

## **Editorial**

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## **1 Introduction**

In the last two-decades there has been a substantive progress in automatic assessment of free texts. This special issue reviews eight recent studies, analysis and suggestions in which the writing quality of essays, the content and coherence of short free-text students' answers and summaries is assessed using different automated text analysis tools.

The aim is two-fold: on the one hand, this special issue is intended as a reference for authors who are investigating into the available techniques and tools for free-text automatic evaluation; and, on the other hand, this issue also intends to provide a multidisciplinary approach presenting both works carried out by researchers within computer science and non-computer science fields such as psychology.

## **2 Contributions**

In this special issue entitled 'Special issue on automatic free-text evaluation', all papers present the state-of-the-art of emergent topics in the big area of free-text automatic evaluation. These papers are briefly described below.

The first paper entitled 'EssayAid: towards a semi-automatic system for assessing student texts', Tuomo Kakkonen and Erkki Sutinen introduce a model for the assessment of free-text that combines both computerised and human models of assessment. The goal of the authors with this model is to bring together the benefits of fully automatic grading and feedback together with the advantages of a human assessor.

The second paper entitled 'Automated free-text assessment: some lessons learned', Philippe Dessus, Benoît Lemaire, Mathieu Loiseau, Sonia Mandin, Emmanuelle Villiot-Leclercq and Virginie Zampa present automated assessment systems on course comprehension based on natural language processing techniques such as latent semantic analysis to model learners' comprehension and/or to compare reading material (e.g., course text) with learners' summaries about it, selecting reading materials and predicting student processes from their summaries.

The third paper entitled 'Willow: a system to automatically assess students' free-text answers by using a combination of shallow NLP techniques', Diana Pérez-Marín and Ismael Pascual-Nieto focus on a new approach to automatically assess short free-text students' answers implemented in the Willow system. Several techniques are under test both for Spanish and English languages, and the paper concludes with the best combination of techniques for each language to find the optimal configuration that maximises the correlation of the scores between Willow and a human rater for the same set of questions.

The fourth paper entitled 'Understanding expert ratings of essay quality: Coh-Metrix analyses of first and second language writing', Scott A. Crossley and Danielle S. McNamara review recent studies in which Coh-Metrix, an automated text analysis tool is used. The goal is to understand the relationship between the linguistic features of essays and human judgements of writing quality.

The fifth paper entitled 'Using latent semantic analysis to grade brief summaries: some proposals', Ricardo Olmos, José A. León, Inmaculada Escudero and Guillermo Jorge-Botana review automatic tools to detect strong and weak points in automatic summaries. These tools are important to provide assistance both the teachers and the students. One of the main techniques used in these tools is LSA combined with other extensions to overcome some limitations which are described in the paper.

The sixth paper entitled 'Prediction of item psychometric indices from item characteristics automatically extracted from the stem and option text', Carmen Garcia, Vicente Ponsoda and Alejandro Sierra focus on the relationship between psychometric indices and writing quality indicators. The strongest link found is between the number of special adverbs in the distracters and the discriminant index.

The seventh paper entitled 'Automatising language creativity for learning second language vocabulary', Gözde Özbal and Carlo Strapparava deal with the topic of vocabulary acquisition. In particular, a new fully automatised vocabulary teaching systems with uses natural language processing and information retrieval systems is described together with some preliminary results, which highlight the importance of further exploring the topic.

The last paper entitled 'Categorising spelling errors to assess L2 writing', Yves Bestgen and Sylviane Granger study how spelling errors are a reliable predictor of the quality of texts written by foreign language learners. Moreover, it analyses the impact of using automatic spelling checkers such as the one integrated in Microsoft Word 2007.

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