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Internet English, Electronic Literacy, and the EIL Reading Course

Thomas MACH

English is undergoing changes due to the fact that it is increasingly being written and read via electronic media. This article explores surface-level changes taking place in English found on the World Wide Web, as well as developments occurring at deeper levels of organization. The relatively unregulated nature of the Web has democratized electronic publishing and led to less typographical standardization, yet some important trends appear to be emerging. Meanwhile, the widespread practice of juxtaposing text with images and other visual elements on the Web suggests that we need to revise traditional notions of literacy by including a greater emphasis on non-textual features. Techniques for teachers to address these changes in all English reading courses, not only ones held in computer classrooms, are proposed.

Introduction

Once considered a luxury, computers are increasingly becoming a necessity in everyday life. Consequently, many schools are scrambling to provide students with as much access to computers as possible. Statistics in Japan for 2001 show an average of one computer per every 19.2 students in primary schools and every 10 students in middle and high schools. The Ministry of Education is currently providing schools with additional computers in order to lower these numbers to one computer per every 5.4 students by the 2005 academic year (Sakane, 2002).

Ten years ago most of the educational uses of computers were related to word processing, but recently there has been a dramatic upsurge in using computers to access the Internet. This shift obliges language educators to replace the popular notion of the computer as a tool with a more accurate understanding of it as a *social environment* (Warschauer, 2001). It is an environment our students are likely to visit with increasing frequency and, other than their first language, English is the language they are most likely to encounter there. The remarkable ease of accessing this global communicative space and contributing to it problematizes the old distinction between ESL and EFL, and explains the preference in this article for the term *EIL* (English as an International Language).

There is no guarantee that the English available in the new social environment made possible by the Internet is exactly the same as English found in other contexts. In fact, the possibilities and constraints associated with the computer as medium strongly affect various characteristics of the English students encounter when they read electronic documents. This article attempts to describe what Internet English looks like, what principles affect its organization, and what reading skills are most likely to aid students' comprehension of it. Finally, a few suggestions relating to how these skills can be developed even in classrooms without computers are offered.

This article is primarily concerned with the World Wide Web and e-mail, the two most commonly used Internet applications in education (Teeler & Gray, 2000). However, many of the trends noted below, especially those mentioned in relation to e-mail, also hold true for other Internet applications such as real time chat, MOOs (multi-user environments), bulletin boards, and newsgroups.[1)]

1. Features of Internet English

In what ways does English found on the Internet look different from English encountered in print? This question strikes me as a rather basic yet crucial one for the English teaching profession. Yet large-scale studies attempting to describe the surface-level differences between Internet English and print English remain relatively rare. This is likely due to the fact that Internet English is still very much a moving target. Just as any attempt to identify the enduring conventions of print English would have proven to be a mostly futile exercise if conducted within the first fifty years of the invention of the printing press, any current attempt to describe Internet English risks becoming outdated rather quickly given the newness of the technology behind it and the state of great flux it is in. Nevertheless, if not yet conventions, at least some identifiable patterns appear to be emerging. As the technology develops, a few of these trends may fade away, but others appear poised to become long-lasting features of Internet English and therefore worthy of attention in English classes.

1.1 The typography of the World Wide Web

Walker (2001) has looked extensively at research describing the typographical features of documents produced by desktop publishing. Her premise is that there are some major differences apparent in the texts that surround us today in comparison to those of previous generations due to the fact that now anyone can be a typographer and publish documents whereas in the past this used to be handled almost exclusively by professional printers. Though primarily concerned with the impact these "non-expert designers" have had on print documents, it stands to reason that many of her observa-

tions hold true for webpages as well since both are created with desktop computers using similar software. Generally, these documents reflect an increasing use of centered text, full justification settings and capital letters (especially when used for adding emphasis rather than as headings). Also, Walker finds an increase in incorrect punctuation and inconsistency in layout and typographic style (p. 83).

A feature that is exclusive to online texts is the typographical representation of hypertext links. Though far from being conventionalized, textual links are often underlined, set apart from surrounding words by contrasting text color (most commonly blue for linked text and black for non-linked text), or both. Though such observations might be obvious to those of us who spend a considerable amount of time reading electronic texts, they refer to a basic literacy skill (akin, for example, to being familiar with the conventions of footnotes usage in printed texts) that needs to be confirmed in our students before moving on to deeper levels of electronic literacy.

