

Text, Interculturality and Graphic Multiformats

Richard Berwick

Abstract

This paper examines ways of supporting learners' comprehension of authentic texts in content-based second language instruction (CBSLI) through use of *visual notation*—form of semantic shorthand that gives learners access to the essential knowledge and information an author intends to convey through text alone. Unfortunately, these texts are often cognitively dense—nightmares of comprehension for second language learners. Learners typically treat such texts purely as lexical challenges, paying relatively little attention to meaning beyond the words and phrases that confront them on the page. The paper elaborates on the transition from text to text-based graphics and back again to text (i.e., *multiformats*) through examination of materials designed for an Environmental Issues course currently taught at Ritsumeikan Asia Pacific University for pre-intermediate students of English.

KEY EXPRESSIONS: key visual, visual notation, graphic multiformats, knowledge structure, cognitive complexity, contextual support, reading guide

Introduction

Perhaps no other foreign language skill taught at university fascinates and yet frustrates readers more than the ability to decode and employ written texts. Foreign language textbooks sold to support students' study of a discipline or subject area, special readers intended to guide novices in a subject area, authentic materials selected to supplement a course of study in a foreign language—all offer extraordinary challenges to students who may have never examined a text for more than its lexical or grammatical content. The peculiarity of special readers, for instance, with half of their pages blackened around the edges and intensively scribbled translations on every read page tells us that students may never achieve understanding of a written text beyond the obscure image that word-for-word translation offers.

The 'elephant' in this story is the foreign language text—presented in all of its dense, ponderous formality—that is allowed to occupy a course of study without serious adaptation. This is more typically the responsibility of publishers than writers (who may well be asked to reduce both text and supporting materials in order to achieve a publisher's notion of salable simplicity). We often speak of reading notes or guides for second language readers that are supposed to skeletonize a text and reveal its logic, but this kind of treatment is rarely provided or simply ignored because of its textuality, that is, its use of the same language that drives readers to consult dictionaries in the first place.

The 'eagle' here is thus an alternative way of rendering texts that depends essentially on the power of graphics to communicate both the logic and the structure of texts of all sorts comprehensibly. This approach to visualization of textual knowledge has long had theoretical justification, and has been meticulously linked to content-based second language instruction (Early, 1991; Mohan, 1986, 1989; Mohan & Beckett 2001; Tang, 1992, 1997) and to use of various registers ('the register of science', for instance) cross-linguistically and cross-culturally (Mohan et al. in press). It is also grounded in perspectives on learning in formal settings that stress the importance of context and perceived complexity of texts for learners at different levels of ability in developing a syllabus (see, in particular, Cummins, 1984).

Essential Perspectives

What I want to examine here are, first, the potential of particular kinds of *graphic multiformats* to alter the qualities of context and complexity in given texts, and, second, a methodology for operationalizing what we have long known is at the core of developmental competence in reading a foreign language, support for what Goodman termed the "psycholinguistic guessing game" (Goodman, 1967) that helps to turn novice readers into expert readers. The method is a process that readers can be asked to apply to texts as they encounter them, a process of *visual notation* that allows readers to work through the ideational structure, affective force, and communicative value of texts ordinarily encountered in academic or school settings or more specifically, for example, in the discourse of science and technology.

Contextualization and complexity

Let me indulge in notation of the sort that moves ideas from one format to another (here, from an idea articulated textually to one expressed graphically).

Cummins (1984) has usefully linked two central educational constructs that are normally discussed independently of each other into a two-dimensional perspective on the acquisition of *Cognitive Academic Language Proficiency*. Figure 1, below, tells us that various degrees and combinations of *contextualization* and *cognitive complexity* may be used to situate

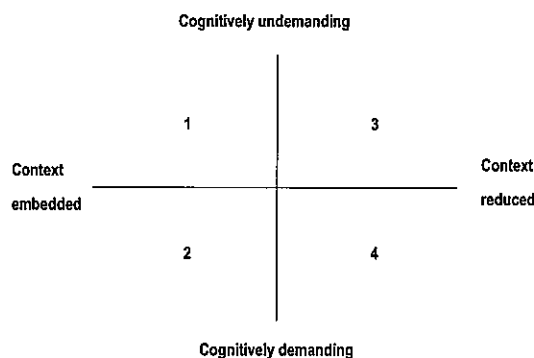


Figure 1. Range of contextual support and degree of cognitive involvement in communicative activities (adapted from Cummins, 1984)

learners' current comprehension of texts and to target next-levels of difficulty appropriate within an instructional syllabus. For example--and for our purposes--the least demanding texts that provide the most contextualization for novice readers (quadrant 1) may be graphically rich and involve the use of text only when it is embedded within the graphic structure with such devices as arrows or boxes. Corbett (2003) speaks in this context of the "connectedness of text and image" (p. 159).

