

Text Analytics as a Teaching Aid

Semantria LLC, founded in 2011, is a software-as-a-service and services company specializing in cloud-based text and sentiment analysis. Semantria is a joint venture, co-founded by the leading text analytics technology provider Lexalytics (Boston, MA), amongst other investors.

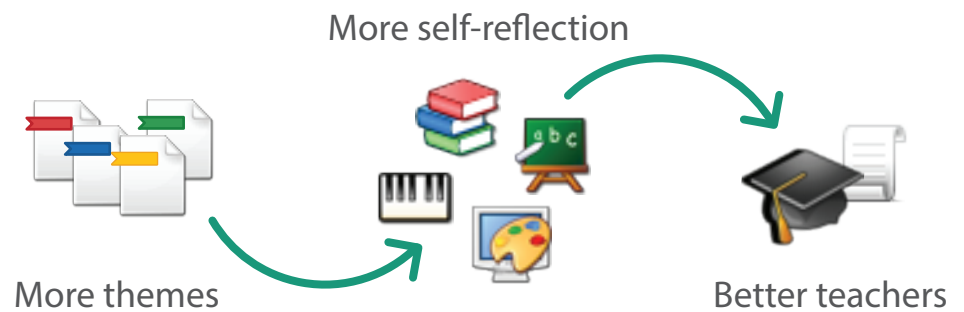
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Problem

The School of Education at Seattle Pacific University evaluates their teacher candidates on their classroom performance. In order to foster professional reflection on teaching, candidates maintain a personal blog for the duration of their program. In their blog, candidates document their professional experiences in relation to teacher licensure standards.

Dr. Andrew Lumpe, Associate Dean and Professor at the University's School of Education, wanted to know if the quality of a candidate's blog writing correlates with their classroom performance. However, with up to 120 blog entries for every candidate, Dr. Lumpe was left with tons of text to summarize and analyze, and not enough time in which to do it. Manual analysis was inefficient and other solutions proved to be too complex for the program's needs. The solution was Semantria, which was able to offer them the ease-of-use, no installation, and in-depth quantitative analysis for which they were looking.



Solution

Using Semantria's Excel Add-in, Dr. Lumpe was able to analyze and extract key noun phrases from each candidate's blog content. The noun phrases, composed of a noun and adjective, are called "themes" in Semantria's results. Dr. Lumpe then filters these themes using Excel, and determines what themes are being used, as well as how often they recur.

Text Analytics as a Teaching Aid

Dr. Lumpe is an Associate Dean and Professor at the Seattle Pacific University School of Education. Dr. Lumpe's research focus is science teaching and learning, teacher professional development, and online learning. His publications include over 40 book chapters and articles in numerous academic journals. He currently serves as associate editor of the Journal of Science Teacher Education. He obtained and directed externally funded grant projects from the National Science Foundation, U.S. Department of Education, and various state agencies.

After analyzing the initial set of blog posts, Dr. Lumpe wanted to examine which variables indicated both quality reflection in candidates' blogs and good classroom performance. By comparing classroom performance evaluations with Semantria's analysis of blog content, Dr. Lumpe found the number of themes within a post to be the best predictor of candidates' quality of reflection and classroom performance. This valuable insight would have otherwise been lost without Semantria's analysis.

Results

Dr. Lumpe describes his experience with Semantria as, "Pretty amazing. Once I had blogs in text data form in Excel, I could run Semantria queries and had results back in seconds. What was particularly convenient is that all of these analytics are produced directly in Microsoft Excel."

Semantria was able to help the Seattle Pacific University's School of Education uncover an important predictor of performance: the number of themes candidates write about directly influences their personal reflection, which in turn results in better classroom performance.

As a result, the Seattle Pacific University no longer requires candidates to write concise blog posts, to make it easier for professors to evaluate their writing. Instead, with Semantria they are now encouraging candidates to elaborate on their teaching