Another apparent trend in written English brought about by the computer as medium has to do with paragraphing. Paragraphs that follow print conventions are increasingly rare. When paragraphs appear on the Internet, they are typically unindented and markedly short. In a sampling of 100 news stories taken from the websites of BBC, CBN and ABC, Crystal (2001) found an average of only 25 words per paragraph, and the majority of the paragraphs consisted of only a single sentence.

Surprised by Crystal's finding, I set out to confirm his results with additional data. I randomly accessed twenty news stories linked to the news sections of various national *Yahoo!*[2] sites. Five English articles were analyzed from each of *Yahoo!*'s Australia, India, Singapore, and United States sites, yielding an average of 30.31 words per paragraph and only 1.25 sentences per paragraph (see Appendix). Though extremely limited in scope, these results appear to lend support to Crystal's (2001) claim that most paragraphs on the Web contain just one sentence, at least as far as popular online news sources are concerned. Anyone who has taught a reading course using a textbook that asks students to identify the topic sentence in paragraphs that are typically four to eight sentences long will immediately realize the implications this paragraphing trend might have for the reprioritizing of reading skills practiced in class. Though the Web does not render any particular reading skill obsolete, it compels us to reexamine the relative importance of everything we have grown accustomed to teaching about the reading process.

The texts Crystal (2001) and I analyzed are all news articles, but the World Wide Web has a great deal of content that is not news-related. I had originally attempted to look at paragraphing conventions on some of the Web's most popular shopping, business, entertainment, and social sites. However, the futility of such an effort soon became apparent due to the difficulty of even finding a location in those sites that

contained a sizable amount of text displayed in paragraph format. When it exists, paragraphed text tends to be found within popular sites on pages entitled *about this site, company profile, terms of usage, privacy policy*, and so forth. Such pages are not always connected directly to a site's homepage, and when they are the links often appear in small font and in inconspicuous locations rather than on the main menu of links. Clearly they are not the pages that visitors to the sites are most likely to access. In contrast, text on the more prominent pages commonly appears in much smaller units than the paragraph. Electronic text appears in lists and matrices in much greater frequency than print text does (Crystal, 2001), and is often arranged alongside or within visual features and images. These changes indicate a movement toward graphic and spatial as opposed to verbal strategies for indicating how parts of a text relate to one another.

Despite the above examples of emerging typographical trends in Internet English, typographical chaos at times appears to have the upper hand. To the consternation of professionals with prescriptivist tendencies who write some of the manuals in the burgeoning field of Web design guides, most of the irregular typography is intentional and caused by the unprecedented degree to which publication via the Web has been democratized. In addition, a relatively small but nevertheless noticeable amount of typographical irregularity on the Web can be attributed to amateur authors' unintentional misuse of Hypertext Markup Language (HTML), the "language" of tag commands that instruct computers how to display Web pages. "Erratic lineation, obscured paragraph divisions, misplaced headings, and other such errors are the outcome" (Crystal, 2001, p. 205).

1.2 E-mail English: simplified and hybridized

The most popular and consistent claim about the variant of English found in e-mail messages is that written and spoken registers seem to converge in it (e.g., Murray 1995; Richards, 2000; Shetzer & Warschauer, 2000). The relative simplicity of sending an e-mail message and the potential immediacy of receiving a reply differentiates it from print writing and allows users to perceive it as akin to a conversational event. The resulting conversational tone of e-mail is noted not only by academics, but also by authors of popular Internet style guides. In Hale and Scanlon's *Wired Style* (1999), for example, e-mail is described as "a cross between a conversation and a letter" (p. 3) and e-mail users are urged to write in a colloquial style imitating speech.

Technically, however, e-mail text can be classified as writing because, as with all forms of writing, it generally takes longer to produce than spoken text and the audience is usually physically distant. As Murray (1995) points out, these constraints on time and space in a domain perceived as conversational give rise to a unique simplified reg-