The alternative extreme, of course, is quadrant 4, the most demanding level of text from a learner's perspective, with clues to coherence and meaning locked well beyond the learner's capacity to decode, that is, a "disjunction ... between the world of the message and the world of the viewer" (Corbett 2003, p. 159). For instance, the following passage exemplifies a high quality text on the environment produced for readers of English as a foreign language (Goodmacher & Fukuda, 1999). It is not demanding in the abstract or for all readers, of course, or even for beginning readers who have acquired sufficient strategic competence (Oxford, 1990) to handle unknown words and ideas beyond individual experience. It is, however, an 'elephant' for novices who do not have the strategies to apprehend the general structure and intra-textual cues to textual meaning.

(1a) Every year more chemicals enter our environment. These chemicals enter our water, air, food, and bodies. Increases in many types of cancer are connected with manmade substances entering the environment. For example, people who live close to where garbage created from manmade substances, such as plastic, is burned have more cancer than other

people. People living far from cities, even in the Arctic, also have dangerous chemicals in their bodies. Chemical pollution is worldwide. (Goodmacher and Fukuda 1999, p. 2)

Visual notation for (1a) might look like the following, given an appreciation that causation is perhaps the essential notional structure for the paragraph:

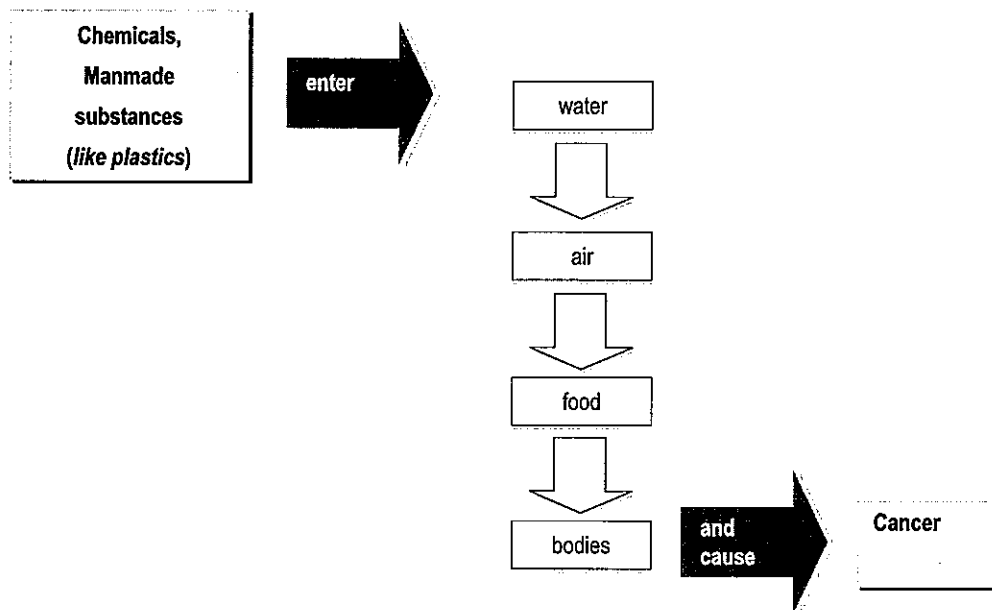


Figure 2. Principles and causation (chemical pollution)

Let's agree for the moment that the transformation between written text and graphic has produced some obvious simplification. At the same time, it may be useful to take the learner's perspective and ask if the core argument of the paragraph has been clarified to the point that it can be understood within a moment of careful attention. One question now seems to be begging for attention, as well, namely, does this kind of visual notation work with all novice readers, or just with some. Do Greek novices do better at this than Thai novice readers, Dutch novice readers than Japanese? Is there, perhaps, a problem of visualizing text—with text itself, of course, an obvious demarcation between languages—that has to do with learners' cultural backgrounds?

