Using Active Learning for Assisted Short Answer Grading

- Short answer for assessing the knowledge.
- Fast and easy method for assisting short answer grading using active learning.
- Human in the loop.

Figure 1: Workflow of active learning in assisted short answer grading [1]
Figure 2: Querying stage of active learning in GUI
1. Features used: Features from Sultan et al., 2016 (Length ratio, word alignment score, semantic vector similarity)
2. Learning method: Random forests.
3. Active learning sampling strategy: Least confident based uncertainty sampling.
Datasets | Clicks with active learning | Clicks without active learning
---|---|---
Neural network | 338 | 680
SemEval 2013 | 3527 | 5104
Mohler’11 | 1386 | 2352

Table 1: Number of clicks required to grade the answers with and without active learning.

- Saves time.
- Less effort.
- Reaches the performance of supervised learning with less amount of graded answers for training.
Thank you!