

BRIEF THOUGHTS ABOUT IT IN LANGUAGE EDUCATION

by Thor May

Chungju National University,

South Korea

thormay@yahoo.com

<http://thormay.net/>

Information Technology in language teaching probably began with papyrus. It has attracted admirers and detractors ever since. This paper takes a slightly irreverent look at current IT, as well as its actual and potential uses in foreign and second language education. The power of commerce in IT development has always been a prime motivator, so the analysis here recognizes the essential economic context, with the resulting effects on language learning. This short paper is a fairly crude attempt to discuss some of the elements in the commercial-IT-language teaching and learning mix, together with a few irreverent observations on the alchemy: past, present and possible future.

By aptitude and self-selection, the readers of Teaching English with Technology are likely to be people drawn to the candy-shop of emerging technologies. They may also be impatient with the endless social obsessions of the chattering classes. By aptitude and self-selection, most language teachers tend to be repelled by new technologies, and drawn to the close personal involvements implicit in good teaching. Business professionals may have trouble really understanding either the technologists or the teachers. This clash of cultures certainly leads to a loss all round.

1. Is language teaching necessary?

Language teaching and the products it gives rise to (schools, books etc), are probably the world's oldest confidence trick scams. The dropout rate in American foreign language courses can be up to 95%. ([Asher](#) 2003). What other profession or business could tolerate that kind of failure level?

Where useful language learning is achieved, it is often by no means clear what contribution 'good' or 'bad' teaching makes, nor what 'good' or 'bad' resources really contribute. A percentage of learners in almost any human activity drop out, and only a limited number ever become true masters. Thus there is a kind of selective funnel. The problem with language education in institutional settings is that the funnel is shallow (initiates are lost quickly, although school systems may artificially retain failures 'in storage') and those who finally squeeze through are few. The characteristics of this learning funnel are too complex to explore in depth here, but we can note in passing that objectives (e.g. accuracy Vs fluency), and techniques or methods which are congenial to advanced learners (and/or the kinds of learners who progress to that stage) are not necessarily appropriate for the mass of learners who first enter the field.

Similarly, the mix of technologies which can be usefully applied to language learning and teaching may well vary at different stages of the process. This is an issue which seems to have received too little attention.

There are also more general critical factors in language learning success. The main ones are a) motivation, b) consistency of effort, c) a real domain for using the new language, d) immediate,

genuine 'reward' for communicative success, and e) competition for the students' time & attention.

2. Geniuses, ordinary teachers, and machines

I have only ever met a few truly gifted language teachers (I don't count myself in that elite). What they seemed to share was a charisma and uncanny empathy with each student - the kind of magic that would motivate people to do anything for them - combined with a wisdom in offering just that information to a student which he or she could absorb in their present state of understanding. Such skills will always be rare (e.g. see [Bhargava](#) 2004), and no mass education system can depend on them.

What merely mortal teachers CAN do is minimize the disincentives to learning found in most large institutions, and be very cunning about competing for the attention of our distracted students, in and out of the classroom.

Any kind of technology used in language teaching is subject to the same iron laws of success as a human teacher. It will succeed to the extent that -

1. attention is captured and held
2. content is memorable
3. students feel that technology and content are useful and adapted to their needs
4. systems are flexible enough to be modified
5. content and technology are physically accessible on demand
6. students feel strongly motivated to access it regularly
7. the technology and content comes at a price which the market can bear

The failures of the **Audiolingual Movement** a generation ago can be traced to a violation of these principles. Nowadays, of course, there are now good and bad audiolingual courses, either of which may be used smartly or foolishly; (the good, such as [Pimsleur](#) courses, are very good).

The purpose of this little paper is not to discredit technology, but to gently remind us of the effects that technology can have. Even where technology uptake seems to succeed, the Law of Unintended Consequences can spring surprises in language teaching and learning. There are twenty-four hours in a day, and considerably fewer in a language classroom. We can easily spend an hour fiddling with some clunky video display when the same hour given to conversation would have been immensely more beneficial.

That's not all. [Lawrence McCluskey](#) (1994) slyly introduces McCluskey's Corollary to Gresham's Law: "Lower-order thought processes drive higher-order thought processes out of circulation;" (Gresham's Law is the dictum that bad money drives out good). Thus half the population, for example, can no longer do a simple multiplication because calculators are ubiquitous. When it comes to language education, we have to think carefully about whether a bit of technology in the long run will add to language skills, or amputate them.