ister in which writers strive to reduce time but also make up for missing paralinguistic information. Affect and stance are frequently indicated through the use of playful spelling (e.g., *oh nooooo*) and punctuation (e.g., *me??, yes!!!*). Though these strategies to textually represent paralinguistic information can to a lesser degree be found in some informal forms of writing that predate e-mail, the widespread use of e-mail has also given rise to a new and unusual category of expressive symbolization called *emoticons*,[3] or *kao moji* (顔文字) in Japanese. English emoticons lay on their side and one's head must be tilted to the left when reading them [e.g., **:<(** for frowning, **:-o** for expressing shock] whereas their Japanese counterparts stand straight like text [e.g., **(T_T)** for crying, **m(__)m** for someone bowing apologetically, **(^_^;)** for feeling flustered or nervous]. The fact that newer models of Japanese cellular phones are often pre-programmed with extensive menus of *kao moji* indicates the degree to which interpreting them is starting to become a necessary skill for readers of electronic text. But why would an e-mail writer choose to mark a negative emotional stance with, for instance, an emoticon such as **:<(** rather than a word such as *unfortunately*? In this case, the emoticon requires only three keystrokes whereas *unfortunately* requires thirteen. In other words, using the emoticon saves time. Perhaps more importantly, the image of a human face that the emoticon represents serves to create an illusion of immediacy and physical presence. Thus, emoticon usage is an attempt by e-mail users to overcome the constraints of both time and space, and this suggests that they are much more than a passing fad.

The desire to minimize the time constraint means that syntactic and lexical simplification is common in e-mail messages, and use of abbreviations is widespread. In contrast to the erratic use of capitalization on websites, lower-case letters are a clear favorite in e-mail as writers strive to avoid unessential keystrokes (Crystal, 2001) and thereby reduce time. Murray (1995) observes that the constraint of time is felt so strongly that e-mail writers tend to avoid self-correcting typos and unconventional syntax unless miscommunication is likely to result, and offers the following e-mail interaction from her corpus as an example (p. 81):

A: I can;t find Don, Simon, or Les logged on. Where are people going for coffee?
B: no idea. i haven't seen a sole all day. btw can i do foils on yourprofs sys on sun?

Presumably this example is more extreme than typical, yet it serves to illustrate the surprising degree to which some users discard standard conventions of writing when they perceive an e-mail interaction as similar to a speech event.

For teachers who view e-mail competency as a language skill worthy of attention in class, the case for pedagogical approaches that favor communicative fluency over lin-

guistic accuracy has never been stronger. Though the hybridized nature of e-mail English may pose potential problems for language programs that prefer to rigidly divide courses and objectives according to the four macroskills, courses that are flexible enough to include an e-mail component are able to focus on features of both spoken and written registers of English via a single medium.

2. Electronic literacy

The surface-level shifts in English touched upon in the section above are significant and have implications for the field of English teaching, but equally interesting and perhaps ultimately more important changes are taking place at a deeper level of literacy involving rhetoric, design, and the cognitive processes that online texts routinely call upon. One of the more active debates among literacy theorists is the degree to which visual images are replacing verbal texts in human communication as evidenced by the explosive rise in computer graphics used in electronic documents. The proliferating presence of images and other visual features we encounter when we navigate the Web implores us to go beyond text in our consideration of what it means to be literate in this technological age, and to perhaps look more closely at the intentionally-produced, non-textual "rhetoric of design" (Richards, 2000) in which electronic text is increasingly embedded. The other dramatic shift in literacy can be attributed to the technological breakthrough that makes hypertext possible: the link. Hypertext links constitute the underlying structural network that allows the World Wide Web to function as a web, and their impact on the reading process is no small matter. An increasingly important task of language teaching professionals is to identify the set of critical literacy skills that successful readers of visually rich hypertext documents employ, and to give these skills a prominent position in our reading courses.

2.1 Intentional visuality

The vast majority of reading material in traditional print form is, to use Kolers' (1967, as cited in Horning, 2002) phrase, *incidentally* visual. In other words, a typical page of printed text follows a whole host of standardized conventions (e.g., spacing, punctuation, margins) in order to *not* call attention to itself. In most cases, an author aims to make his text as transparent as possible so that readers have a seemingly direct path to meaning. In contrast, as Horning (2002) points out, much of what we read on the Web is *intentionally* visual. Readers of hypertext are expected to not only take in the literal meaning of the text on the screen, but also attend to the visible features (e.g., links, movement, color schemes and other design motifs) for an added dimension of comprehension.

