INVITED COMMENTARY: VOCABULARY

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While attending a conference in Brazil in 1998, the first author came across a store specializing in video games called "Game Over." When asked if the locals knew what that expression meant, the store manager's matter-of-fact reply was, "*Todo o mundo sabe*" (literally, "the whole world knows"). He may be right. It turns out that the phrase *game over* is recognized practically worldwide (just do a few language-specific Google searches to get an idea), and one need not stretch the imagination very much to guess why. While formal research into the effect various technologies have on vocabulary acquisition is still in its infancy, it is clear that—intentionally or incidentally—students have used various electronic media to learn new words for some time now. Moreover, although it is still far from clear exactly how one acquires vocabulary in a second language even from "traditional" media such as newspapers and books (see Schmitt, 2010, for a review), the growing ethos among L2 pedagogy practitioners seems to be that technologies like computerized corpora, captioned videos, electronic games, and mobile phones can somehow enhance the learning and teaching of new words. The timeliness, therefore, of the four data-informed papers in this special edition in supporting that ethos is indisputable. Perhaps less obvious are the further questions that the respective studies beg—ones that perhaps we did not even realize needed asking.

Chen and Baker, for example, in their paper *Lexical bundles in L1 and L2 academic writing* show that a computer can facilitate the comparison of phraseological patterns between what native experts write and what learners actually produce. The authors conclude that although there is much overlap, there are also key differences (e.g., a tendency for students to over-generalize in the target language), and suggest that L2 writers can improve by using certain bundles used by native writers. The effectiveness with which they take advantage of technology to compile their list of bundles using both quantitative and qualitative methods is clear, but perhaps it is only a beginning. Questions that now still need to be addressed include

- Why do learners seem to prefer certain types of expressions over others in their discourse?
- Is a native expert target necessarily a better model?
- How can a bundle like *the nature of the* or *at the end of the* be incorporated into formal language instruction?

With regard to the first question, it is now clear that non-natives actually use more of certain favorite formulaic sequences which they know well and tend to overuse as "safe bets," compared to natives (de Cock, 2000; Foster, 2001; Granger, 1998). However, exactly why some sequences are apparently more familiar than others is not entirely clear, and most likely involves a complexity that we are only just beginning to comprehend. For example, Xu, McKenny, and Morgan (2010) also compared Chinese learner and native corpora and found an overuse of the bundle *as we all know*. The researchers were able to trace the phenomenon to a confluence of various factors, including a particular textbook which prescribed the expression, differences in academic conventions in Chinese, and the relative pervasiveness of an equivalent of *as we all know* in Mandarin. And that is just one bundle, from one particular demographic.

Furthermore, it seems unlikely that widespread incorporation of lexical bundles of the type described in Chen and Baker will occur on any significant level unless teachers and students alike can be convinced that their use will result in some kind of concrete advantage (e.g., higher scores on essays). There is some indirect evidence that this is generally the case (Lewis, 2008; Ohlrogge, 2009), but it is still unknown whether an increase in any particular type of lexical bundle—such as the ones natives use to "hedge" in

the Chen and Baker study—will ultimately translate into the kinds of positive gains that could motivate a more widespread and systematic inclusion of them in courses.

Finally, perhaps of greatest relevance to pedagogy is, if and when such lexical bundles become recognized as important, how does one go about learning/teaching them? The bundles identified in the Chen and Baker study are extremely useful to the extent that they shed light on differences that merit further exploration, but the ease with which the average teacher could explicitly teach those particular word strings is less clear. Until very recently, no extensive lists were available specifically intended for pedagogic use, but with the Academic Formulas List (Simpson-Vlach & Ellis, forthcoming) and the Phrasal Expressions List (Martinez & Schmitt, under review), there seems to be an emerging trend of resources becoming available that will help enable the selection of multiword lexical items that are teachable and testable. However, the challenge will of course ultimately be how those items can best be learned, and there is little doubt that the growing variety of multimedia described in the other three articles in this special edition will contribute in that regard in ways we have yet to explore.

One such medium can already be considered relatively common in schools today: video. As pointed out by Sydorenko in her paper *Modality of input and vocabulary acquisition*, although some research already exists into the effectiveness of learning vocabulary through video, very few studies have investigated the vocabulary-learning advantages of using captions (i.e., subtitles) with video, and fewer still have looked at whether any particular type of modality (e.g., watching with or without captions) may be more beneficial to the recall of lexis. Her findings have direct implications for language pedagogy: learners appear to develop better form-meaning links with new vocabulary when video (and audio) is combined with captions. Naturally, as with the Chen and Baker study, Sydorenko's research will prove valuable for the evidence it provides, but perhaps even more valuable for the questions it provokes, such as *Is there a type of vocabulary that is learned better through captioned video?* and *Would the results be any different in a non-laboratory setting?*

Although Sydorenko does not seek to specifically answer the question of what kinds of lexical items were better learned than others in the study, some clues are offered in the written reports offered by participants in the study: "Most words I learned were accompanied by actions on screen, such as *sadites'* ["sit down"], *proshu vas* ["after you"]…" (p. 44). As acknowledged by a number of researchers (e.g., Coulmas, 1981), language is full of formulae which are attached to certain social "routines," and formulaic items like *sit down* and *after you* may be ideally learned through the medium of captioned video.

