Comprehelp: A Reading Comprehension Question Generation System Based on Transformer

Chu, Wai In (School: Pui Ching Middle School)

Existing reading practices, sourced from the Internet, books or teachers, rarely meet all three aspects of quality, quantity, and personalization. Language models for question generation (QG) have been proposed to generate reading practices as an attempt to address the three aspects. However, they seldom provide customised exercises for all learners. To address this, a question-answer-pair generation model based on T5 was used with diverse beam search to control difficulty, diversity, and question types. The model performed well in diversity tests using SacreBLEU and matched existing models for question quality. A GPT-3 model was also utilised to generate complicated multi-sentence reasoning questions in various formats such as multiple-choice question. These models were incorporated into a learning platform called Comprehelp, with sorted news sources to meet the needs of users and can store exercises in a taxonomy for future use. The system is shown to be able to assist teachers in language education. Moreover, it enables students to practice English with high quality exercises more frequently, without increasing teachers' workload.

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