

Teaching psychology through English: Incidental improvement in academic reading comprehension

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Abstract

Teaching academic material through English as a foreign language presents additional challenges for the students, but also additional benefits. I report on a module of medical psychology taught in English to Ecuadorian university students whose first language is Spanish. Comparisons of pre and post module reading comprehension scores showed that there was large and statistically significant improvement in reading comprehension. However, ratings of confidence in comprehension remained unchanged. The improvement in scores represents an example of incidental learning, as the module was focused entirely on content and did not include any teaching of English as a foreign language. I conclude that teaching with only academic journal articles is possible. In addition, incidental improvements in reading comprehension may present additional benefits of this approach.

Keywords: English teaching; psychology teaching; incidental learning; Spanish; comprehension

1. Introduction

The predominance of English language psychology journals and books can sometimes give the impression that as a subject, it is mainly of the English speaking world. Although it is true that there is an element of domination of the subject by academics based in the USA (e.g. Arnett, 2008), it has been estimated that globally, it has a significant presence in 46 other countries and a noted presence in a further 22 (Adair, Coelho, & Luna, 2002). Of course, as with many academic subjects, English is the de facto international academic language. For this reason, psychology students in many countries take modules, or even whole degree courses, taught in English. Despite this, and despite the theoretical closeness between psychology and applied linguistics, there are very few reports of teaching psychology through English to students for whom it is a foreign language. What material does exist tends to focus on the needs of international students studying psychology in the USA (e.g. Collingridge, 1999; Ransdell, 2003).

In some universities such content through English teaching is undertaken under a paradigm known as Content and Language Integrated Learning (Ruiz de Zarobe & Jimenez Catalan, 2009), where the boundaries between language instruction and content are blurred. However, more often, they will be taught academic content modules in English with no overt attempt to teach academic English. Under such conditions, students must already have a reasonable level of English to participate in the modules. However it is also the case that they would expect some improvement in their English language skills, simply through exposure. Nevertheless, as this would be considered a side-effect of the teaching, it is unlikely to be formally assessed, either in the particular educational context or in general from a research perspective.

This report describes a study of academic English reading comprehension and confidence during a medical psychology module, taught entirely in English, to

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Ecuadorian psychology students whose first language is Spanish. The teaching took an evidence based medicine approach and the entire module was based around critical readings from journal articles. This places a significant work burden on the students. However, it aims to develop not only an understanding of psychology, but also promote the scientist-practitioner model and develop information literacy (Larkin & Pines, 2005). As it involves extensive reading of often technical and academic English, it could be anticipated that it would also improve their reading comprehension skills in this context. Indeed, such extensive reading is gaining significant support as a highly effective way to mastery in foreign languages, particularly comprehension skills (Yamashita, 2008). To evaluate the effects of this module on academic reading comprehension, one cohort in this single semester module were assessed on their reading ability before and after the module, and ratings of reading confidence were taken at the same time points.

2. Methodology

2.1. The module

The module formed part of an undergraduate degree in psychology at Universidad San Francisco de Quito, a private university in Ecuador. The degree course is taught mainly in Spanish. The module in question was taught over one semester of 17 weeks, with three one-hour classes each week. Each class used a predominantly task-based learning methodology designed to foster independent thinking and develop curiosity in the issues covered (Pluck & Johnson, 2011). The tasks all revolved around conceptual and technical issues concerning a set reading list of sixteen English language academic journal articles. Students were discouraged from using or referencing anything other than journal articles during the module. The students sat one mid-semester and one final exam based on answering questions from the sixteen set readings. In addition, to encourage a more enquiry-based approach (Palmer, 2002), students were expected to write one essay using at least three journal articles as source material (they could choose the title). They were also required to summarize and present a further four journal articles, of their choosing, to their classmates during the module. Therefore, to obtain a good or reasonable grade, the students would have had to study, in some detail, a minimum of 23 academic journal articles.

2.2. Participants

The data in this report comes from the reading comprehension scores and confidence ratings of a cohort that took the module over one semester. Nineteen students took the module, however due to absences on the first or final classes, when assessments were performed, data were available on only sixteen. The age range was 20 to 25 and 14 (88%) were female.

