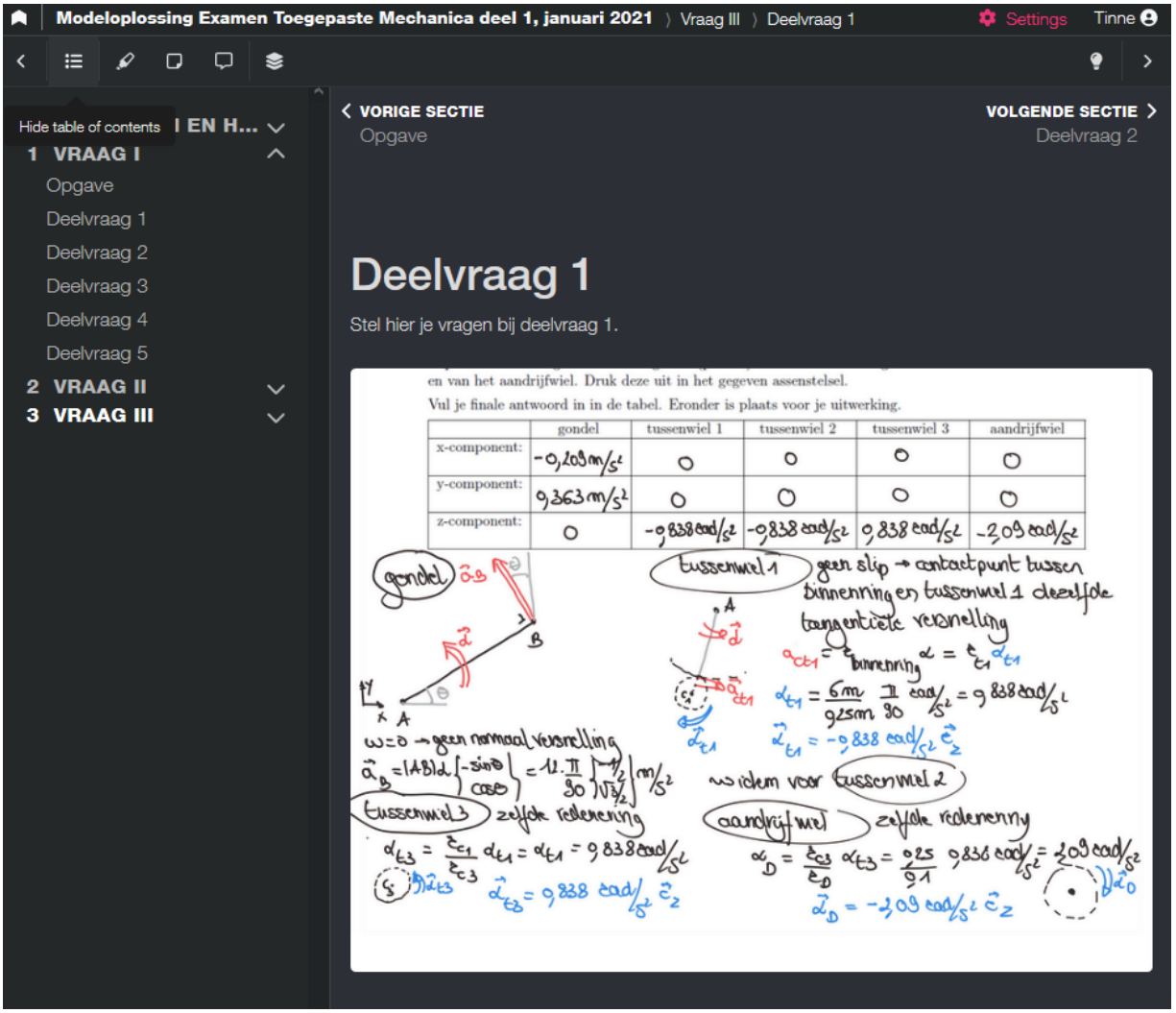
Model solution of the exam of academic year 2020-2021 as offered on Nextbook.

First, students are instructed on how this model-solution can be used most beneficially, including how they can use the Nextbook functionality for asking questions or discussing the model solution.



Instructions on how to use this model solution, including instructions on how to ask questions using Nextbook's functionality

For each of the questions of the exam, a hand-written model solution is offered.



