ON THE NET

You've Got some GALL: Google-Assisted Language Learning

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INTRODUCTION

"Just *google* it!"

"Have you *googled* it yet?"

"I'll *google* it later."

Commands, inquiries, and intentions of this sort have become so commonplace in class discussions, during meetings, over dinner, and on the phone as to approach cliché. One article making the rounds on the AP wire even investigated "*googling* your date" (Irvine, 2007).

The impact of the internet on the English, and global, lexicon is nothing new. It has become habitual to send *e*-mails or *text messages* in lieu of using snail-mail or calling on the phone. Many other forms of computer-mediated communication have similarly found themselves both publicly and officially recognized. In 2004, *blog* was named *Merriam Webster*'s word of the year ("Blog Picked," 2004; Merriam-Webster Online, 2005). Likewise *podcast*, which the *New Oxford American Dictionary* named as its 2005 word of the year ("Wordsmiths Hail Podcast," 2005). *Google* entered *Merriam-Webster* the next year, though only as runner-up for word of the year, losing out to *truthiness* (Ahrens, 2006; Merriam-Webster, 2006). What is unique about Google's cross-over is not only the fact that its brand name has trumped its function, in the same way many of us blow our noses in *kleenex*, toss *frisbees*, and dress our wounds with *band-aids*, but that it is this function with which it is synonymous (i.e., it's a verb). As such, no longer do we simply 'search' for something online. Now we *google* it.

A BRIEF HISTORY OF GOOGLE

In 1998, co-founders Larry Page and Sergey Brin launched their newly renamed search engine, Google. Acknowledging the mathematical origins of its moniker (a 'googol' is 1 followed by 100 zeros), a statement on its website indicates that "Google's play on the term reflects the company's mission to organize the immense amount of information available on the web." In the eyes of the public, this mission was seemingly accomplished very quickly, such that in 2003, a *New York Times* columnist somewhat sarcastically asked "Is Google God?" (Friedman, 2003). In 2004, *Wired* magazine celebrated Googlemania, chronicling the site's rise to the summit of search and its impending death-match with Microsoft (Malone, 2004). In 2005, the fictional retrospective documentary, EPIC 2015, mockingly documented the Evolving Personalized Information Construct, portending a mammoth cyber-merger with Amazon which would deliver its GoogleZon progeny to the world. In 2006, 'Google' itself was the most searched term on AOL's search engine during a three month period, i.e., Google itself was apparently being *googled* (Nakashima, 2006a). Come 2007, half of all US searches were being conducted on Google (comScore, 2007a). By March of the same year, Google was reportedly the "world's most-visited site" (Kopytoff, 2007). And at least two major universities were offering courses in 'Google' (McCloskey, 2007). Numerous books have been published on the subject of Google, covering it both as a successful business model and a powerful internet tool. Following the theme of the latter, Google offers a range of practical applications for language instructors and learners alike.

A GOOGOL OF PEDAGOGICAL USES FOR GOOGLE

Since its inception, language instructors have recognized the informational potential offered by the internet. Corpus linguistics, for instance, went online with web-based linguistic corpora and KWIC (key word in context) concordancers (e.g., MiCASE). Google has itself even been proposed as a 'quick 'n dirty' concordancer (Robb, 2003; Rundell, 2000). But it also has the capability to do much more than simply facilitate basic Boolean-type searches.

Google as Informative Tool

At a basic level, Google, by default, checks for and corrects spelling errors, such that a query for 'cofee' proffers 'Did you mean: coffee.' Beyond superficial form, however, learners can discover meaning by appending a dictionary command to the start of a term (e.g., 'define:coffee'). Google can also focus on usage. The 'define:coffee' command offers several common collocations (e.g., coffee break, Turkish coffee) at the top of the page. Typing into Google Suggest will preview similar collocations. And in using a wildcard command such as 'I drink * coffee', the asterisk acts as a placeholder for a gap-fill, and results in a range of potential responses. This is also useful for phrasal verbs, such that by typing 'come * with', learners discover 'come up with', 'come away with' and more. Another way to maintain context is to search authentic texts in Google Books, where a search for 'coffee' introduces learners to rich prose describing 'roasted coffee' and 'steaming coffee'. Learners curious about the different synonyms for coffee can compare the regional popularity of their usage at Google Trends. A search for 'cup of coffee, cup of joe, cup of mud, cup of java' will not only inform the inquisitive learners of the global popularity of 'cup of coffee', but also that 'cup of joe' is not uncommon in the United States, particularly in New York. Conducting such comparative searches on Google Fight, a Google hack (an unauthorized modification by a third party), provides a more animated and entertaining display of the results. To discover synonyms in the first place, learners can prefix a given term with a tilde (e.g., ~coffee), which searches not only for said term, but also popular related terms.

