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Tech-era L2 Writing: Towards a New Kind of Process

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The present study argues that L2 writing pedagogy needs to give more recognition to the impact emerging from new technological tools and online resources. While shifts in approaches from product to process to genre are well-documented in the literature, little research has appreciated the collective influence generated by advances in technology. It is suggested here that developments in software and online resources are leading to improvements in many areas of student writing, both at the levels of language and content. Moreover, efficient use of this technology could have a significant effect on the way in which teachers provide feedback. Collectively, these advances suggest a new dimension has entered the writing process.

Introduction

Since the advent of communicative language instruction, L2 writing pedagogy has undergone changes which have mirrored exterior forces. The move from product-oriented pedagogy, which focused on a disembodied written text requiring strict adherence to native-speaker expectations, to process-oriented writing with its instruction-focus on learner discovery reflected a movement from an earlier behaviorist orientation to a less prescriptivist, postmodern view of language (Silva & Leki 2004). While the focus in the process approach is on the writer, in recent years, the genre approach in English for Academic Purposes (EAP) has shifted the focus back on the reader with the goal of having learners enter their own academic discourse community (Hyland 2003)

This brief review of approaches over the past generation or so highlights the perceived trends in L2 writing pedagogy. However, in the interim, developments exterior to those explored by “approach” theory have been occurring at a considerable pace. Specifically, the arrival of the personal computer, coupled with word processors, and the Internet, and used together as writing tools have had a profound impact on the writing process.

This paper argues that while approach theories have dominated discussions about how L2 writers compose texts, an equally important influence triggered and nurtured by new technology deserves more attention in the field.

Certainly the recent impact of technology on writing has not gone unnoticed. Very early on, just after word processors began to be used en masse, researchers studied both their positive and negative effects on writing, both in the L1 and L2 (see Pennington 1993). The use of word processors now is taken as given, yet they represent just one of the many innovative tools available to the writer today as a result of technological change. Likewise, but more recently, the use of the online concordancer as a pedagogical tool in writing classes has been explored extensively. However, although many of these new tools resulting from advanced technology have been the object of research, their collective impact is seldom discussed. Accordingly, it is suggested here that the tools, discussed below, which include not only those which improve writing at the syntactic and lexical level, but also those which enhance content, collectively embody a new dimension to the process of L2 writing which may be as significant as the shifts in approaches discussed above. Naturally, a huge assumption hangs over such a claim. Technology has reached only so far into the L2 world. Many L2 learners in less advantaged regions are still not benefiting from these tools. Nevertheless, the numbers that are enjoying the riches of technology are considerable and deserving of attention.

Word, sentence and paragraph level advances

Tools for improving prose are available both packaged with word processing software as well as online. Examples of the former are the red and green underlines, now a familiar sight when typing text into a word processor. The red underline coupled with the pocket electronic translator have worked together to make spelling errors a much smaller concern in L2 writing. When a red line alerts the writer that a word does not exist in the word processor's build-in dictionary, the student author has a couple of choices: Right-click on the word and hope that the entered word is close enough to correct versions in the word processor's dictionary. More often than not, the correct spelling is found. If this fails, the writer can enter the native equivalent of the word in question into a pocket (or online) translator and often find the correct spelling. Similarly, the green-line grammar checker, albeit far from perfect, has minimized many of the most common errors such as subject-verb agreement, singular-plural, and run-on sentences. Although seldom mentioned in the literature, both spelling and grammar

error correction, long a significant expender of teachers' feedback efforts, spanning all levels of L2 writing, have been substantially reduced.

Word processors have long come packaged with electronic thesauruses (Shift-F7 in Word). While the paper-and-ink thesaurus dates to the mid-19th century, using it requires the extra step of locating a word in a book and then tediously following up synonyms until the desired word is located. The electronic thesaurus does this all at the click of a mouse, including automatically entering the desired word into the text without the need to type. Although word processors have included this convenience for quite some time, the significance of such expediency available to L2 writers is worth considering. The L2 writer with a vocabulary competence level of a few thousand words, yet a performance level of much fewer has access to a huge bank of words in the electronic thesaurus whose synonyms are interlinked and instantly accessible. To illustrate, in a recent writing class of mine held in a computer room, students were critiquing a passage. In their responses to the author, many students began multiple sentences with, "The author says…" With some encouragement to use the thesaurus, however, students discovered several variations including "state," "claim," and "declare." Clearly, the potential for tech-literate, L2 writers to shift competence-level vocabulary into the performance realm is enhanced by this tool. Few, if any, studies, however, have measured the impact of this convenience on either the overall quality or the vocabulary diversity of second language learners' writing.