The learner always comes first. Tools can change, but learner psychology will not change (though it may be subverted). Nor will many teachers change easily. Most language teachers, and a high percentage of students, are more or less technological imbeciles. Many even have trouble working a tape recorder efficiently (teachers and students). New technologies must therefore be idiot-proof, or at least care needs to be taken in skilling teachers in such technology (e.g. [Nellen](#) 2001). This is one argument for making the maximum use of existing, familiar technologies like TVs and mobile phones.

3. So what can we do with Information Technology in language learning education?

The current concept of IT embraces widely divergent technologies, although the links amongst them are becoming more fluid. As a language teacher I have frankly found much past CALL programming and so-called language learning software to be disappointing. It has barely touched upon the complexities of language acquisition, and the black magic which a skilled teacher must bring to bear.

However, there is hope. Although the techno-phobic are often claimed to be alienated by technologies ([Santana](#) 1997, [Robertson](#) 2003), the rejection is usually related to user-complexity rather than technology *per se*. Few of these technophobes seem bothered by telephones, for example. Much of this paper is a catalogue of how all folk, whatever their talents, are being drawn into technology through language (a phenomena of immense underlying complexity itself). Language is pre-eminently about social exchange, and new technologies are helping that social exchange immensely. For example, the Internet is more than a database; it is a meeting place, a forum and a pulpit.

Those elements in IT most useful in education are likely to grow from an innovative marriage of the old and the new, as well as a close partnership of the mutually impatient teaching and technology cultures already alluded to. The next section therefore examines some of the technology menu on offer for language teaching. It is not exhaustive. Readers are invited to challenge the comments below, and perhaps note serious omissions.

4. The Technology Menu for Language Teaching

4.1. The mediation of technology

The mere presence of a piece of technology has the power to alter the relationship between teacher and student ([Riddle & Dabagh](#) 1999). In language learning, this may force many teachers to assume the role of 'craft advisors'.

Historically there has been a vital difference between most language teachers and traditional craft teachers. Language teachers have been easily drawn into meta-talk, for example about grammar, which merely baffled students. The language teacher would set up an artificial exchange of language symbols with the student, often using an abstract or remote topic as reference. The language teacher retained control of this language game, both defining the symbolic rules, and allowing or forbidding their use.

By contrast, the relationship between the craft teacher and his student has always been mediated by the object being crafted. The crafted object forces the teacher into the role of advisor, and his advice is powerfully constrained by the practical presence of that object.

Some classroom teachers have discovered that by encouraging students to interact around the physical presence of a computer, it can become rather like the craft object of artisans, a focus for practicality. This may well enhance language learning. Carla Meskill, Jonathan Mossop, and Richard Bates (2000), exploring the use of [Electronic Texts in ESL Classrooms](#), give a good example of one such occurrence. Situating students 'virtually' in a shared homepage or blog is an extension of this concept. Of course, teachers will often feel threatened by just such a role displacement ([Kirkup 2001](#)). Indeed, sometimes teachers may not be needed at all, as in [Mitra's Hole-in-the-Wall experiments](#).

Intelligent students may prefer private, self-directed activity for language learning. Such people have always made use of books and diaries. New technology offers them many more opportunities. For example, the blog may replace the diary, as in the Korean nurse, [Broca's Diary](#) online.

4.2. The cyborg teacher

The science fiction cyborg is a mixture human and machine components. Future language teachers may well act like cyborgs in marrying their own abilities with a variety of technologies. Maybe they do already ([Voithofer 1999](#), [Virtual Human](#) website). Thus it will be increasingly easy to deal with students who are displaced in space and/or time. Writing has given us that ability for centuries, but **the Internet, telephony** ([Gaskell 2004](#)), **video telephony** initially using webcams ([WELL Project](#)), even **3-D holography** (now being developed [commercially](#), and for [telephones](#) too) will give the process dramatic immediacy. With immediacy comes the chance to boost motivation. For example, **skin-sensors** may well be able to transmit the emotional reactions of students in another country and culture, even where language fails (the [Sensor Web](#)). Wisely used, that could be a powerful tool.

4.3. Internet teaching

There are already numerous initiatives underway to coach students in language over the Internet (see [Omniglot](#) links; [LanguageCourse.net](#); [WorldWideLearn.com](#)). These range from dealing with entire classes to one on one tuition. The Internet is such a multi-faceted and enabling technology that it has created a whole new internationalised culture. This in itself provides an

added set of reasons for becoming multilingual. The effect will only accelerate as broadband becomes the norm, access prices fall, and mobile usage spreads.