This signifies a rather dramatic shift in our general notion of what constitutes reading material. The line between verbal text and visual modes of expression has been blurred considerably. This is clearly evident on the Internet, but also in documents made possible by that other "revolution" attributed to computers: the dramatic changes in the world of print publishing. Not only has desktop publishing suddenly become a possibility for anyone owning a personal computer, but also a simple comparison of the layouts of a typical newspaper published today and one published fifty years ago will attest to the increasing role of graphic features in what has traditionally been a textual domain.

This upsurge in the visual mode signals not so much the emergence but rather the *reemergence* of visuality in communication. There is a long human history of visual communication before writing systems were invented. Even after writing systems were established, reading in most societies was a skill shared by a relatively small elite through the ages. It wasn't until the late eighteenth century that literacy rates began to approach 50% in many countries (Murray, 2000). However, in the fifteenth century for instance, at a time when less than 10% of the European population could read (Pattison, 1982), a typical person living in Italy would likely have been visually "literate" in the vast iconographic system of Catholicism and able to "read" the elaborate narratives told in fresco on church walls, even if unable to read a single written sentence in any language. Recently the written word has enjoyed an era of ascendancy, but "after a period of some two to three hundred years of the dominance of writing as *the* means of communication and representation, there is now, yet again, a deep shift taking place in the system of media and modes of representation and communication" (Kress, 1998, p. 58). New technologies have dramatic consequences for our concept of literacy, and although some (e.g., Johnson, 1997) lament the change and suggest that the current rise in visuality is simply a temporary phenomenon, many others (e.g., Bolter & Grusin, 1999; Landow, 1996; Lanham, 1993) see it as a major readjustment that is here to stay. Bolter (1996) goes so far as to claim that "digital graphics call into question the future of alphabetic writing itself. The issue is not so much a conflict between ink on paper and pixels on a computer screen; it is rather a conflict between contrasting modes of representation" (p. 256).

Teachers unconvinced by Bolter's rather extreme prophecy might argue that an EIL course is not the proper place to consider the communicative aspects of visual images because such images are not technically a part of the writing system we call *English*. However, the English teaching profession would be rather shortsighted if it neglected to acknowledge that the visual images accompanying electronic English texts are an increasingly vital component of the overall message being conveyed. Yet one might still argue that although images are an increasingly important part of com-

munication throughout the world, they are by no means exclusive to *English* communication and therefore there is no need to associate them specifically with English teaching. The problem with this argument is that it ignores the growing role of English as the world's lingua franca, and the ever-increasing role that computer-based technology is assuming as the medium for international English. More than ever before, the majority of written English that our students will encounter beyond the confines of the classroom, whether it be for work, entertainment, or social purposes, will be accessed electronically. Moreover, guidance in developing electronic literacy skills, including a critical look at the way visual aspects of a document add to textual meaning, is especially important in language courses because students of a second language tend to focus excessively on the linear progression of a text, even if they exhibit more global reading skills in their native languages, due to most learners' understandable preoccupation with the lower-level decoding processes that we take for granted once we become fluent.

2.2 Hypertext

The term *hypertext* is sometimes used in a broad sense to refer to all multimedia effects such as sound, images, and movement that can accompany a written text (e.g., Richards, 2000), but this section employs the term in the more widely-used but stricter sense of any text that contains links. Though plenty of evidence indicates that reading is never an entirely linear process, books and other printed materials are generally cloaked in the structural guise of linearity. Hypertext, on the other hand, is fundamentally multi-linear and associative in nature. Unlike a book author, a hypertext author is unable to impose a beginning and an end on the reader. Instead an author of hypertext is much more likely to organize text as a set of modules, thereby abdicating to the reader the responsibility of accessing the modules in a suitable sequence. In other words, readers in a sense become co-authors because "hypertexts are constructed partly by the writers who create the links, and partly by readers who decide which threads to follow" (Snyder, 1998, p. 126). This is not to say that hypertext authors sacrifice all control over the direction of their texts. Decisions regarding the number of links, their position in the text, and where they lead to are entirely determined by authors so that a reader's range of possibilities are restricted (Kern, 2000). Nevertheless, it is baffling to note that the last time you or anyone else browsed the Web at length, the path traced produced an original "text" that is unlikely to ever be constructed by another reader in exactly the same way.

Given the reader's increased creative role when reading hypertext, it seems almost cruel to ask second language learners to take on this added responsibility at a stage when basic levels of linguistic decoding and comprehension still pose a challenge.