While the thesaurus relies on a body of words to produce results, corpus linguistics offers a new dimension of possibilities to the L2 writer which has been explored recently. Rather than simply making synonyms available, as the thesaurus does, online concordancers (e.g., <http://www.lextutor.ca/concordancers/concord_e.html>) reveal how words have actually been used in written texts by generating strings of words, or concordances. L2 writers type a word into the concordancer which often generates dozens of examples of sentences where the word has been used. The concordancer above also allows the user to select from a number of corpora.

Concordancers have been found to assist L2 writers across ability levels. For example, Gaskell and Cobb (2004) performed a study in which low-intermediate learners used a concordancer to practice corrections upon having certain grammar and collocation errors pointed out to them. To illustrate, they found one instance of a common error in students' writing was "in New Year's Eve." When the string "New Year's Eve" is

entered into a concordancer, it produces examples of the grammatically correct usage which the properly trained student should recognize and apply. At a higher level, Lee and Swales (2006), having introduced their doctoral students to concordancers, discovered that the students were using them, rather than consulting native speakers or reference books for questions about usage. This exercise allowed the students to actively make their own findings about collocations and grammar instead of relying on an authority. Concordancers can also be confined to specific fields. Hafner and Candlin (2007) had their law students use a corpus generated from legal cases. Results revealed that the corpus tool benefited some students who regularly adopted it during their composing, although other students preferred tools such as Google (see below) or no tools at all. It appears that while corpus tools can bring clear advantages to the composing of some L2 students, both training and motivation to take the extra steps to use them are necessary.

Search engines can also be used for similar purposes to the concordancer because Google, for example, in effect holds the world's largest corpus searching the first 100k of each of the billions of websites that it scans during each of its searches (Guo and Zhang 2007). Conroy (2008) suggests that during the writing process, students check any doubtful phrases they have composed for their frequency counts in Google (advanced search with the phrase in quotations). When frequency counts are low, it suggests that the composed phrase may be non-standard English. As an example, a Japanese student may be tempted to write the term "heavy illness" if translating directly from her mother tongue. An advance search, with this sequence in quotations, produces only about 2,000 resulting links in Google indicating that an alternative choice of adjective is more appropriate. That other choice, of course, is "serious" which is the first suggestion offered for "heavy" in the thesaurus. "Serious illness" generates 1.5 million links in a Google search. However, although the low frequency rate of "heavy illness" is certainly a clue to the L2 writer that something is wrong, realizing in the first place that "heavy" does not collocate with "illness" may still be a challenge.

Indeed, while the various tools described above point towards new and effective ways to improve the prose of L2 writers, the reality may be somewhat less sanguine. The spellchecker occasionally fails to catch misspelled homophones. The green line grammar checker still misses a high percentage of errors or offers no useful help to those it does spot. The thesaurus does not help with collocations or nuances of meaning. And the concordancer's value is limited by the student's ability to assess the suitability

of the available alternatives. Without a doubt, in many cases, it would be only the most ambitious student that would rigorously use all the tools mentioned.

These concerns notwithstanding, combining and refining many of the features mentioned above are new Add-Ins that provide L2 writers further independence from teachers and native speakers. An exemplary program called *Check My Word*s <http://mws.ust.hk/> is an *MSWord* toolbar. Created by John Milton and available free on a trial basis, it goes a step beyond grammar checkers and concordancers. For example, one of the key features of this multifaceted tool is the "Word Combination" tab which, more than simply providing concordanced examples, shows the most frequent strong collocations of a chosen word. This enables the student to locate collocations faster and with fewer distractions than by scanning concordanced lines. Consider the following sentence from a student's essay:

"I have a rigid grasp of the problem."