Knowledge structures, key visuals and other ways of understanding

There is a general sense in which visual notation is likely to appeal to anyone who has just collided with an elephant of a text. Evolution has provided us all with an enormous reliance on visual information to survive. Human cultures obviate some of the absolute need to see in order to survive, but culture also makes information provided in visual form especially rewarding and supportive of learning in a variety of contexts, including especially those that are incidental to learning in formal instructional settings. The interculturality of graphic expressions used to express a relatively small set of ideas, or *knowledge structures*, in a variety of educational and other social contexts has been argued in Mohan (1986), Mohan et al. (in press), Tang, 1992, 1997 and elsewhere. An arrow to indicate direction and sequence, for instance, is omnipresent historically and globally (and not to be confused with icons and ideographs employed to help tourists stay out of trouble (!)).

This is the exemplary formulation of the kind of knowledge structures we are discussing:

Background Information	Practical Knowledge
Classification	Description
Principles	Sequence
Evaluation	Choice

Figure 3. The Knowledge Framework for content-based learning
(adapted from Mohan, 1986)

The framework reminds us of classic oppositions in rhetoric, philosophy and learning theory (contemplation/action, declarative knowledge/procedural knowledge) but it has the special advantage of pointing out relationships between particular knowledge structures and groups of key visuals. It is thus educationally useful, particularly in situations for which various renditions of text into graphics and graphics into text comprise evidence of learning.

Application

The following example moves us directly into the nexus between knowledge structure and graphic imagery, first the text and next the graphic rendition.

(1b) Forests are invaluable sources of medicines and foods. About 80 percent of all medicines come from plants, and many of these plants are from rain forests. Not only do rain forests provide medicines, but they are also the sources of popular and nutritious foods. Mangoes, coffee, vanilla, chocolate, and corn all came from rain forests originally. Every day, as rain forests are destroyed, we lose plant species that could save lives and feed people. (Goodmacher and Fukuda, 1999, p. 18)

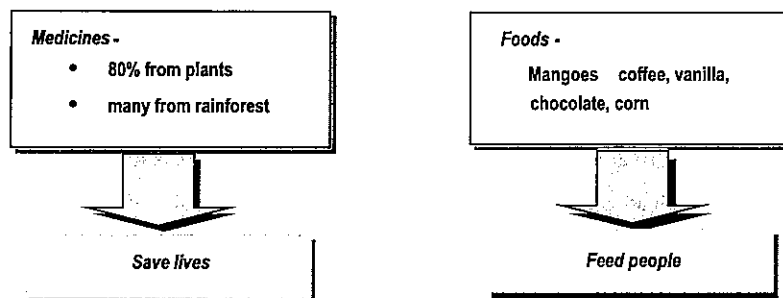


Figure 4. Principles and causation (costs of deforestation)

Exposed to a large number texts combining principles and causation—and graphic reconstruction of these and other knowledge structures—learners will soon begin to understand that text reconstruction (in both written and spoken forms) is an open-ended but far from arbitrary process. The process stems from a small number of knowledge structures and related visuals capable of

encompassing language that goes well beyond the criterial 'If ... then' forms that one might simplistically associate with expressions of principles and causation. In addition, it will be especially useful to begin with texts that have been thoughtfully written in the first instance, as is the case with Goodmacher and Fukuda (1999) for college level reading, and increasingly with the so-called *kentei* (officially approved) textbooks for English language instruction in Japanese secondary schools. The argument remains, however, that these materials require adaptation to support visual notation and cannot be presumed to move students through a reading program any better than their predecessors.

If publishers can't be persuaded to produce texts that achieve a balance between text and imagery of the sort that adequately reveals their logic, structure and affect, then teachers in their alternative roles as guides, coaches and materials developers will have an option to do the job. I don't want to presume that all teachers are accomplished graphic artists, or even that they (like I) have traveled much beyond the skill region of stick figures (Figure 5). Let's agree, however, that teachers are able exploiters of instructional resources and that they are able to make reasonably good use of the drawing programs that are part of the major

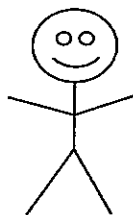


Figure 5. Stick figure, teacher made

word processing applications they are already likely to be using. The drawing application on the optional toolbar in Microsoft Word, for instance, is perfectly adequate to produce all of the graphics in this paper, for example, and with very little training, could be the basis for producing visual notation of use in reading programs that require adaptation via production of reading guides—or indeed as a part of the construction of graphic multiformats (see below) for various skill areas that are emphasized in the instructional syllabus.

