Applications of Automatic Writing Evaluation

A presentation to ASCILITE 2016

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Agenda

- Background
- Automated writing evaluation tools
- Next generation rubrics project
- Results
- Discussion
Automated writing evaluation

e-rater®
Types of error comments provided by *Criterion*®

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammar</td>
<td>Fragment or missing comma, Run-on sentences, Garbled sentences, Subject–verb agreement, Ill-formed verbs, Pronoun errors, Possessive errors, Wrong or missing word, Proofread this</td>
</tr>
<tr>
<td>Usage</td>
<td>Wrong article, Missing or extra article, Confused words, Wrong form of word, Faulty comparisons, Preposition error, Nonstandard word form, Negation error</td>
</tr>
<tr>
<td>Mechanics</td>
<td>Spelling, Capitalize proper nouns, Missing initial capital letter in a sentence, Missing question mark, Missing final punctuation, Missing apostrophe, Missing comma, Hyphen error, Fused words, Compound words, Duplicate</td>
</tr>
<tr>
<td>Style</td>
<td>Repetition of words, Inappropriate words or phrases, Sentences beginning with coordinating conjunctions, Too many short sentences, Too many long sentences, Passive voice</td>
</tr>
<tr>
<td>Organization and development</td>
<td>Introduction, Thesis, Main ideas, Supporting ideas, Transitional words and phrases, Conclusion</td>
</tr>
</tbody>
</table>
Automated writing evaluation
IEA’s feature list used in Write-to-learn
Automated writing evaluation

• My access provides:
  • writing aids,
  • word processing capabilities and
  • teacher analytics

• IntelliMetric analyses “400 semantic-, syntactic-, and discourse-level features to form a composite sense of meaning”
Automated writing evaluation

• LightSide is used as the turnitin scoring engine
• Revision Assistant – gives ‘signal checks’ as formative feedback
  • Needs to be trained
Automated writing evaluation

- Provides suggestions about:
  - Clarity
  - Logic
  - Cohesion
  - Grammar
Next Generation Rubrics

Push towards larger subject cohorts:
- 30% of La Trobe subjects = 100+ students
- 41 subjects = 500+ students
- BA Interdisciplinary Cores: ‘Rethinking Our Humanity’ (HUS1FAS) and ‘Ideas that Shook the World’ (HUS1TEN) = 1000+ students

Consequences:
- Increased pastoral care, assessment feedback and marking
- Less time to interact with individual students
- Slower turn around on assessment feedback
- Difficult to monitor gaps in knowledge at a cohort level
- Difficult to assess critical thinking and written skills frequently and meaningfully
- Lower student satisfaction
Our solution

Online feedback tool for text based assessments

Students get: immediate feedback on their written work designed to highlight areas that could be improved before submission for marking

Staff get: a dashboard summarising student performance, knowledge gaps and patterns at a cohort level

Benefits—

• Students receive more guidance on their written assessments than staff could otherwise provide

• Student feel less self conscious about the quality of their work because online submission is anonymous

• Staff can look at submission data to see where student skills and knowledge gaps lie and target their teaching more effectively to student needs

• Staff can use data to better design their assessments
A framework for evaluating assignments

- Assignment statistics
- Readability
- Concept coverage
- Critical thinking
- Discipline theory
Initial Findings

• Greater understanding of student performance in a large class
  • Distribution of mistakes
  • Terms and concepts not being considered
  • Use of references
  • Extent of critical thinking terms being used in assignments

• Greater understanding of tutor performance
  • Variability in marking weightings
  • Distribution of grades
  • Consistency in marking assignments
Test assignment

Add submission

File

Choose File

By checking this box, I agree to the Academic Integrity Policy of La Trobe University.

By checking this box, I agree to have my assignment analysed by NGR for feedback purposes. I agree for NGR to undertake analysis of my assignment and understand that statistics on my assignment will also be made available to the Subject Coordinator.

Upload

My Submissions

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<tr>
<th>#</th>
<th>File Name</th>
<th>Submission Date</th>
<th>Graded</th>
</tr>
</thead>
</table>

No results found.
Upload Submissions

Assignment

BUS5WB Takehome Assignment

Files

Choose Files
No file chosen

Upload
April 25, 2016, 11:00:00 AM student

Lorem ipsum is simply dummy text of the printing and typesetting industry. Lorem ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularized in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum.
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<th>Value</th>
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<tr>
<td>All in-text references</td>
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<td>Number of references</td>
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<td>Flesch-Kincaid grade level</td>
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<td><a href="mailto:18712765@students.latrobe.edu.au">18712765@students.latrobe.edu.au</a></td>
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Showing 1-5 of 5 items.
Current work in progress

• Further testing and refinement of the program
• Double marking of assignments
• Extra-Large Subject Coordinators study
• Testing with students & subject coordinators
Thank you!