

# Using interactive courseware to support flipped teaching

## Introduction



Social learning & online learning communities

Interactive courseware



asynchronous online learning

- This poster
- explore use of interactive courseware to help connect discussion and Q&A to course material.
  - exploratory case study at KU Leuven in a medium advanced master course (N>250)

## FINDINGS

### Use and social learning



pedagogical approach should focus on integrating the interactive courseware from the beginning of the course and stimulating the discussion in the platform.

### Seeing discussion while learning



learning material should be natively offered in interactive courseware platform, no duplicate from the material already offered on VLE otherwise, students lack the social dimension while studying

### Integration of different types of material



interactive platforms allow to integrate different types of material such as video and slides, together with the discussion of the students

### Overview of the teacher



use interactive courseware platforms to increase the surveyability and structure of students' questions and discussions, supporting preparation of interactive Q&A sessions and discussions, and future improvements of course materials.

## Platform and implementation

Nextbook (<https://nextbook.be/>)

### What?

- free platform for "social learning" of textbooks which envisions social construction in the future
- handbook augmented with video's, quizzes, ...
- functionality for annotation, reading out loud, ...
- students can ask and answer question

### How?

- flipped teaching: video and slides
- questions and discussion as preparation for interactive lecture

The screenshots show the Nextbook interface. The top part displays a course menu with lectures 1 through 5. The main content area shows 'Lecture 5: Inference – graphical models to answer queries' with a table of contents including 'Introduction and variable elimination', 'Video', and 'Sum-product'. Below this, there are two screenshots of a 'bucket elimination' slide. The first slide has a question: 'In practice, is it easy to find that perfect ordering? And can it be automated? As an example, is it possible to create a representation of the problem that allows us to deduce the computational complexity without calculating it? And could we then use that knowledge to find the most optimal ordering, for example by using (un)informed search methods as introduced in the "fundamentals of AI" course?'. The second slide has a question: 'How to handle evidence? (e.g.  $p(f, s = 1)$ )', 'How to calculate marginals over multiple variables? (e.g.  $p(a, f)$ )', and 'if you have doubt just go back to the general formula (variable elimination through marginalization)'. A video player is also visible on the right side of the interface.

## Student evaluation

"Nextbook was a very good online learning platform where we could directly ask question about a specific slide!"

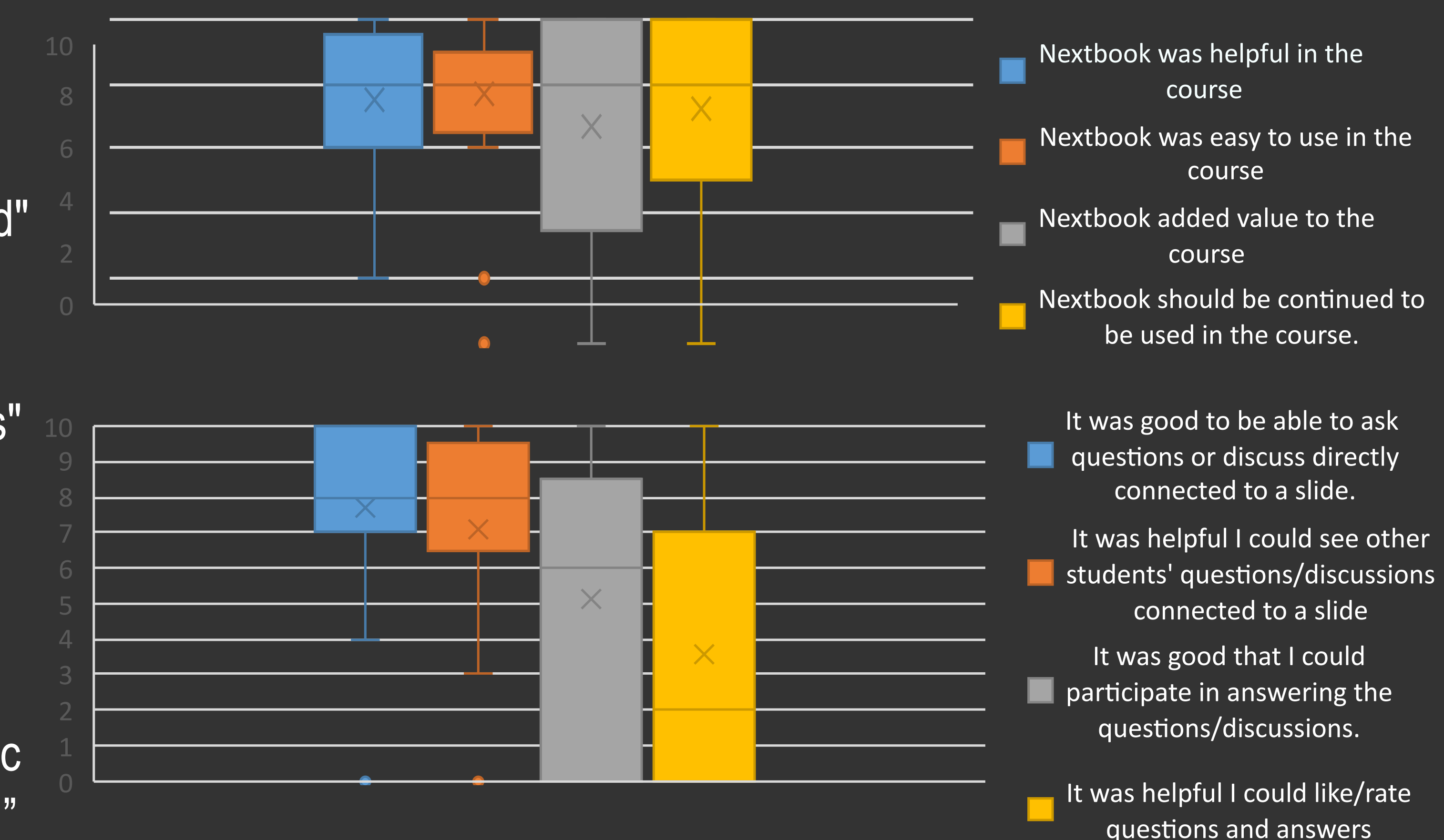
"very structured"

"online book with direct questions"

"combination of video and slides"

"Also nice to see questions of other students at the relevant slide instead of mixed together on a discussion forum."

"The notebook style is quite more dynamic but needs more time to spend to enjoy it fully."



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