4.4. Databases

At its simplest, the Internet is a huge database, accessed directly to known nodes, or through remarkable search engines like [Google](#). Individuals and institutions have used it extensively to store, organize and present an endless range of information on language learning and language teaching. Thus anyone with good Internet access who intends to learn a language can use resources which were unthinkable even a decade ago (e.g. [Languages-on-the-web.com](#)). The quality varies widely, and the cost ranges from free to commercially prohibitive. Now information access is often less a supply problem than a **user problem** of available time, skills, initiative and intelligence.

4.5. Learning Management Systems

Almost all educational institutions now have some kind of Internet presence. For a diminishing few it is merely an electronic advertisement. Others would not exist without it, and offer the full range of Internet learning technologies and resources. Most now use an online Learning Management System (LMS) to organize and present content ([Boettcher](#) 2003; [Hall](#) 2003). There is a vigorous contest here between commercial products like [Blackboard](#) and open access, sometimes free, systems such as [Moodle](#). The best of these LMS systems encourage both simultaneous and asynchronous interaction between students and teachers by creating an online workspace. Again the full potential is often inhibited by staff or students who are unskilled or even allergic to making use of technology.

4.6. E-mail

E-mail is a related but different technology to the Internet. Although it lacks a glamour image, the user-simplicity of e-mail gives it useful pedagogical potential; (for example, see [Gonglewski et. al.](#) 2001). The same goes for mobile phone text messaging, which is likely to converge more and more with e-mail. However, the downside is what we are all familiar with, namely the commercial nightmare of spam. However, a range of international publications like [newspapers](#) are now also available via this medium, usually for free, while there are thousands of **list-servers** to keep special interest groups informed (e.g see the [University of Oregon English Mailing Lists](#)).

E-mail's use as a language learning medium has been slower to develop, although a large amount of unstructured communication takes place amongst **pen-friends** etc. ([Mylanguageexchange.com](#)). Since e-mail is both asynchronous and simple, it does offer certain teaching advantages (and limitations). **Voice e-mail programs** have been available for quite a while (e.g. [Bonzi Voice Email](#)) and should offer special opportunities for language exchanges.

4.7. Asynchronous voice communication

An emerging technology which could have a profound effect on the use of the Internet for language teaching is asynchronous voice communication. That is, the spoken message is stored for later access by a receiver. An online limitation of existing voice mail has been the large amounts of electronic memory and bandwidth devoured by even digital sound. However, the [Wimba Company](#) has integrated asynchronous voice communication with an LMS in a way that is proving extremely popular with harried lecturers and students. Now the public domain LMS, [Moodle](#), is researching a similar system.

Behind the scenes, a lot of work is being done on [Voice XML](#) ([Dahl](#) 2005, [Marchand](#) 2005) to drive technologies like this. For most people voice is both quicker and less intimidating than print, but up to now online chat has required both parties to be simultaneously available.

4.8. Synchronous communication

This is challenging for the language learner, but also far more 'real' than asynchronous messages for most users. Attempts have already been made to harness **Internet chat** in learning environments ([Almeida d'Eça](#) 2002).

4.9. Mobile phones

These are now ubiquitous and have an ever multiplying repertoire of functions. It would be foolhardy to ignore a language medium as powerful as this. My students can use them for dictionary lookups, as a database, for web access, games, text-messaging, and videos, as well as chatter. This urge to chatter says something profound about the nature of the human cognitive language machine. Students may turn up to class without an exercise book or pen, but never without the mobile phone. With the spread of mobile phones, **telephone tutoring** has become almost normal in many language teaching environments (for example, [babelnet.com](#)). One American company claims to automatically assess a speaker's accent by telephone ([AmericanAccent.com](#)).

4.10. SMS text messaging

Another obvious medium for language teaching which commerce has begun to recognize ([Guardian Newspaper](#) story 2005). However, a problem with all of these attempts (as with ordinary teaching) is that the services of skilled tutors are comparatively rare and expensive. Can the tutors be replaced?

4.11. Call centers

Some low wage countries, especially India, now employ thousands of call-centre staff fluent in English to service clients in English speaking countries like the United States and Australia. It is conceivable that an elite of such Indian call-centre staff could be trained to tutor English in other countries, using the same kind of intercontinental line-leasing arrangements as existing call-centres. One can envisage all kinds of problems in getting this business up and running (not least

the training costs), but it seems possible in principle. However, many normal call centre staff in India are already finding the pressure of having split cultural personalities debilitating ([CNETAsia](#) 2003). The communicative intentions of, say, a twenty-year old female student in Shanghai and a 40 year old male Indian teacher in Hyderabad will easily go astray.

