Linguistic Features in MELAB Writing Task Performances
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INTRODUCTION
• Human Judgments of L2 Writing Proficiency
  - Significant role of linguistic features in human ratings of essay scores (e.g., Cummings et al., 2005, 2006; Embger, 1995; Grant & Ginther, 2000)
  - Quantity of texts analyzed and range of linguistic features limited
  - Still lacking a coherent understanding of linguistic features of L2 writing (Jarvis et al., 2003)
  - Use of more advanced computational tools (e.g., Coh-Metrix) along with larger corpora needed to validate the role of linguistic features in L2 essay quality(Crosley & McNamara, 2010)

• Coh-Metrix & Human Ratings of L2 Essay Quality
  - Significant predictive power of some linguistic features in human judgments of L2 writing proficiency (Crossley & McNamara, 2012; Guo, Crosley & McNamara, 2013)
  - Can help validate scoring rubrics by showing which linguistic features are more attended by human raters in assessing L2 essays (Guo, Crosley & McNamara, 2013)

• Analysis of Performance Data from Large-Scale Language Tests
  - Important source for characterizing L2 proficiency (Iwashita, Brown, T. McNamara & O’Hagan, 2008)
  - Multi-dimensional analyses of performance data using multiple linguistic features needed to understand the development of L2 proficiency (Norris & Ortega, 1999)

RESEARCH OBJECTIVE
• To uncover the relationships between human judgments of L2 writing proficiency and language features that differ as a function of these judgments
• To provide strong empirical evidence in reference to the linguistic, rhetorical, and structural features of learners’ performance on the writing task included in the Michigan English Language Assessment Battery (MELAB)
• To help validate the current MELAB composition rating scale

Research Question
What linguistic features, as measured by Coh-Metrix, distinguish MELAB test-taker writing performance as represented in a single holistic score given by expert raters on the basis of the ten-level MELAB composition rating scale?

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METHODS
• MELAB Writing Task
  - Michigan English Language Assessment Battery
  - Independent writing task
  - 200-300 word-long essay about one of two topic choices
  - 30-minute time limit

• Human Ratings of MELAB Essays
  - A locally developed 10-level holistic rating scale (i.e., 97, 93, 87, ..., 57, 53)
  - 19 scores possible including midpoints between levels
  - Rated independently by two trained raters
  - Two scores averaged for the final score
  - Composition descriptions for a successful essay

  97 Topic is richly and fully developed. Flexible use of a wide range of syntactic (sentence-level) structures, accurate morphological (word form) control. Organization is appropriate and effective, and there is excellent control of connection. There is a wide range of appropriately used vocabulary. Spelling and punctuation appear error free.

  96 Topic is richly and fully developed. Fluid use of a wide range of syntactic (sentence-level) structures, accurate morphological (word form) control. Organization is appropriate and effective, and there is excellent control of connection. There is a wide range of appropriately used vocabulary. Spelling and punctuation appear error free.

  95 Topic is richly and fully developed. Adequate use of a wide range of syntactic (sentence-level) structures, accurate morphological (word form) control. Organization is appropriate and effective, and there is excellent control of connection. There is a wide range of appropriately used vocabulary. Spelling and punctuation appear error free.

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• Corpus Collection
  - 1,003 essays from the MELAB writing tests administered in 2013
  - Stratified according to score level, gender & age
  - Test-takers from 62 different L1 backgrounds
  - 500 essays analyzed for this preliminary study

• Variable Selection
  - 9 indices found to be significant predictors of the essay scores

  - 95% of the variance of human scores explained by the reported model

  - Generalizability of the model
  - 54% of the variance of human scores explained by the model

  - Preliminary Conclusions
  - Provides evidence that linguistic features can predict human judgments of the essays in the MELAB writing task
  - Contributes to the validation of raters’ use of the MELAB composition rating scale by verifying which linguistic features are meaningfully related to the writing aspects specified in the scale
  - Linguistic features associated with text length and lexical sophistication have greater predictive value

  - Findings extendable to the MELAB test-taker population

  - 9 indices found to be significant predictors of the essay scores
  - 55.1% of the variance in the scores explained by the reported model

  - Regression Analysis: Training Set

  - 94 indices found to be significant predictors of the essay scores
  - 54% of the variance of human scores explained by the model
  - Generalizability of the model

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  - Findings extendable to the MELAB test-taker population

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REFERENCES