2.3. Procedure

On the first day of the module, all of the students were asked to complete a short academic reading comprehension assessment. They also performed an equivalent assessment on the final day of the module. For each assessment they answered ten multiple choice questions based on reading an abstract from a medical journal, therefore potential scores ranged from 0 to 10. On each occasion they were given ten minutes to complete the task. The readings were both abstracts from the *Journal of the American Medical Association (JAMA)*. These were chosen as they are challenging texts written in very formal academic English. In addition, as structured abstracts, it was possible to select abstracts with different content but with very similar structures. Two abstracts were selected, to contain medical-academic language, but not on topics that were included in the module syllabus. The selected abstracts were about 1) the association between smoking and bladder cancer (Freedman, Silverman, Hollenbeck,

Schatzkin, & Abnet, 2011) and 2) antiepileptic drugs and birth defects (Molgaard-Nielsen & Hviid, 2011). The order of the two readings was counterbalanced.

To assess confidence in English reading ability all of the students were asked two questions on the first day ‘*How confident are you in general reading in English?*’ and ‘*How confident are you in academic reading in English?*’. For each question, the learners indicated their responses on visual analogue scales by bisecting a 10cm line between the poles of ‘Not confident at all’ to ‘Very confident’. To convert this to numerical data, the distance from the former to the latter pole was measured in millimeters. This exact procedure was repeated in the final class to give pre and post module confidence ratings of between 0 and 100.

3. Results

The mean averages for the reading comprehension scores and for reading confidence, both pre and post module are shown in Table 1. The normality of the score distributions were examined with Kolmogorov-Smirnov one sample tests. It was found that all were normally distributed, with the exception of the pre module reading scores, visual inspection of which revealed that the distribution was negatively skewed. For this reason, pre and post module reading scores were compared with a related-samples Wilcoxon signed ranked test, which revealed that the post-module scores were significantly higher than the pre module scores ($p=.002$).

Table 1. Means (and standard deviations) for the pre- and post module academic English reading test and scores on the visual analogue scales of English reading confidence

	Pre-module	Post-module
Reading score	7.2 (1.1)	8.8 (1.1)
General reading confidence	72.9 (15.7)	77.4 (18.5)
Academic reading confidence	66.9 (16.4)	73.1 (15.6)

Scores on the visual analogue scales for reading confidence were compared with a repeated measures ANOVA with both time of assessment (pre or post module) and confidence type (general or academic reading) as within subject factors. This revealed a main effect of confidence type, the learners were significantly less confident with academic English reading than they were with general English reading ($F(1,15)=4.78$, $p=.046$). However there was neither a significant main effect for time of assessment nor an interaction with time of assessment (both $p>.1$).

4. Discussion

The results suggest a robust improvement in academic reading comprehension over a one semester psychology module taught entirely with English language journal articles. In fact the effect size (Cohen’s d) is = 1.45, which would qualitatively be described as a ‘large’ effect (Cohen, 1992). Although the module was not intended to improve English skills, the reason that many non-native English speakers choose to take modules taught in English is actually for this reason. It is therefore a welcome side-effect of participation in the module. The current results provide support for the currently popular pedagogical approach in international education of integrating content and language teaching, and how this approach could be applied to psychology teaching. However, the approach taken in the module in question was not strictly an integrated approach. All emphasis was on psychology teaching, albeit to students for whom the mode of instruction was in a language that was foreign for them.

The result cannot be explained as one of the assessments being easier than the other, as this was controlled for in the design with counterbalancing. Nor is it likely

that the small sample size has led to a type 1, as the large effect size suggests that the study was adequately powered.

It is interesting that reading comprehension has been identified as a feature of English language communication that tends to be weak in predominantly Spanish/English bilingual psychology students, when compared to monolingual students, in the USA (Ransdell, 2003). It has been suggested that in such contexts, psychology teachers should offer additional help with English terminology and provide definitions (Collingridge, 1999). I argue that this is not always necessarily needed. The current findings suggest that students can learn both the content and improve their English skills directly via participation in the academic program, and without additional English language instruction *par se*. Indeed, the module described in the current report was purely academic psychology; it included no overt English language teaching. The improvement in academic reading comprehension is therefore incidental to the learning about the psychological topics that comprised the module content. Such incidental learning, long-since noted in psychology (e.g. Jenkins, 1933), is gaining interest in applied linguistics due to its implications in learning approaches which combine content with language instruction (Hulstijn, 2012). Nevertheless, despite the observed incidental improvement in comprehension, there was no significant increase in self-reported confidence for either academic or general English reading. Ability improved but confidence in ability did not.