4.12. Computer voice recognition

A kind of holy grail for the IT industry. There has been some progress with native-speaker voices in controlled contexts (e.g. software like [Dragon Voice](#)). However, uncontrolled computer voice recognition for non-native speakers in a language learning context seems to be well over the horizon. Bear in mind that cross cultural communication (indeed much in-country communication too) is not merely the recognition of phonemes (difficult enough) but involves a constant clash of cultural presuppositions which require sophisticated choices for a human being (let alone a computer) to decode. These limitations have not discouraged a number of CALL specialists from predicting uses for voice recognition software in language learning ([Wachowicz and Scott](#) 1999).

4.13. Talk bots

In the 1960s artificial intelligence researchers were amazed to discover that some psychiatric patients preferred to 'talk' to a computer program called Eliza. Eliza, written in the Lisp programming language, was an assembly of non-committal recorded comments and questions, triggered by key words in the patients' typed sentences. In fact Eliza mimicked the mirroring behaviour beloved of live psychiatrists, but patients felt safer with the machine since it was non-judgemental.

A number of more sophisticated "chatter-bots" have since been developed. The enthusiasts for this technology see chatter-bots as a way to encourage language fluency without the expense of hiring tutors ([Andreas Lund's links](#), the [A.L.I.C.E.](#) website).

4.14. Disguise

Experienced teachers know that students are often greatly assisted if they can be persuaded to adopt another persona in the learning process. It seems to free them from the inhibitions of their normal personality. The oldest, and still one of the most effective tools in this game are **puppets** ([Özdeniz](#) 2001). Drama, dance, songs etc. are other manifestations. Now the Internet has given us whole new worlds, literally, where people adopt personas of choice. Simple pseudonyms are the norm in online forums and chat exactly for the purpose of unfettered expression.

Elaborate "**avatars**" are purchased for many **interactive games**, and players may become immersed in them for weeks at a time. There is an obvious opening here for teaching ([Sheth](#) 2003), including language teaching/learning.

Success in constructing an interactive game medium for language teaching on a mass scale would require genuine talent (of the order that goes into feature film productions), and the

developmental costs could be high. However, given the right environment there is scope here for a real teaching revolution.

Early hosts to the emergence of avatars in language learning were **MOOs** (Multiple Object-Oriented multi-user environments). These virtual worlds may be entirely text-based or supported by an actual online 3D visual space. As with novels versus video, text-based MOOs are imagination-rich and sites such as [Schmooze University](#) attract a dedicated clientele.

4.15. Video gaming

When it comes to capturing the attention of the video generation, **video parlour games** (and their computerized relatives) are fierce competitors. In South Korea everyone under twenty seems to spend a large part of their lives in these places.

We are not going to beat the video parlours, but we might subvert some of them. It would take great cunning. Wrestling with the inflections of a foreign tongue has not given past generations the thrill that kids get from blowing electronic heads off. As with computer gaming, this is a subversion requiring real talent and creativity, genuine empathy for the clients, and probably high development costs. Again though, the payoff could be impressive, especially if "educational game parlours" were staffed by competent tutor-advisors.

Video gaming for pedagogy is attracting increasing attention ([Academic-Gamers.org](#) ; Foreman 2004; The [Learning Games Initiative](#); [The Serious Games Initiative](#)... and others).

4.16. Simulators

These have been around for a long while now, but are usually restricted to training high level professionals like aircraft pilots and (increasingly) doctors. Flight simulators have been partly mimicked by computer game programs. The line between traditional training simulators and online gaming is rapidly blurring, and there is evidence that very young children in some countries are becoming thoroughly familiar with virtual environments ([Gilbert 2004](#)).

There is no reason that training simulators cannot have voice accompaniment, thus combining skill training with language training. For certain kinds of students this is the only sort of language training that will ever work. The [TPR](#) (Total Physical Response) method of language teaching exploits the fact that many people are tactile and motor learners, learning by doing. One can envisage "talking tools" simulators in virtual environments. For example, as a mechanics trainee tightens a (virtual) nut it could squeak "hey! too hard!" and sheer off. The language simulator concept has now apparently been sold to the US military ([Johnson 2004](#), [Mankin 2004](#), [Mote 2004](#)).

Speech can be used in three ways in simulated environments : i) to comment on a performed action; ii) simultaneous with an action; iii) to warn or instruct before an action, and hence anticipate consequences. The third option might be the most powerful in language teaching.

The drawback to simulated environments in language teaching is that, at least at present, they require expensive software and hardware which is not available to large numbers of people - and certainly not in countries like China, with its estimated 300 million ESL speakers/learners ([Brown](#) 2005).

4.17. Television

Certain consumer electronic items are so widespread in the population that it seems almost perverse to ignore them as teaching tools. Television has spawned TV Universities, and large numbers of language courses.