Clearly, "rigid" does not collocate smoothly with "grasp." With the cursor on the word "grasp' and a click of the Word Combinations button, the student sees a list of adjectives and verbs that collocate with this sense of the word., including the adjective "firm." Likewise, when the "heavy illness" example from above is checked, both "serious" and "severe" are suggested alternatives, while the absence of "heavy" from the list marks it as non-standard. This feature covers many thousands of words, and for rare instances where collocations are not available for a word, the program automatically defaults to the web concordancer, Word Neighbors, which provides the student with both collocations and collogations (syntactic contexts) for any word in English.

The same Add-In also includes many other features, such as a "Check" button which highlights words in a passage often used in non-native ways by L2 writers, and, at a another click, provides in-depth explanations and quizzes for these potential problems. A companion program, *Mark My Words*, enables teachers to insert "resource-rich comments" that aim to encourage improvement in accuracy and fluency by holding students accountable for using the resources in their *Check My Words* toolbar (see Milton, 2006). In essence, both of these tools, although (like many of the other tools described here) requiring considerable training by the teacher and motivation on the part of the student, illustrate the power and direction of technology just now becoming

available to the L2 writer.

Finally, within the realm of syntax and vocabulary, online text analyzers can provide a snapshot assessment of an essay once it has been completed. These tools, such as the one found at http://www.usingenglish.com/resources/text-statistics.php, offer a statistical evaluation of criteria such as average sentence length, "hard words" (those of more than two syllables) and lexical density. To illustrate, using this tool, the first paragraph in this section above (beginning with 'Tools for helping…'), has a lexical density of 61.7 percent. This number falls within the range of 60-70 percent for academic text. Teachers may introduce this tool to students who can use the results to compare their essays against previous ones that they have written as well as standards within the academic community. Although these scores may appear to have little pedagogical value, and their measurement methods are somewhat crude, they do set targets providing student writers with some indication of their level. Teachers may suggest students use them to monitor their own growth as writers over the course of time.

Content-level advances

While the tools described above assist L2 writers with the composing process in terms of language usage, the Internet serves as a new resource for the actual content or ideas being expressed in writing.

The conventional tool for finding research information has rapidly changed from the library database to the Internet search engine. Although Google generates results from keywords by searching most of the Web, other more specialized engines, such as Web of Science, Scopus and Google Scholar, confine their searches to academic sources. Regardless of the results produced by any of these engines, teachers must build awareness in student researchers of the need to acquire the critical skills necessary to distinguish whether sites are acceptable or not for use in their papers.

Concerns about students' use of web sources as research material date back to the late 1990s when citations to websites first began showing up in students' papers. Sorapure, Inglesby and Yatchsin (1998), in one of the earliest studies, drew attention to the need to teach Web literacy as a writing skill. Since then, numerous studies have investigated

how students use websites, often in promiscuous ways (Burton & Chadwick 2002) to both find information and support their ideas. While much of this research has focused on the downside of the Internet as a research source, i.e., students' use of low quality sources, the Web cannot be ignored as a potential bank of rich material provided caution is taken before citing a source found there. Such caution comes in the form of knowing how to evaluate a site for its rigor, objectivity, authority and transparency (Stapleton & Helms-Park 2006). Providing students apply these evaluation skills when researching on the Web, several new unconventional genres of information, including organizations, such as NGOs and think tanks, and collaborative sites, the most famous of which is Wikipedia, offer potentially useful information that can be cited in academic essays. Although there is some temptation to relegate unconventional sources of information found on the Web to the "uncitable" category, research shows that this would not necessarily be wise. Lankshear and Knobel (2007) claim that meaning-making is liquid in nature and does not necessarily have to come via the long recognized textually based book or journal article that is screened by elite authorities. Collaborative sites, for example, while not policed by experts, still retain an authority of the crowds (Tapscott & Williams 2006). Although student writers have always needed to be judicious in their selection of sources, the larger point here is that searching the Web for content requires a much enhanced set of skills given the new availability and wealth of electronic information. Heightening awareness of this and teaching strategies for critical assessment of websites is the writing teacher's task.

Unconventional writing resources also include sites that can collectively be associated with participatory creation, more commonly known as Web 2.0 applications. Although social networking sites and online encyclopedias may traditionally be thought of as non-academic, and therefore unworthy as resources of learning, their impact on learning should not be underestimated. The potential that such sites have to motivate, empower and even alter a student's relationship with the production of information can be developed via the L2 writing course. Rather than the teacher, or student peers being the only recipients of the finished written product, students can be encouraged to participate in wider Web 2.0 "conversations" by posting to collaborative sites. These efforts needn't be confined to major international sites. For example, Mak and Coniam (2008) describe a local wiki project where secondary school students collaborated to produce a brochure for the school they had recently entered.