Vocabulary development can be encouraged more interactively through use of the Google Image Labeler, a real-time two-player game where the goal is to reciprocally label a series of digital photos. Google Sets provides another option useful even to beginning learners: an opportunity for listing and brainstorming. A search for 'black', for instance, displays an extensive list of other colors. Google also offers several tools for beginning learners' numeracy work. Typing '3 x 2' into Google turns it into an instant calculator. Queries patterned after official exchange lingo (e.g., '3.99 USD in RUB') offer updated currency conversions. Adapting 'weather Seattle' displays local forecasts both textually and graphically. And simply typing an accurate address into Google directs learners to Google Maps.

Another option well-suited to beginning, as well as more advanced, language learners is the Google Language Tools page, which provides interfacing in over 100 legitimate and faux (e.g., Elmer Fudd) languages. Interface and search language 'preferences' can also be set from Google's home page, such that all results are restricted to the language of choice. Also available for many of these are search and translation services. Entire websites can be translated in mere seconds. The creative 1888usa Google hack combines Google's translations with AT&T's speech synthesis (a.k.a., text-to-speech) demo.

More advanced learners can be encouraged to manipulate and interact with their target language by conducting creative webquests on Google. For example, learners can type in a few random ingredients (e.g., 'black beans brown rice tomatoes cilantro') to see what recipes Google can concoct. The Cookin' with Google hack performs similar searches, exclusively on several popular recipe sites. Google can also be used to guide learners in more traditional webquests. Returning to the coffee illustration, Google would enable learners conducting research on the history of coffee to search for information on pre-selected sites (e.g., 'coffee site:www.ethiopianembassy.org'). By clicking the 'Cached' link under any of the search results, the search terms are brightly highlighted. And if said learners are in need of more

information, use of the link command (e.g., link:www.ethiopianembassy.org) will provide referral to sites linked to the given source.

Instructors desiring greater control over learners' search activities can tailor their own search engines using Google Coop. For example, this Ethiopian Coffee search engine will only search pre-selected sites identified on that page. Instructors and learners unable or uninterested in recalling the aforementioned commands can access Google's Advanced Search page, which provides a more user-friendly interface for many of these.

Though Google's range of search tools is in and of itself impressive, perhaps what makes it all the more powerful is its recognition of the internet's potential. *e-Language Learning* describes the use of modern web-based tools for learning opportunities which are informative, productive, collaborative, communicative, and aggregative. The preceding examples illustrate how Google successfully provides myriad opportunities for the first of these, in essence employing its most traditional use as an information provider. Google also offers a comprehensive suite of free programs (to anyone who registers for an account) which help facilitate the remainder.

Google as a Productive Tool

An article in the *New York Times* once declared that "all the Internet's a stage" (Stross, 2006). Thus, whereas the heavily informative quality of Google can be aligned with language input, its productive tools foster opportunities for output. This reality is reflected in blogging sites like Google's Blogger, which allows learners to instantly author, publish, and syndicate their own textual, audiovisual, and generally multimedia productions for a global audience. Google Docs offers collaborative web-based word processing. Essentially, it is like a free web-based version of Microsoft Word. One of its key strengths is ability to be shared, like a wiki (incidentally, Google has acquired Jotspot, a popular wiki), a feature which allows for a plethora of creative applications. An instructor might post a text, intentionally replete with errors, for learners to correct. Likewise, learners can easily peer-edit, as this program leaves an editing trail. Another option is chain storytelling, where an instructor begins a story which each learner contributes to in turn. Such a tool is useful in group projects in general. Another feature of Google Docs is web-based spreadsheets, similar to Microsoft Excel, that instructors can use for attendance-keeping and grading.

Google as a Collaborative Tool

Vygotskyan constructivism (Vygotsky, 1978) posits that knowledge construction and meaning-making are best facilitated via scaffolded collaboration. The aforementioned tools clearly provide for such collaborative opportunities. This potential is further enhanced through use of Google Calendar, which can be used for scheduling and sending out reminders, and Google Groups, which can also be used to send out announcements, as well as to facilitate asynchronous class discussions.

Google as a Communicative Tool

Google also offers its own versions of some of the more standard communicative tools, which provide opportunities for interaction/negotiation in the target language. Gmail is Google's email program, and Google Talk is its instant messenger-cum-internet telephony service, that allows users to save, print and email text chats. The latter can be used as the medium of communication between pairs of learners engaging in classic cooperative activities such as jigsaw tasks. The benefits of doing so via chat have been summarized by Swaffar (1998), who indicates that chats "seem to help all individuals in language classes engage more frequently, with greater confidence, and with greater enthusiasm in the communicative process than is characteristic for similar students in oral classrooms" (p. 1). Another communicative tool with which to focus on form is GOOG-411, an automated telephone directory which integrates speech recognition and text messaging. Used effectively, it can be used to aid in the development of learners' pronunciation.