Many national broadcasters worldwide have run TV English courses for years, as well as courses in their own languages. Two hundred and fifty million Chinese are estimated to be learning English on TV ([Kitao](#) 2004). The best of these programs sometimes feature presenters and styles that become nationally famous. The worst are mere camera shots of talking heads.

A limitation of even the best TV is inflexibility and inability to offer student feedback. Broadband cable TV offers some scope to remedy this, although TV production is an expensive business.

4.18. MP3 player/recorders

These devices are natural language learning tools. I hardly use a tape recorder for language learning myself anymore. It is so much more convenient to convert the language tapes and audio CDs to MP3 (observing copyright). The player is small, with a built-in microphone, can be carried in the pocket and uploads and downloads to a computer instantly.

The MP3 medium is slowly being accepted by L2 course providers (e.g. see the [VOA Special English Assistant](#)). Only inertia and fear of piracy in established publishing companies can be stopping them from offering downloadable MP3 language learning material. The piracy concern is legitimate, but not beatable now or in the future. Probably the only way around it is to keep offering added value (new content) from a paid source.

4.19. PDAs and Memory Cards

Some companies such as [Pimsleur](#) are trying a copy-protection solution by packing language courses onto PDA-type memory cards. Accessible by PDAs, some portable phones and cheap card readers, these cards are both portable and versatile.

For a certain age and income group **PDAs** also offer an obvious channel for language learning content. This is especially true of devices like the [Sony Clie](#) which has multimedia capabilities. As with MP3 players, PDAs are carried around, offering instant access in quiet moments for busy people. Something to watch is that languages like those in the Middle East and East Asia have special fonts which only some PDAs can handle. In South Korea at least mobile phones first squeezed out PDAs, but are now morphing into PDAs themselves.

5. How do IT learning technologies spread?

5.1. Institutional Markets

IT learning technologies may spread through traditional educational institutions and teachers. This is a captive market. A drawback is that competition against existing educational mediums (teachers, books, language labs etc.) is rarely welcomed and may be actively suppressed.

Institutional purchasing choices tend to be conservative, using corporate or public rather than personal funds. On the other hand, when purchases are made, they are often of high monetary value. Large corporations like [Apple](#) and [Microsoft](#) have actively given away products to schools to help language teaching etc., with an obvious commercial intention to create long-term dependence on their proprietary formats.

5.2. Piggybacking

IT learning technologies may piggyback on existing consumer markets for music, games, videos etc., or even packaged food. This is truly mass marketing, though not always commercially welcome (e.g. **peer-to-peer networking**; [Hoffman](#) 2002).

In the past educational piggybacking of this kind has sometimes conveyed a strong flavour of propaganda or central planning. For example, Singapore and China have both been venues where Big Brother teaches the masses some brand of "virtue". The Singapore government deliberately broadcast radio and TV in standard Chinese, although most original residents spoke south-eastern Chinese languages. Naturally there is always a degree of resistance and distaste for propaganda. This unfortunate legacy may have to be overcome if language teaching is to be piggybacked extensively on existing media.

A special case of piggybacking is the religious market. Both historically and currently much of the most energetic language propagation has been to advance one creed or another. Whatever the virtues of these religions, their agents and their resources continue to play a significant role in spreading both literacy and knowledge about the world's languages. Best known perhaps is SIL, the [Summer Institute of Linguistics](#).

5.3. Newly created markets

IT learning technologies may develop unique channels of consumer access. This is not easy, but it has been done in other fields. For example, personal computing software has created its own market (there was no such market when I went to school in the 1950s and 1960s).

The key to rapid, wide acceptance is usually an open architecture and 'giveaway' policy. The idea is that when demand becomes intense, added value can be offered at a premium price. The shareware computer industry runs on this principle. The risk is that if a product becomes too successful, not only will it attract a host of imitators, but it may be swallowed whole by a monster like Microsoft. Thus, Netscape essentially made web surfing available to the Internet

public ([Brian Wilson](#)), but was then buried through ruthless business practices by Microsoft's Internet Explorer.

Electronic bilingual dictionaries are a contrary example of highly proprietary and expensive language products (e.g. [Ectaco.com](#)) which have gradually spread amongst customers with a pressing need - notably tertiary students in non-English speaking countries.

6. Are There New Business Openings In "IT for Language Teaching" ?

6.1. Parallel development

Many of the technologies referred to in this paper have developed in parallel in both commercial and not-for-profit environments (see [GNU Categories](#) "shareware"). This pattern is a characteristic of products with a high intellectual property component, and often reflects competing ideologies.

