

Developing statistical literacy through textual analysis

3rd Annual Conference on Global Higher Education.
Lakeland College,
Tokyo, Japan.

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Researchers, journalists and politicians support their arguments with statistical evidence, but all evidence is not equal. In order to separate the wheat from the chaff, statistical literacy is a must. This study shows how statistical literacy was developed through textual analysis. All participants in this study were postgraduate students enrolled in or auditing a credit-bearing course entitled *Scientific discussions: logical and critical thinking*. The course aims to enable participants to critically evaluate research papers. Ten short texts from newspapers, published research or draft research articles were used to contextualize various statistical issues. Texts were selected either as exemplars of good practice or as examples of the misuse or abuse of statistics. The texts were sequenced to create a learning progression. A test-teach-test approach was used. Participants read an extract and completed a short formative assessment. Students then discussed their answers in pairs or small groups. Afterwards, feedback was provided to the whole class, emphasizing the teaching point. Participants' knowledge of and ability to apply the statistical concepts were tested in the end-of-course summative online assessment using different texts. Summative assessment scores were invariably higher than the formative scores, indicating that knowledge had been acquired and was able to be applied. Although the causality of the learning was not established and the small sample size prohibited robust statistical analysis, it is hypothesized that the textual analysis and subsequent discussions contributed to the participants overall improvement in performance. Qualitative responses from participants were overwhelmingly supportive of this textual approach.