Two aspects of Sydorenko's study that learners reported having difficulty with were the speed of the video and/or captions, and when participants did notice a new word or expression, retaining that form-meaning link in their heads. Since participants did not have control over the video in the laboratory setting in which the study was conducted, one wonders if those complaints would subside if they could control functions like pause and rewind.

Clearly, one important aspect of technology today is its growing mobility. Ten years ago the use of video in language instruction was only discussed in the context of the classroom (or the self-access center) and, much more rarely, at home. However, given the popularization of mobile devices that are increasingly usable as mobile video-viewing devices (e.g., the iPod and iPhone), the concept of using video in the fashion described by Sydorenko—but with learners at the controls—is far from science fiction. Although watching captioned video on such devices may be an eye strain, with the release of the iPad and similar devices this obstacle can be overcome.

Unlike video, which already has a fairly established tradition in the language classroom already, little is known about the pedagogic advantages of learning a language through electronic game play, and less still is known about what if any vocabulary gets picked up by players. To explore that issue, deHaan, Reed, and Kuwada in *The effect of interactivity with a music video game on second language vocabulary recall* asked participants to either play or watch a video game, and tested them on what words were learned

under each condition. Although there was a large difference in the immediate uptake of vocabulary (immediate post-test: watchers 57% vs. players 18%), as advocated in Schmitt (2010), delayed scores are what really count to evaluate durable learning. Here we find that the watchers still maintained a sizable advantage (watchers 39% vs. players 13%), however even the players achieved very good results considering that the test required them to remember and write the written form in the cloze blanks. Laufer and Goldstein (2004) found that form recall is the most difficult level of mastery of the form-meaning link, and many other studies into incidental learning do not show anything near this amount of learning (see Schmitt, 2010) for an overview of incidental vocabulary learning, mainly from reading). This of course raises the question: *How can video games be optimized for vocabulary acquisition?* As deHaan et al. point out, the results of their study suggest that working memory limitations and language-focused game interactivity will certainly play a role, but there is so much that is yet to be explored—what we know now is that it seems to be worth the exploration.

The final study by Stockwell, *Using mobile phones for vocabulary activities: examining the effect of platform*, is a very good example of the value of carrying out studies in non-laboratory settings, particularly when mobile technology is involved (as is increasingly the norm). It is clear that in addition to more conventional functions such as telephoning and text messaging, mobile devices are now regularly used for everyday tasks once done exclusively on desk- and laptop computers like sending email and Internet browsing. Researchers have begun to investigate the extent to which these relatively new functions can be used in the classroom. However, as pointed out by Stockwell, the true value in a mobile phone lies, obviously, in its mobility, and in order to truly understand its viability as a vocabulary-learning tool it needs to be observed as it was intended to be used—outside the classroom. After collecting data from three cohorts spanning three years, Stockwell found that when learners had the option to perform the same activities using a personal computer, participants preferred the computer nearly 80% of the time. Causes cited for their aversion to the use of the mobile phone included issues with screen size, keyboard size, and data transmission speed. However, once more, given today's trends in the mobile market, one is compelled to ask what difference—if any—a multi-touch enabled device (e.g., iPhone, Android) might make. Such handsets are slowly becoming the norm, pushing out conventional keyboard phones, and allowing for a kind of interactive experience a conventional desktop computer does not generally afford. Moreover, there is a plethora of "apps" released on a daily basis for such mobile phones, and instead of having to access the Internet (as the participants did in the Stockwell study), it is quite conceivable that a dedicated app might produce more satisfying results—particularly one which provided such a tactile user interface. Finally, although at the time of writing there is still much to be understood about it, the mobile-like devices like the iPad and its inevitable imitators could completely overcome the challenge of screen size, while still remaining as portable as the conventional mobile phone.

In summary, what can be said regarding all four papers is that they contribute valuable evidence that technology is one more medium through which vocabulary learning and teaching can be enhanced, but we are still very far away from being able to claim that electronic media can play as large a role in vocabulary acquisition as, say, reading a variety of authentic material on a regular basis. However, the majority of the studies presented also suggest that the multimodality afforded by technology provides a way for the vocabulary learner to engage with language input in ways not possible with more paper-based media. Moreover, with the increasing integration of media and technologies into mobile devices that once only existed in DVD players and personal computers, the suggestion that electronic vocabulary resources may one day overtake more conventional ones (e.g., paper textbooks) as the main learning tool is not far-fetched. In other words, while we still have much to understand about how vocabulary is learned through multimedia, and though technology still has a long way to go as a vocabulary teaching and learning tool, it is far from *game over*.

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