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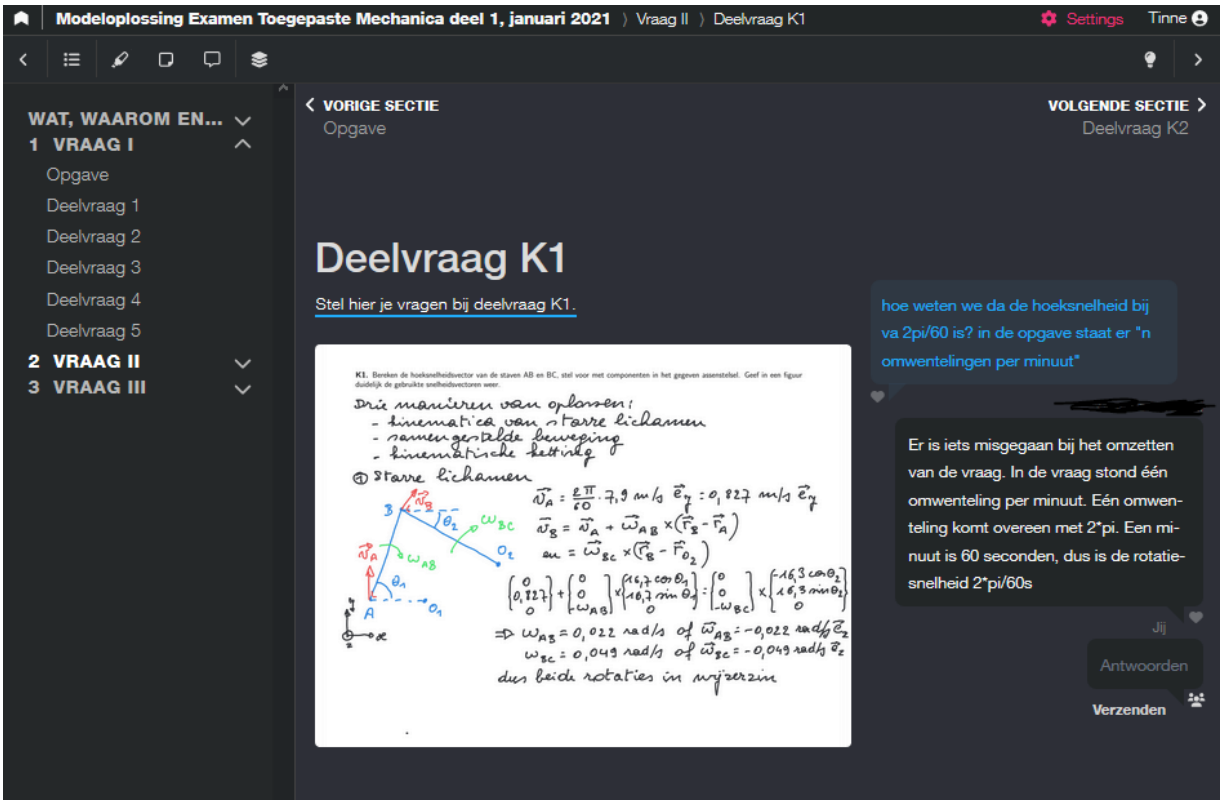

Example of a student (name blanked out) interacting with the model solution and receiving an answer from the teacher.

4. Situation within co-creation framework of Bovill

We situate the co-creation solution within the framework of Bovill, 2019.

Question	**Possible responses**							
Who initiates the co-creation?	Staff-led	Student-lead	Staff and students					Other (elaborate)
What is the focus of the co-creation? (see Bovill & Woolmer, 2018; Healey et al., 2014)	Entire curriculum (co-creation *of* the curriculum)	Learning & teaching (co-creation *in* the curriculum)	Educational research & evaluation	Disciplinary research	Wider student experience			Other (elaborate)
What is the context for the co-creation? (see Bovill & Woolmer, 2018; MercerMapstone et al., 2017)	Curricular	Extra-curricular	University-wide					Other (elaborate)
How many students are involved? (see Mercer-Mapstone et al., 2017	1-5 (specify specific number)	6-10 (specify specific number)	11-20 (specify specific number)	21-30 (specify specific number)	31-100 (specify specific number)	101-500(250)	>500 (713)	Other (elaborate)

Have you selected students from a larger group or are you involving a whole class? (See Bovill, 2019; Bryson et al., 2015)	Selected	Whole class/group						Other (elaborate)
Which students are involved? (See Bovill, 2014)	Retrospective	Current	Aspiring/Future					Other (elaborate)
What year of study are the students in?	First -year of Bachelor	Bachelor later than 1st year	Master	Master after Master	PhD	Postgraduate	Lifelong-learning	Other (elaborate)
What is the scale of the co-creation?	1 class/interaction moment	several classes / interaction moments	1 project	several projects	Entire course	Faculty/school-wide	Institution-wide	Other (elaborate)
How long does the co-creation last?	Days	Months	Years					
What is the role of the student? (See	Representative	Consultant	Co-researcher	Pedagogical co-designer	Participant			Other (elaborate)

Bovill et al., 2016)								
What is the nature of student involvement? (See Bovill, 2017; Könings et al., 2017)	Informed	Consulted	Co-researcher	Pedagogical co-designer	Contributor			Other (elaborate)
What is the nature of reward or recompense given to students?	Payment in money	Payment in vouchers	Course credit	Refreshments	No payment or reward			Other (elaborate)
What is the goal of the co-creation?	To improve the course	To enhance student engagement	Aiming for a socially just higher education	To get the benefits of co-creation in the course	Incorporating the student perspective	To enhance student's skills		Other (elaborate)
….								

5. Discussion

In the academic year 2020-2021 all 713 students in the course were enrolled in the Nextbook handbook supporting the feedback after the final exam.

Merely one question was asked through the Nextbook platform. Students prefer to use the tools used for other material in the course to ask their questions: the discussion forum on the virtual learning environment, or ask the teaching assistants during the live feedback session. In the virtual learning environment we first offered a convenient pdf of the model solution, which introduced an additional step for students that wanted to ask a question. Furthermore, students that do not have a question themselves could also profit from the instruction on the platform. Therefore, we recommend that for the future the material should be natively offered in Nextbook and that Nextbook should not merely be used as an add-on for questions.

Acknowledgments

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