It is not only unconventional resources which are impacting the written content of

student learners. The easy accessibility of conventional sources, especially electronic journals and government documents, in some senses plays into the notion of a new tech-era because instead of requiring a trip to a library to view a paper-and-ink journal in the hopes of finding it, electronic storage allows instant accessibility and transfer. While such convenience has been available for several years, its significance may be just coming to light. Take for example student writers in the developing world who, in the former paper-and-ink world, were excluded from participating in research because of limited access to academic journals. Now with Internet access, even articles that are password protected are often available on an author's homepage or via a simple request to an author. As little as a decade ago, such a request would have required a postage stamp and paper, making cooperation far less likely. Even in the developed world, the ease of access to journals has been similarly enhanced given that few libraries have paper copies of all journals in any particular field.

Discussion

With the impact that new technology is providing now, an argument can be made that, in fact, we have entered the realm of a new "Tech-assisted era of L2 writing". The present "process approach" to writing encourages activities such as brainstorming, portfolios, multiple drafts, and peer reviews, all of which make sense. However, collectively, the impact of the multiple electronic tools and sources described above suggests that in parallel with these traditional elements of the process approach, another kind of process is emerging. Below, some of the distinguishing characteristics of this new era of L2 writing pedagogy are described.

Impact of Technology on Writing Pedagogy

The new tools described above, if fully utilized by students, not only give independence to the L2 writer, they also eliminate some of the more tedious tasks of teachers and editors at all levels of writing ability. With spelling and grammar errors substantially reduced, teachers reviewing an essay or composition have more time for other aspects of the written product that may need attention. For example, this redirected attention could move towards paragraph organization or onto areas of content – if the assignment is persuasion-oriented, are the opinions expressed clearly supported by reasons, evidence and examples? During the correcting and commenting process, (assuming the teacher receives the assignment as an electronic file) again, new technology can play a

role with functions such as “Track changes” and “Comment” replacing the (sometimes unreadable) red ink. Similarly, at higher levels of writing, where corpus tools and text analyzers can be employed, the L2 writer gains independence as Lee and Swales (2006) have noted (above).

As for the use of information in websites, particularly those that fall into the unconventional category, researching and writing in the “tech-era” demand an enhanced type of critical assessment and decision-making regarding the quality of a source. This requirement, again, signals a significant shift in the writing process whereby students must also take extra evaluative steps before considering whether to trust and use information found in a web source. In parallel, such new sources of information, because they appear in unconventional genres or even non-textual ones, can sometimes lead to ideas and ways of viewing problems that are “outside of the box.” This approach to discovering ideas represents yet another way in which new technology is impacting the written product.

Naturally, with any leap forward come difficulties and potential pitfalls. Technology can be used in devious as well as positive ways. The ease with which students can now plagiarize has been much discussed and debated. Fortunately, counter-measures, such as using advanced searches, and commercial sites, such as “turn it in” (http://turnitin.com/static/index.html) also exist. Likewise, online translators, such as Babel Fish (http://babelfish.yahoo.com/), although far from perfect and often even detrimental, can still be employed as an aid in composing if used properly. Again, access to such an online tool further reflects the extent to which new technology can enhance the writing of second language learners.

Pedagogical Implications

Collectively, when used effectively and repeatedly, all of the technology mentioned here can serve as reinforcing tools. If students are first introduced to these tools, websites and strategies, and then develop a habit of regular use as part of their composing process, improvements should follow. However, instruction in the use of these tools and online resources needs to be systematically included as part of any writing course, and the feedback provided to students should recognize the many tools as essential components. To illustrate how this could be done, the following comments are exemplars of possible feedback from a teacher familiar with the tools and online resources discussed here.

