WAT: Writing Assessment Tool

Danielle S. McNamara[1], Laura K. Allen[2], & Scott Crossley[3]
[1]Arizona State University,[2]Mississippi State University, [3]Georgia State University
[1]dsmcnamara1@gmail.com, [2]laura.allen22@gmail.com,[3]sacrossley@gmail.com

This presentation describes our progress on a project to develop the Writing Assessment Tool (WAT): an on-line platform to provide students, teachers, and researchers access to automated writing analytics. WAT will comprise three access points, each tailored to the needs of these three types of end-users. From a single-entry point: *Students* will receive summative and formative feedback via automated writing evaluation (AWE) on three types of essays: persuasive (independent) essays, summaries, and source-based (integrative) essays. *Teachers* will have access to a teacher interface allowing them to administer essay assignments, which they can choose to be scored using AWE or grade themselves using scaffolded rubrics. *Researchers* will have access to a web-based tool, a downloadable tool, and editable software, which will allow them to conduct computational analyses of writing. WAT will be packaged and disseminated such that researchers and software developers can easily integrate components of WAT into existing tools to provide natural language processing (NLP) extensions in educational software.

Our aim is to provide students, teachers, and researchers with writing analytics that will directly contribute to their knowledge of writing. For researchers, this knowledge may be theoretical or computational; for teachers, this knowledge may be pedagogical and relate to developing a better understanding of linguistic and semantic features of higher quality writing and pedagogical approaches to improve writing; finally, for students, this knowledge may be metacognitive, such that they develop a better understanding of how features of language affect their audience and essay scores. Our overall aim is to provide a writing analytics tool that will enhance students' ability to produce high-quality texts across multiple genres. Thus, we aim to develop a tool with broad impact on current practices in writing research and instruction across multiple dimensions.

One of our objectives with WAT is to provide students and teachers with writing tasks that provide automated feedback. Previous projects have informed our natural language processing (NLP) algorithms to drive feedback for persuasive essays and summaries. As such, our main focus currently is to collect additional corpora of source-based essays, analyze those essays to identify important linguistic and semantic features, and develop NLP algorithms. We will discuss work with our collaborators in which we are conducting NLP analyses of source-based essays collected in previous projects as well as on-going projects.

We also invite our colleagues to join the Distributed Literacy Coalition (DLC; distributedliteracy.org), which aims to integrate laboratories distributed across the world focused on understanding and improving literacy. Distributed literacy refers to the multiple, intertwined aspects of literacy including reading and writing, as well as science, health, math, and social media literacies. DLC members work together on the common objective to improve literacy worldwide, recognizing the vital societal importance of literacy and the need for multidisciplinary and multicultural approaches to solve literacy problems.