The tension engendered by such competition can be healthy, and in practice there is a good deal of cross-fertilization. We see this very clearly in the [Open Source Software Movement](#), with derivative commercial developments such as the various flavours of [Linux](#) often spinning off at a later stage.

6.2. Commercial entry points

It is also clear that technology related to natural language learning may range from the very simple (a pen and paper) to the very complex (such as computer simulated environments for language learning). This implies many entry points from a commercial point of view.

6.3. Supply and demand

We know that people have learned languages from time immemorial. We know that snake oil merchants have marketed instant fixes for language learning from time immemorial, and that many continue to make a tidy living out of it. There will always be business openings for "IT in language teaching", but we would be credulous to expect a magic bullet anytime soon.

6.4. Change and transition

The IT revolution is not done. Within a decade all human knowledge will be storable in a tiny space; holographic technologies may be the best current hope (e.g. see [ColossalStorage.net](#)). Millions, maybe billions of people will be reading "online" daily, but online will not be staring at an electron gun. The industry prophets say we will be reading flexible stuff that looks rather like today's newspaper ([PC Magazine](#) 2005)....

In other words, whatever is begun now must be recognized as transitional, and designed for rapid change. However, human beings within a given generation are not particularly adaptable.

6.5. Resistance to change

Whenever a business, a school, a factory is founded, a new generation learns new things. Then they become comfortable, develop a daily routine, and their priorities naturally enough revolve around bringing up their own families. What this means is that institutions automatically ossify and resist change, ignore new opportunities and actively seek to undermine competition. Indeed, in any hierarchical institution managers at every level will mostly exclude individuals and ideas which represent a threat to their own mediocrity ([Peter](#) 1993) .

Luckily, the individualized and non-hierarchical nature of the Internet may short-circuit some conservative rigidities in the evolution of IT for language teaching. However, this paper began by highlighting a cultural divide between the techno-literate and the world of language teachers. This cultural difference needs constant attention or introduced teaching technologies will founder.

6.6. A business models for technology – the foundation

For an entrepreneur who is serious about combining an element of Information Technology with language teaching into a viable business, there are sure to be lots of openings. However, with the preceding paragraph in mind, it is usually wise for both financial and intellectual adventurers not to trade all commitment into a single basket.

Models for the successful introduction of technology will vary both according to accepted behaviour patterns in host cultures, and the state of economic and social development where they are tried. Capital markets vary too. In the Third World, direct venture capital may be hard to come by ([Subbiah Arunachalam](#) 2005)

One successful business strategy in many fields has been to establish some kind of **foundation** which keeps a certain distance from individual projects, and can therefore maintain perspective. Some foundations are also government or NGO-aid based.

Many possible projects in the IT-Education area will have serious development costs. The foundation model is one way to spread risks. It can be a medium to redirect part of the cash flow from successful initiatives into more experimental options which show promise but need a longer lead in.

Foundations can sometimes give respectability to change and innovation in cultures where individual initiative is traditionally unwelcome. Ironically perhaps, the most dynamic foundations are often driven by outstanding individuals. Plain folk prefer to wait for their white knight: the Bill Gates syndrome.

References

Almeida d'Eça, T. (2002) "To Chat or Not to Chat in the EFL Classroom, That is the Question"
Presentation at the conference "Language - communication – culture - International
Conference, University of Évora, 27 - 30 November 2002,