> "You have used the word "show" several times in this paragraph. Please use the thesaurus to find suitable variations."
>
> "You use the words "agree" and "disagree" without a preposition following them. Check a concordancer or Add-In and choose a suitable preposition.
>
> "The website you have cited appears to be rather lacking in objectivity. Can you find a more unbiased one to support your arguments?"
>
> "Your essay is characterized by rather short sentences and easy words. It reaches a lexical density of only 40. Monitor your score after each assignment this year and see whether you can increase your score with longer sentences."
>
> "Your ideas are quite compelling. Have you considered posting them on a collaborative Internet site?"
>
> "You claim that you cannot find the article entitled "XXX." Why don't you locate the author and contact her directly?"

Despite the optimistic tone of this review, it is evident that many of the electronic tools described in this paper are still in their developmental stages. They sometimes miss errors or demand more effort than students are readily willing to expend. However, with Add-Ins now appearing, corpora growing rapidly, and information sources both for retrieval and collaboration expanding rapidly, the power and user-friendliness of these tools to enhance student writing suggests that we have already entered a new era of writing pedagogy. Teachers clearly need to be knowledgeable about how to take advantage of these tools and introduce them to their students. This need is especially apparent in the era of the sub-notebook laptop whose low price has brought it within the affordability range of huge numbers of students. Can the day be far off when homework assignments from a majority of L2 students at all levels comes in the form of an attachment sans red and green lines replete with hyperlinks?

This paper has reviewed many of the tools and resources that have become available as a result of recent technological advances. While the list is far from exhaustive, and using all of the suggested features may neither be necessary nor appropriate, it is apparent that a new type of process in L2 writing is emerging. Writing teachers who include instruction encouraging the use of the technologies discussed here are participants in this new process. The resulting written product from students will surely benefit.

References

Burton, V. T. and **S. A. Chadwick.** 2002. 'Investigating the practices of student researchers: patterns of use and criteria for use of internet and library sources'. *Computers and Composition* 17/3: 309-328.

Conroy, M. 2008. 'Internet based language tools: enabling EAL university students to take control of their writing'. Paper presented at Language Issues in English-medium Universities: A Global Concern, Hong Kong.

Gaskell, D. and **T. Cobb.** 2004. 'Can learners use concordance feedback for writing errors?' *System* 32/3: 301-319.

Guo, S. and **Zhang, G.** 2007. **'**Building a customized Google- based collocation collector to enhance language learning'. *British Journal of Educational Technology* 38/4: 747-750.

Hafner, C. A. and **C. N. Candlin.** 2007 'Corpus tools as an affordance to learning in professional legal education'. *Journal of English for Academic Purposes* 6/4: 303-318.

Hyland, K. 2003. 'Genre-based pedagogies: A social response to process'. *Journal of Second Language Writing* 12/1: 17-29.

Lankshear, C., and **Knoebel, M.** 2007. 'Sampling "the new" in new literacies' in M. Knoebel and C. Lankshear, (eds.). *A New Literacies Sampler*. New York: Peter Lang.

Lee, D. and **J. Swales.** 2006. 'A corpus-based EAP course for NNS doctoral students: Moving from available specialized corpora to self-compiled corpora'. *English for Specific Purposes* 25/1: 56-75.

Mak, B. and **D. Coniam,** 2008. 'Using wikis to enhance and develop writing skills among secondary school students in Hong Kong'. *System* 36/3: 437-455.

Milton J. 2006. 'Resource-rich Web-based feedback: Helping learners become independent writers' in K. Hyland and F. Hyland, (eds.). *Feedback in Second Language Writing: Contexts and Issues*. Cambridge: Cambridge University Press.

Pennington, M. 1993. 'A critical examination of word processing effects in relation to L2 writers'. *Journal of Second Language Writing* 2/3: 227–255.

Silva, T. and **I. Leki,** 2004. 'Family matters: The influence of applied linguistics and composition studies on second language writing studies – past, present, and future'. *The Modern Language Journal* 88/1: 1-13.

Sorapure, M. P. Inglesby and **G. Yatchsin**. 1998. 'Web literacy: Challenges and opportunities for research in a new medium'. *Computers and Composition* 15/3: 409–424.

Stapleton, P. and **R. Helms-Park**, 2006. 'Evaluating Web sources in an EAP course: Introducing a multi-trait instrument for feedback and assessment'. *English for Specific Purposes* 25/4: 438-455.

Tapscott, D. and **A. D. Williams**. 2006. '*Wikinomics: How Mass Collaboration Changes Everything'*. New York: Penguin.

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