Google as an Aggregative Tool

In addition to providing learning opportunities that are informative, productive, collaborative and communicative, Google offers several tools that recognize linguistic, visual, audio, gestural and spatial literacies in aggregate (New London Group, 1996). On iGoogle, for example, learners can create 'start pages' that collect many of the aforementioned Google tools, as well as many others. Google Reader is a web feed aggregator which can be used by learners and instructors to collect updated news feeds, blogs, podcasts and vidcasts together into a single interface. Google Gears allows them to view this content offline, in the same way that podcasting allows audiovisual content to be downloaded from the internet for later use. Google Page Creator is a deceptively simple webpage creation tool. The 'My Maps' feature of Google Maps is a mash-up tool which allows learners to tailor-make maps, which they can embed with descriptive text, and digital images and drawings. Google Earth, which has the ability to take learners home with satellite precision, can be similarly utilized. Video mash-ups can be created using the Google-owned YouTube Remixer. And another feature of Google Docs is a presentation tool tantamount to Microsoft PowerPoint. All of these can be used to promote digital storytelling by language learners. On an iGoogle start-page, for example, learners can present their hometowns, complete with digital images, weather forecasts, current events, and more. Using the Google Maps mash-up tool, immigrants and sojourners alike can imaginatively narrate their travels.

CRITICAL THINKING

Despite the benefits its tools offer to those involved in language instruction and learning, as well as the population-at-large, Google is not without its critics. Publishers are worried about the repercussions of the Google Books Library Project, which aspires to create a digital archive of the world's books, public domain and otherwise (Ekman, 2006; Sipress, 2007). Spurred by similar copyright concerns of newspaper editors, Belgian courts ordered Google to stop posting headlines from its national papers on Google News (White, 2007).

Google has also been accused of selective censorship. For a time, Google blocked web content critical of the Church of Scientology due to pressure from the Church (Gallagher, 2002). It removed YouTube videos which the Thai government alleged were insulting to its monarchy (Vandenberghe, 2007). And it voluntarily agreed to censor itself in China (Crampton, 2006). More globally, it has been argued that sites ranked highest by Google tend to remain the most popular, thereby restricting public exposure to new sites, essentially a rich-get-richer phenomenon or 'googlearchy' (Hindman, Tsioutsiouliklis, & Johnson, 2003). Though this unique form of technological determinism has been accused of widely influencing the media (Lohr, 2006), allegations have not been Google-specific (Introna & Nessenbaum, 2000). Furthermore, these findings have been disputed by others who portray the search engine as more of an egalitarian 'googleocracy' (Menczer, Fortunato, Flammini, & Vespignani, 2006).

Then there is the question of its expansion, prompting discussions over "How much more should it be allowed to grab?" (Pearlstein, 2007), "Is Google too big?" (Spanbauer, 2007), and even "Is Google's data grinder dangerous?" (Keen, 2007); echoing comparison to monopolistic Microsoft (Rivlin, 2005).

Perhaps the most widely publicized concerns over Google pertain to privacy. Despite having refused similar requests from US authorities (Mohammed, 2006), it handed over identifying information of its users to Brazilian Courts (Nakashima, 2006b). This issue was also raised with the advent of the Street View feature on Google Maps, which—as the name implies—posts street-level screen shots of certain locations, complete with unsuspecting passersby (Liedtke, 2007). Google's decision to save all search queries by default and for an indefinite period of time prompted calls "to shift the default when storing personal information back to where it has been for millennia, from remembering forever to forgetting over time" (Mayer-Schönberger, 2007, p. 17). This all culminated in a 2007 report evaluating internet privacy, in which Google ranked worst amongst a group of popular websites (Privacy International,

2007). Still, it has requested assistance from the US government to battle international censorship (Rugaber, 2007) and has agreed to 'anonymize' search histories after 18 months and auto-delete cookies after 24 ("Google Cookies," 2007; Wearden, 2007).

