Adaptive Grading Support

for Persuasive Essays

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The problem

120

Written essays to grade
per class per year

20

Hours spent on grading
written essays per class

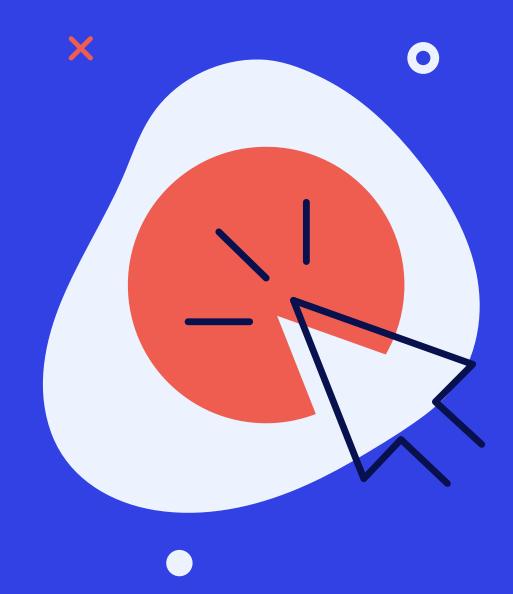* For one class of 20 students - 6 essays per year

Current solutions

→ **Manual correction**

Tedious. Time consuming.

→ **Automated Essay Scoring Techniques**

Biased. Not reliable. Not scalable.

Related Work

- Automated analysis of structure and flow of writing
  James Fiacco, Shiyan Jiang, David Adamson, and Carolyn Rosé. 2022.

- Topic information in student essays from an argument mining perspective
  Yuning Ding, Marie Bexte, and Andrea Horbach. 2022.

- ALEN app: Argumentation for Learning English
  Thiemo Wambsganss, Andrew Caines, and Paula Buttery. 2022.

- Document-level grammatical error correction
  Zheng Yuan and Christopher Bryant. 2021

- Evaluating automated scoring systems in the presence of label noise
  Anastassia Loukina, Nitin Madnani, Aoife Cahill, Lili Yao, Matthew S. Johnson, Brian Riordan, and Daniel F. McCaffrey. 2020

→ **Literature gap:** **- All in one tool**

- Designed for the teachers based on specific needs

- Adaptive to additional inputs

Research Question

How to design an essay grading support for vocational English teachers in Switzerland that would help them grading written essays?

Methodology

Feedback Prize Dataset

- Argumentative essays written by U.S students in grades 6-12
- Annotated by expert raters
- 15k labeled essays

Implementation

- Implement a working concept using existing models

Evaluation

Interview teachers

- Current procedure?
- Current techniques?
- Where is help needed?

Tool design

- Develop a user story
- Decide on the models needed for the implementation

User study

- Adapt to teachers' feedbacks