Hypertext reading undeniably "adds layers of complexity to an already complex process" (Kern, 2000, p. 224). Despite this, many teachers who have taught reading skills via hypertext documents will attest to the fact that it compels learners to conceive of reading as an essentially active as opposed to passive process, and learners who come to this realization are much more likely to realize rapid gains in their reading proficiency. Also, the interactive nature of hypertext allows it to immediately and effectively demonstrate the importance of a number of reading skills that are important for *both* print and online documents (e.g., skimming, scanning, surveying) in ways that most print materials cannot hope to match.

3. Critical skills for navigating the Internet

Rarely is what we do on the World Wide Web referred to as reading. Instead, we *navigate* it, *browse* it, or even *surf* it. These metaphors are revealing in a number of ways. The idea of navigating underscores the sheer volume of information we now encounter when we go online, the novel paths we take as we sift through it, and also the complexity involved in arriving at our intended destinations. The term *browsing* may bring to mind a light and casual sampling of what's available (such as animals browsing in a meadow), but may also implicitly suggest a constant series of little evaluative decisions we make in the process (such as someone browsing in a store for goods worthy of purchase). The surfing metaphor suggests something exciting but difficult to control, and perhaps also the sudden thrill of having a stellar experience after a number of false starts and imposed waiting that occur when connection speeds, search strategies, and other conditions are less than optimal. At the very least, these terms point to a general feeling that the term *reading* is no longer adequate because our interaction with hypertext feels like a different experience than the one we have come to associate with print-based reading. However, despite the proliferation of these substitute terms, what we do on the Web can still in most cases technically be called reading, but it feels different because the relative importance of the component skills that constitute reading have been rearranged.

A print text chosen from a library must pass through at least two authority figures before reaching readers: an editor who deems it worthy of publication and a librarian who deems it worthy of inclusion in the library's collection. In other words, there are gatekeeping mechanisms in place for assuring quality and accuracy (Kern, 2000). Most electronic texts, on the other hand, are completely unregulated and critical readers are obliged to take on the gatekeeper role themselves. This means that finding information, evaluating accuracy and appropriateness, determining authority and expertise, and identifying rhetorical techniques of persuasion (Schetzer & Warschauer, 2000)

take on added importance and urgency when dealing with electronic texts. These skills have always been a part of critical reading regardless of the medium, but failure to employ them to a greater degree when navigating the Web is likely to lead to *infomania*, a term coined by Heim (1993) to refer to a state of losing oneself in insignificance when confronted with vast amounts of unregulated hypertext.

Electronic literacy also involves bricolage and juxtaposition, two skills very rarely mentioned in the context of traditional approaches to print literacy. Burbules (1998) defines bricolage as "assembling texts from pieces that can be represented in multiple relations to one another" (p. 107) and contrasts it to hierarchical and static means of organization such as is evident in outlines. Juxtaposition refers to understanding the ways in which various textual and non-textual components intentionally arrayed in a certain pattern on a page relate to one another and form a whole. It is different from narrative structure, not in the sense of multidimensionality made possible by following hypertext links, but in the sense that on a typical webpage we are more likely to find a dozen or so distinct areas competing for our attention than a clearly identifiable starting point. Bricolage and juxtaposition are supplementing rather than replacing hierarchical organization and linear narrative, thereby adding complexity to the overall reading process.

For teachers who teach reading classes in computer classrooms with Internet access, using the World Wide Web and e-mail in class while focusing on the registers of English and the reading skills needed to succeed in these environments constitutes the obvious approach to developing students' electronic literacy. However, the reality is that a great many EIL reading courses are still conducted in non-wired classrooms. The following section attempts to address some of the alternatives available for promoting skills for reading electronic texts in traditional classrooms.

4. Suggestions for non-wired EIL reading courses

A former professor of mine, William Grabe, often concluded lectures on second language reading by saying, "basically, in the end, we learn to read by reading." One might now update his advice by offering the observation that the most effective way to learn to read online is by reading online. Teachers in non-wired classrooms, however, do not have the luxury of following this advice. These teachers need to make an important choice when designing their classes: namely, whether to avoid the increasingly essential world of Internet reading skills altogether or to attempt to indirectly promote these skills by manipulating features of the print-based media available for use in traditional classrooms. Fortunately, familiarity with the features of whatever word-processing software our computers happen to use allows us to create reading class

materials that mirror many of the distinctive features of online texts.