Though these controversies might discourage some from using Google, intrepid instructors can pedagogically transform them into opportunities for critical thinking, akin to the higher levels of Bloom's Taxonomy (Bloom, 1956). When learners come across these issues during an assignment, the instructor could turn the issue into a class discussion or writing assignment. Moreover, already cognizant of these issues, the instructor might intentionally plan these 'teachable moments' as part of the lesson. In addition to the aforementioned topics of inquiry, for instance, learners might do some of the following:

1) Compare the results of a Google search with those of Yahoo or another search engine, or with a search conducted on Scroogle, which alleges to 'scrape' Google of all its tracking potential.
2) Send emails on pre-selected topics to one another over Gmail and analyze the forthcoming advertisements embedded at the bottom of the message for their relevance to the original message.
3) Search for Tibet on Google Maps or Google Earth, and use its absence as a discussion prompt over Google's policy with China?
4) *Google* themselves and write a paper based on the results.
5) Hold a mock trademark trial between Google and the inventor of the number 'googol' (using stories from NPR or *The Inquirer* as prompts).
6) Debate the response of Google's Advertising Team to the release of *Sicko*, Michael Moore's cinematic attack on the US health care system, using Google's Health Advertising Blog as a prompt.
7) Discuss the notion of a 'Google Generation' and develop a concerted and comprehensive definition of cyberplagiarism (using this *BBC News* article as a prompt).

Given Google's prominence, there is unlikely to be a shortage of provocative issues. Any number of other controversies can be culled from perusals of Google Watch, Google Blogoscoped, Googlified, and Google Operating System.

SEARCH PARTY

Remember Excite? AltaVista? Even Yahoo—the one-time premiere search tool—ultimately suffered with the arrival of Google, and for a while even adopted the latter's search technology (Perrone, 2004). Google has grown so exponentially as to surpass popular estimations on the advancement of technology (Kurzweil, 2001; Moore, 1965), and the prevailing signs indicate continued development and acquisition. Co-founder Larry Page has been quoted as stating that "[t]he ultimate search engine would understand everything in the world. It would understand everything that you asked it and give you back the exact right thing instantly" (Wray, 2006). Google's CEO, Eric Schmidt, has more explicitly envisaged Google's role in said engine's development, indicating that "[t]he goal is to enable Google users to be able to ask the question such as 'What shall I do tomorrow?' and 'What job shall I take?'" (Daniel & Palmer, 2007). Such statements are suggestive of an ambition to rise from mere search engine to total internet engine. It could be argued, however, that such efforts to dominate will ultimately destroy the minimalist appeal which attracted its legions of fans in the first place.

There are indeed hints that Google may falter. Despite its continued dominance in the US and Europe (comScore, 2007a; 2007b), according to Hargittai (2004), "many people do not use it, do not know about it, or even if they use it they may not know how to do so well." China's Baidu, for instance, remains the nation's most popular search engine, despite Google's attempts to gain ground (La Monica, 2007). There are also signs that Google recognizes its own mortality. Concerned over the potential 'genericide' of its name, and its resultant loss of prestige—and even trademark—it has actively canvassed for an end to such genericized usage, and a return to its status as a proper adjective (a la Xerox) (Ahrens, 2006; Duffy, 2003; Sturgeon, 2006).

In the meantime, a horde of 'Google killers' is looming. And the latest of these search engines are born more finely-tuned than their forbears, so as to be more accurate and useful. Yahoo's Mindset, for example, allows users to quantify the degree to which their intentions are commercial or informational. Natural language processing (NLP) search engines such as Powerset take into account 'stop words' (e.g., prepositions, articles) which Google ignores by default, thereby being more likely to consider the difference between 'taking off' and 'taking in' a shirt. Along the same lines, Q & A search engines like Hakia allow users to ask questions directly indicative of their meaning. Some, including ChaCha, even provide live guides. Clustered or federated search engines such as Clusty and the more visually stimulating KartOO utilize semantic data-mining technologies. Social search engines (e.g., Swicki) take a 'wisdom of crowds' approach, learning from the search strategies of their community. Social bookmarking sites (e.g., del.icio.us) similarly utilize user-generated 'tags'. A modern version of keywords, tagging is a system of classification which employs an information retrieval method known as folksonomy, a portmanteau of folks and taxonomy, literally a classification system by and for the people. Personalized search engines (e.g., Rollyo) allow users to create their own search engines, using sites of their choice. Yet others (e.g., Collarity) combine features of clustered, social, and personalized search engines.

Search providers aspire to offer services that are not only more useful than their competitors, but also more convenient. Some, such as Snap, recognize that many of today's searchers demand immediate gratification and may have limited attention spans, and therefore provide instant previews of search results. Others (e.g., Riya) take the notion of visual literacy to the extreme, excluding text altogether by searching only images. Also in existence are a host of other search tools—so-called vertical search engines—that directly target a specific range of topics (e.g., WebMD for health information), media (e.g., EveryZing searches content *within* podcasts and web-based videos), and populations (e.g., cRANKy for people over 50). And the list goes on…

For more information on this topic, just google it.

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