- <http://www.malhatlantica.pt/teresadeca/papers/evora2002/chat-and-efl.htm>.
- Arunachalam, S. (2005) "Information and Knowledge in the Age of Electronic Communication: A Developing Country Perspective...Part II" <http://www.bytesforall.org/5TH/arun1.htm>
- Asher, J. (2003) "Organizing your classroom for successful second language acquisition" <http://www.tpr-world.com/organizing.html>.
- Bhargava, S. (2004) "Good teachers are a class apart". *Financial Express*, India, February 7 2004, http://fecolumnists.expressindia.com/full_column.php?content_id=52053.
- Boettcher, J. (2003) "Course Management Systems in Perspective: A Conversation with Carl Berger" *Syllabus* (technology for higher education magazine), California, 7/1/2003, <http://www.syllabus.com/article.asp?id=7883>
- Brown, G. (British Chancellor of the Exchequer) (2005) "Brown announces export push in China - for English" (reported in the China Daily, 22 February 2005), http://www.chinadaily.com.cn/english/doc/2005-02/22/content_418449.htm
- CNETAsia Magazine *India's Call Centre Staff Burn Out*, August 2003, <http://news.zdnet.co.uk/business/employment/0,39020648,39115573,00.htm>
- Dahl, D. (2005) "W3C Multimodal Interaction Working Group Activities" *VoiceXML Review* Vol. 5/1 January-February 2005 (current research on voiceXML technologies), <http://www.voicexmlreview.org/Feb2005/features/mmiwg.html>
- Goodwin-Jones, B. (2003) "Blogs and Wikis – Environments for Online Collaboration" *Language Learning & Technology* <http://llt.msu.edu/default.html>" Vol. 7, No. 2, May 2003, pp. 12-16, <http://llt.msu.edu/vol7num2/emerging/default.html>.
- Foreman, J. (2004) "Video Game Studies and the Emerging Instructional Revolution." *Innovate Journal of Online Education*, October/ November 2004, <http://innovateonline.info/index.php?view=article&id=2>
- Gaskell, A. (2004) "Supporting Students by Telephone: a Technology for the Future of Student Support? UK Open University 2004, http://www.eurodl.org/materials/contrib/2004/Gaskell_Mills.htm.
- Gilbert, F. (2004) "Computer Games and Body Language". ["http://www.brianmicklethwait.com/education/archives/001618.htm"](http://www.brianmicklethwait.com/education/archives/001618.htm) (blog article).
- Gonglewski, M., Ch. Meloni and J. Brant (2001) "Using E-mail in Foreign Language Teaching: Rationale and Suggestions" " *The Internet TESL Journal*, Vol. VII, No. 3, March 2001, <http://iteslj.org/Techniques/Meloni-Email.html>.
- Hall, J. (2003) "Assessing Learning Management Systems." http://www.clomedia.com/content/templates/clo_feature.asp?articleid=91&zoneid=29", Media Tec Publishing.
- Healey, J., R. W. Picard (1998) "StartleCam: A Cybernetic Wearable Camera" <http://66.102.7.104/search?q=cache:oyJsncXITyoJ:vismod.media.mit.edu/tech-reports/TR-468.ps.Z%2Binternet%2Bskin%2Bsensor&hl=en&client=firefox-a>" MIT Media Laboratory 1998 - a skin sensor drives recorded information choices by the camera.

- Hoffman, Jennifer, Peer-To-Peer: The Next Hot Trend in E-Learning? "<http://www.learningcircuits.org/2002/jan2002/hofmann.html>" Learningcircuits.org website, 2002
- Johnson, E. Marcia and John W. Brine Design and Development of CALL Courses in Japan "http://calico.org/journalarticles/Volume17/vol17-2/Johnson_Brine.pdf" , CALICO Journal Vol.17 No.2 2000 (251-268)
- Johnson, W. et al, Tactical Language Training System, An Interim Report "<http://twiki.isi.edu/twiki/pub/TACTLANG/ProjectReports/TLTSITS2004published.pdf>" , Center for Advanced Research in Technology for Education (CARTE), USC 2004 - a simulator game designed to teach Arabic to the US military
- Kirkup, G. (2001) "The Cyborg Teacher" <http://kn.open.ac.uk/public/getfile.cfm?documentfileid=210>" (draft publication), 2001.
- Kitao, K. (2004) "An English Speaking World" "http://ilc2.doshisha.ac.jp/users/kkitao/library/student/reading/es_world/es_world.htm" (online learning materials).
- Ledgerwood, M. (1996) "A Defense and Illustration of Language Centers and Language Technology" "http://129.49.98.166:591/research_content/IALL_J.pdf" *The IALLT Journal* (International Association of Learning Laboratories), 1996.
- Mankin, E. (2004) "Mission to Arabic: It's Not Your Father's Language Lab" The USC School of Engineering June 21, 2004, Military tactical language training program, "http://viterbi.usc.edu/news/news/2004/2004_06_21_arabic.htm."
- Marchand, R. "First Words , http://www.voicexmlreview.org/Feb2005/columns/Feb2005_first_words.html" - *VoiceXML Review* Vol. 5/1 January-February 2005 – ongoing tutorial on voiceXML technologies.
- McCluskey, L. (1994) "Gresham's Law, Technology, and Education" <http://www.questia.com/PM.qst?a=o&d=5000200591>
- Meskill, C., J. Mossop, and R. Bates (2000) "Electronic Texts in ESL Classrooms" <http://cela.albany.edu/newslet/winter00/etext.htm>". *CELA Newsletter*, Fall 2000, University of Albany, New York.
- Mitra, S. (1999-2005) "Status of Minimally Invasive Education experiments with children, computers and the Internet Experiments" Centre For Research in Cognitive Systems, New Delhi, <http://www.niitholeinthewall.com/>.
- Mote, N., L. Johnson, A. Sathy, J. Silva, Sh. Narayanan (2004) "Tactical Language Detection and Modeling of Learner Speech Errors: The case of Arabic tactical language training for American English speakers" Proceedings of InSTIL/ICALL2004 — Venice 17-19 June, 2004, <http://sisley.cgm.unive.it/ICALL2004/papers/012Mote.pdf>.
- Nellen, T. (2001) "Assessing Staff Technology Needs: Do the Current Tools Work?" Education World online magazine, http://www.education-world.com/a_admin/admin226.shtml"
- Özdeniz D. (2001) "Puppets in Primary" <http://www.hltmag.co.uk/mar01/sart7.htm>" *PC Magazine Displaying The Future – Flexible Screens* "<http://www.pcmag.com/article2/0,1759,1162062,00.asp>" 2005
- Peter, L. (1993) *The Peter Principle*, <http://www.amazon.com/exec/obidos/ASIN/1568491611/ref%3Dnosim/envisionsoftw-20/104-0915791-9921561>.