The reason for the lack of difference in reading confidence is unclear. It is perhaps simply a fact that objective measures such as reading comprehension tests are the better measure of improvement compared to the introspective, subjective feeling of confidence. The learners had generally higher confidence in their general English reading ability, compared to academic English reading ability, and this was a statistically significant difference. This may reflect the fact that as students of English as a foreign language, they have had more practice with general day-to-day texts. This though, is also true of native English speakers, and it could be anticipated that native English speaking undergraduate students would also report relatively lower confidence in their abilities with academic texts.

Indeed, the current results pertain to students for whom English is a second language, nevertheless, similar results may also be observed with native English speakers. Reading journal articles is a challenge for most learners when they first encounter them, whether the article is written in their first language or not. It would be interesting to see if similar levels of improvements in academic reading comprehension would be seen in native English speakers exposed to multiple set readings from English language academic journals. I suggest that there is nothing specific in this result to second language use, and native English speakers would show similar improvements.

On a more general note, the current result suggests that teaching solely with primary source materials; in this case journal articles can be a successful methodology. Improvement in psychological knowledge was not measured as a dependent variable. However, the module was effective and the learners passed all the various assessments. As the module leader I have no doubt that the students learnt a great deal about the subject matter, in accordance with the module learning objectives. It was also my impression that the students appreciated being able to study at the 'cutting edge' of research, something which appeared to me, to be more empowering than traditional book based teaching. The improvement of academic reading comprehension was purely incidental, but no doubt a useful addition to the overall education of the learners involved. I would recommend approaches based purely on English language journal article reading to students for whom English is a second language. Furthermore, if this method is effective with such students, there should be no barriers to its application with native English speakers.

References

1. Adair, J. G., Coelho, A. E. L., & Luna, J. R. (2002). *How international is psychology?* International Journal of Psychology, 30, 160-170.
2. Arnett, J. J. (2008). *The neglected 95%: why American psychology needs to become less American.* American Psychologist, 63(7), 602-614.
3. Cohen, J. (1992). *A power primer.* Psychological Bulletin, 112(1), 155-159.
4. Collingridge, D. S. (1999). *Suggestions on teaching international students: advice for psychology instructors.* Teaching of Psychology, 26(2), 126-128.
5. Freedman, N. D., Silverman, D. T., Hollenbeck, A. R., Schatzkin, A., & Abnet, C. C. (2011). *Association between smoking and risk of bladder cancer among men and women.* JAMA, 306(7), 737-745.
6. Hulstijn, J. H. (2012). *Incidental learning in second language acquisition.* In C. A. Chapelle (Ed.), *The encyclopedia of applied linguistics.* Hoboken, NJ: Wiley.
7. Jenkins, J. G. (1933). *Instruction as a factor in 'incidental learning'.* American Journal of Psychology, 45(3), 471-477. Retrieved from <http://www.jstor.org/stable/1415045>
8. Larkin, J. E., & Pines, H. A. (2005). *Developing information literacy and research skills in introductory psychology: a case study.* The Journal of Academic Librarianship, 31(1), 40-45.
9. Molgaard-Nielsen, D., & Hviid, A. (2011). *Newer-generation antiepileptic drugs and the risk of major birth defects.* JAMA, 305(19), 1996-2002.
10. Palmer, S. (2002). *Enquiry-based learning can maximise a student's potential.* Psychology Learning and Teaching, 2(2), 82-86.
11. Pluck, G., & Johnson, H. L. (2011). *Stimulating curiosity to enhance learning.* Education Sciences and Psychology, 19(2), 24-31. Retrieved from <http://gesj.internet-academy.org.ge>
12. Ransdell, S. (2003). *The care and feeding of monolingual and bilingual university students in South Florida: implications for assessment and training.* Psychology Learning and Teaching, 3(2), 126-130.
13. Ruiz de Zarobe, Y., & Jimenez Catalan, M. J. (Eds.). (2009). *Language and content integrated learning: Evidence from research in Europe.* Bristol: Multilingual Matters.
14. Yamashita, J. (2008). *Extensive reading and development of different aspects of L2 proficiency. System.* An International Journal of Educational Technology and Applied Linguistics, 36, 661-672.