Returning to the assertion made earlier that much of what we read on the Internet is *intentionally* as opposed to incidentally visual, a basic rule of thumb when creating materials for use in a non-wired classroom is to make them as intentionally visible as possible. Some of the typographical trends such as frequent use of centering, full justification, and short, unindented paragraphs can easily be imitated in print materials. Crystal (2001) points out that footnotes and bibliographic citations are in some ways cognitively similar to hypertext, though admittedly less dynamic (p. 202). Although the degree to which vocabulary glosses assist vocabulary learning is controversial, the interruption and possible temporary detour that a gloss imposes on the reader is also similar to what happens when confronted with a hypertext link, and this might be reason enough to use them in classroom materials. In addition, the more lists, grids, matrices, text boxes, and branching structures (e.g., tree diagrams) learners are exposed to, the more they will broaden their focus to include the graphical arrangement of text as one of the sources that enhances comprehension.

Another option is to occasionally use images rather than words as an organizing principle for sets of materials. For example, I once headed all handouts related to a particular project with the graphic shown in Figure 1. The project spanned eight classes and constituted about one-third of each class. Upon receiving handouts with the graphic design motif, students gradually became accustomed to associating it with the project and sometimes began preparing to move to their project groups even before reading the text that accompanied the header graphic. Though not technically addressing a linguistic skill, slight adjustments such as this can help students to get in the habit of exploring visual as well as textual cues when searching for the communicative intent of an author.

Figure 1: Example of a graphic heading

The issue of intentional visuality can also inform an extremely important choice that most teachers face: selection of a course textbook. With so many criteria to consider when making a choice, one aspect that is easy to overlook is how a prospective textbook makes use of its visual elements. Once in the habit of looking carefully at each textbook's approach to visuality, a clear line can be drawn between those that truly integrate images with text and those that are simply using images as an afterthought to decorate text. This can be tested by reading a section of text and determining if it

remains fully intelligible without the help of nearby images. Text that integrates images usually contains deictic references to the images, and it describes and narrates what the images portray. Textbooks to avoid typically include images that illustrate a topic (e.g., a tennis racket and baseball glove in a unit about sports) but are not referred to in the accompanying text. Shetzer and Warschauer (2000) call this "prettifying" (p. 174) and rightly point out that it is not representative of what is generally happening on the Internet.

Skimming has long been recognized as an important reading skill, but I would argue that a vast amount of skimming we do on the Internet is different in one crucial aspect from the type of skimming typically rehearsed in non-wired reading classes. Many reading textbooks prompt learners to skim as a means of previewing a text in order to get the main idea. Skimming is treated as a way to find out what a text is about in general before reading more carefully. The implicit assumption is that the text will eventually be read regardless of whether we skim or not. In contrast, much of the skimming done on the computer screen is to determine whether or not the document is something worthy of a closer reading. In other words, when surfing the Internet important evaluations are made at the skimming stage because of the gatekeeper role we must all assume, and a great many documents are rejected after skimming rather than read carefully. Thus, in non-wired classrooms, we need to find ways to mirror this skill of evaluative skimming that involves decisions of import. For example, students could be given a limited amount of time to peruse a textbook in order to help the teacher decide which chapters to cover during a course and which ones to reject. Similarly, if reading about a given topic constitutes a homework assignment, the teacher could prepare copies of a few different articles that address the topic, array them somewhere for all to see, and give students a few minutes at the end of class to individually choose their own homework. The point is to sometimes get students to skim in order to make rapid judgments of desirability so that they will eventually be able to sift through the massive amount of information accessible electronically.

Finally, more than ever before, an extensive reading component deserves a prominent place in our reading classes regardless of whether they are held in traditional or computer classrooms. Though a huge body of literature[4)] already exists extolling the virtue of extensive reading for second language acquisition, the need to read rapidly has never been greater given the vast volumes of text that the Internet makes available. Extensive reading helps learners to automatize the basic processing skills needed to read rapidly, thereby cognitively freeing them to make higher-level evaluative decisions that are an essential part of navigating the Web. The advice mentioned above is worth repeating: Basically, we learn to read by reading.

