

## USE CASE

# Improving students' critical thinking skills in a collaborative learning environment with Interactive Document



Using  
Interactive Document

Class size  
120

Instructor workload  
🕒 • •

Learner workload  
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## Context

As part of this first-year bachelor's course, small groups worked on a research project to develop and demonstrate their academic skills and competencies. A preliminary assignment as part of this project involved writing an annotated bibliography, for which Interactive Document was used. Five classes each with 25 students were enrolled for this course.

Interactive Document was introduced into this course because of the need to design engaging, collaborative learning activities suitable for the new demands of remote learning. In addition, the instructor sought a tool to develop students' ability to read and understand scholarly articles, forming a strong foundation for the continuation of their academic journey.

How it's done at



## Constructive alignment

### Learning objectives

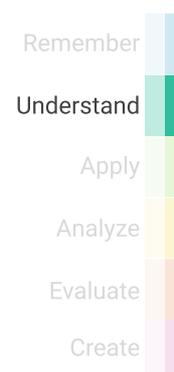
- Students learn how to read a scholarly article, identifying its structural components and attributes.

### Learning activities

The instructor uploaded an article using Interactive Document and students answered in-line questions about the text. This consisted of summarising sources, determining theoretical frameworks, limitations, and conclusions, as well as indicating whether the article was qualitative or quantitative. To this end, the instructor enriched the article with open and multiple-choice questions. In addition to guiding questions, the instructor added required questions to block off certain parts of the text, to make sure that students are reading and understanding the article systematically without getting ahead of the material and missing important pieces. Students' answers and responses were visible to the instructor, as well as each other, resulting in a more open and collaborative learning environment. A statistical overview was available to the instructor, indicating performance per question and per student.

These learning activities address the following levels of Bloom's Taxonomy:

- **Understand** how to approach and read scholarly articles



## Assessment of learning outcomes

- The activities carried out using Interactive Document were used as a formative assessment rather than a graded one, and the follow-up assignment based on this activity was worth 20% of the overall grade.

Quote from the instructor



*FeedbackFruits helped me to achieve what I expected and more... It really helped my students get familiar with how to read scholarly articles.*



## Notable outcomes

- Being able to block off sections of the text was found to be very useful for guiding students to stop and think about certain sections of text at the right moment throughout an article.
- Previously, some groups had had trouble identifying the structure and components of academic papers, but after implementing guided questions with Interactive Document, the instructor noticed a big difference in how students were able to read these articles, judging by the outcome of their final projects.
- The setup and interface of Interactive Document were found to be straightforward which saved the instructor time in preparing the course.
- The instructor reported that students' comprehension of the article and their overall performance was at its highest yet.

## The role of the instructor

- The instructor explained how FeedbackFruits would be used within the course manual, and gave instructions to students about how to complete the Interactive Document assignment..
- They created inline questions and discussion pointers within the tool, after which students were able to actively engage with the study material, by answering these questions and responding to the discussion points.
- The instructor could see an overview of students' progress with the activity, allowing them to gauge how students were responding to the material.

## Added value of technology

- Using Interactive Document allowed the instructor to easily review students' answers to questions in the annotated article, giving insight into students' individual and overall performance. This also highlighted if there were recurring areas which were problematic for students.

## Possible variation

Sometimes it can be difficult to get all students to engage with a learning activity. By including a grading module and allocating points to students for participating in the activity (or for correctly answering questions) you can encourage students to be more involved. It is also possible to transfer these scores to the gradebook of your LMS.