Conclusion

I don't want to end without a reprise of a point made earlier, namely that graphic multiformats (Figure 6, below) are what we are after and what we hope learners will begin to feel comfortable with as they move from text to graphics and back again, including, for example, partial reconstruction of text from graphic notes during presentations.

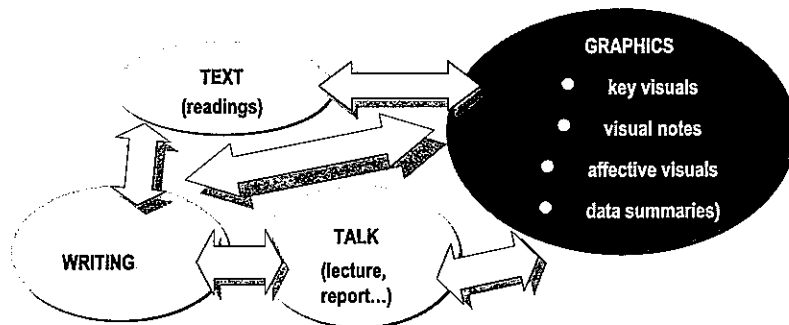


Figure 6. Meaning across multiformats

Finally, this alternation between text and visuals in various communicative contexts has several major advantages for the novice visual aficionado that are otherwise much harder won by reliance on text alone:

1. Whole instances of meaning are synthesized and quickly understood.
2. Students' focus on form and lexis, *per se*, is destabilized.
3. Guessing becomes a respectable part of reading again!
4. Students understand perhaps for the first time that meaning is multiformal.
5. Students gain expert-like flexibility in performance across text boundaries.

This list of advantages suggests something about the point of the whole enterprise of visual notation as it has been outlined here, namely that we want learners in our classes to understand that language is very much about making and clarifying meaning across cultural frontiers.

References

- Corbett, J. (2003). *An intercultural approach to English language teaching*. Clevedon, UK: Multilingual Matters.
- Cortazzi, M., Rafik-Galea, S., and Li, Xian Jin. (1998). Seeing through texts: Developing discourse-based materials in teacher education. *The English Teacher*, 27. Retrieved from <http://www.melta.org.my/ET/1998/main4.html>.
- Cummins, J. (1984). *Bilingualism and special education*. Clevedon, UK: Multilingual Matters.
- Early, M. (1991). Key visuals: Links between language and the context in which it occurs. *Prospect*, 6(2), 16-24.
- Goodmacher, G. and Fukuda, K. (1999). *Nature and the environment*. Seibido: Tokyo.
- Goodman, K. (1967). Reading: A psycholinguistic guessing game. *Journal of the Reading Specialist*, 6(1), 26-35.
- Mohan, B. (1986). *Language and content*. Reading, MA: Addison-Wesley.
- Mohan, B. (1989). Knowledge structures and academic discourse. *Word*, 40(1-2), 99-114.
- Mohan, B., and Beckett, G. H. (2001). A functional approach to research on content-based language learning: Recasts in causal explanations. *The Canadian Modern Language Review/La Revue canadienne des langues vivantes*, 58(1), 133-155.
- Mohan, B., Leung, C., and Davison, C. (eds.). (2001). *English as a second language in the mainstream: Teaching, learning and identity*. London: Pearson.
- Mohan, B., Slater, T., Kobayashi, E., Luo, L., Kobayashi M., and Ji, K. (In press). "Multimodal scientific representations across languages and cultures?" In W. Bowcher & T. Royce (eds.) *Multimodal Discourse*. Hillsdale, NJ.: Erlbaum.
- Oxford, R. (1990). *Language learning strategies: What every teacher should know*. Boston, MA: Heinle & Heinle.
- Tang, G. (1992). The effect of graphic representation of knowledge structures on ESL reading comprehension studies. *Second Language Acquisition*, 15, 77-16.
- Tang, G. (1997). Teaching content knowledge and ESL in multicultural classrooms. In M.A. Snow & D. Brinton (eds.), *The content-based classroom: Perspectives on integrating language and content* (pp. 69-77). New York: Longman.