5. Conclusion

It is easy to get carried away by headlines proclaiming a revolution in all sorts of human endeavor attributable to the advent of computers and the Internet. However, most new technologies simply extend existing technologies, thereby amplifying cognitive and social adjustments already taking place in society. Though this article's objective has been to point out what is unique about reading in electronic domains, it is important to remember that e-mail is more similar to systems of mail that predate it than different from them, and that electronic Web documents still have much in common with their print-based cousins. The pedagogical approaches sometimes attributed to computers are not entirely new either. As Murray (2000) points out, trends in education such as collaborative learning, a focus on process rather than product, a social view of writing, and a view of teacher as mentor and facilitator rather than conduit of established knowledge were already in place before computers came along and further enabled them. Similarly, the intentional foregrounding of visuality in textual documents certainly has roots in the popularity of relatively recent inventions such as photography and television, whereas the flexibility, interactivity, and flaunting of conventions associated with the rise of electronic texts perhaps reflects larger social trends in the modern era toward democratization. The role of the language teacher is to stay on top of these trends in the ways people express themselves, and to be familiar with the technologies that enable the changes in order to best address the evolving needs of students. As Shetzer and Warschauer (2000) eloquently put it, "literacy is a shifting target, and we have to prepare students for their future rather than our past" (p. 172).

Notes

1) See Teeler and Gray (2000) for an introduction to Internet applications other than e-mail and the World Wide Web, and Crystal (2001) for descriptions of their linguistic characteristics.
2) *Yahoo!* consistently ranks as one of the world's most heavily accessed Internet portals and search engines. Its U.S. start page can be accessed at *http://www.yahoo.com/* and this page includes links to distinct start pages for users in at least twenty other countries.
3) Lists and explanations of various emoticons and *kao moji* can be found on a number of informal websites including the following:
   http://www1.pref.tokushima.jp/kankyou/seikatsubunka/awalife/december01/egao.htm
   http://www2.tokai.or.jp/yuki/kaomoji/
   http://wedder.net/misc/smilies/
4) See Grabe and Stoller (2002) for an overview of second language acquisition studies pertaining to extensive reading, and Day and Bamford (1998) for an entire book on extensive reading that includes rationales and advice for implementation.

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Appendix

Paragraphing Data for Twenty *Yahoo!* Articles

URL address	Paragraphs	Sentences	Words
http://story.news.yahoo.com/news?tmpl=story&ncid=514&e=1&cid=514&u=/ap/20021014/ap_on_re_as/indonesia_bombs	38	63	1072
http://story.news.yahoo.com/news?tmpl=story&ncid=655&e=2&cid=655&u=/oneworld/20021011/wl_oneworld/13343_1034350195	14	23	682
http://story.news.yahoo.com/news?tmpl=story2&ncid=716&e=2&u=/ap/20021020/ap_on_go_ca_st_pe/us_iraq	16	22	669
http://story.news.yahoo.com/news?tmpl=story2&cid=511&ncid=703&e=1&u=/ap/20021020/ap_on_el_gu/new_york_governor	14	19	463
http://story.news.yahoo.com/news?tmpl=story2&cid=570&ncid=753&e=1&u=/nm/20021019/sc_nm/environment_kilimanjaro_dc	21	26	648
http://sg.news.yahoo.com/021028/1/3457b.html	18	19	456
http://sg.news.yahoo.com/021020/5/singapore22267.html	12	12	232
http://sg.biz.yahoo.com/021020/1/33whl.html	18	18	601
http://sg.news.yahoo.com/reuters/asia-131535.html	12	14	322
http://sg.news.yahoo.com/021018/1/33vpj.html	4	4	100
http://au.news.yahoo.com/021020/2/gm32.html	13	13	328
http://au.news.yahoo.com/021018/3/gk3m.html	11	11	272
http://au.news.yahoo.com/021019/16/gkrf.html	16	22	537
http://au.news.yahoo.com/021020/2/gm38.html	6	10	195
http://au.news.yahoo.com/021020/2/gm3d.html	6	6	181
http://in.sports.yahoo.com//021019/137/1wmhf.html	13	15	303
http://in.news.yahoo.com/021019/137/1wmi4.html	10	12	325
http://in.news.yahoo.com/021020/6/1wmym.html	10	10	291
http://in.news.yahoo.com/021020/54/1wmw9.html	4	4	92
http://in.tech.yahoo.com/021019/137/1wmfa.html	8	8	234
Totals	**264**	**331**	**8003**
Average sentences per paragraph		**1.25**	
Average words per paragraph			**30.31**