- "Positive Discipline" website *The Master Teacher*,
[http://www.positivediscipline.com/articles_teacher/The Master Teacher.html](http://www.positivediscipline.com/articles_teacher/The_Master_Teacher.html).
- Riddle, E. & N. Dabbagh, "Lev Vygotsky's Social Development Theory", Hellen A. Keller Institute for Human Disabilities, 1999 – the mediation of computers in the student-teacher relationship - <http://chd.gse.gmu.edu/immersion/knowledgebase/theorists/constructivism/vygotsky.htm>.
- Robertson, H.-J. (2003) "Toward a Theory of Negativity Teacher Education and Information and Communications Technology." *Journal of Teacher Education*, Vol. 54, 2003, <http://www.questia.com/PM.qst?a=o&d=5002001783>.
- Russell, M., D. Bebell, L. O'Dwyer, K. O'Connor (2003) "Examining Teacher Technology Use: Implications for Preservice and Inservice Teacher Preparation." *Journal of Teacher Education*, Vol. 54, <http://www.questia.com/PM.qst?a=o&d=5002001790>.
- Santana, B. "Introducing the Technophobia/Technophilia Debate: Some Comments on the Information Age" UCLA Department of Education, June 1997, <http://www.gseis.ucla.edu/courses/ed253a/beatriz.htm>.
- Sheth, R. "Avatar Technology: Giving a Face to the e-Learning Interface" <http://www.elearningguild.com/pdf/2/082503DES-H.pdf> *E-Learning Developers Journal*, August 25 2003
- The Guardian Newspaper, UK "A novel pastime: reading the phone book:" <http://www.smh.com.au/articles/2005/03/27/1111862258589.html>.
- Turbee, L. (1996) "MOOing in a foreign language: how, why, and who?" <http://web.syr.edu/%7Elmturbee/itechtm.html>.
- Voithofer, R.J. (1999) "Addressing the cyborg in educational new media design" Presented at the American Educational Research Association (AERA) National Conference, Montreal, Canada, April 1999, <http://www.coe.ohio-state.edu/rvoithofer/html/papers/teachcyborg.html>.
- Wachowicz, K. A. and B. Scott (1999) "Software That Listens: It's Not a Question of Whether, It's a Question of How." *CALICO Journal* Vol.16, No.3 1999: pp.253-276, http://calico.org/journalarticles/Volume16/vol16-3/Wachowicz_Scott.pdf.
- Wilson, B. "Netscape Navigator". <http://www.blooberry.com/indexdot/history/netscape.htm>.

Some relevant Internet sites

Academic-Gamers.org "<http://www.academic-gamers.org/cgi/bib.cgi>" – blog and bibliography
A.L.I.C.E. and AIML Chat Robot News "<http://www.alicebot.org/>" October, 2004 - a talk bot website

AmericanAccent.com "<http://www.americanaccent.com/>" – this American company claims to automatically assess a speaker's accent by telephone

Bibliography of online publications on virtual reality in education

"<http://www.coe.ecu.edu/vr/other.html>" [1998-2004], maintained by Veronica S.Pantelidis and Dr. Lawrence Auld, Virtual Reality and Education Laboratory College of Education East Carolina University

Andreas Lund's links to English as a second, a foreign, Another Language: BOTs, Robots, Chatterbots "<http://home.online.no/%7Eanlun/bots.htm>" .

The British National Centre for Learning Languages "<http://www.cilt.org.uk/>" has a useful page of links at Linguanet "<http://www.linguanet.org.uk/websites/wwwteach.htm>" into the whole issue of Internet and e-mail language learning.

Broca's Blog "<http://freefeel.org/wiki/DiaryOfBrocaMarch2005>" – a Korean nurse refines her English by keeping a diary in her second language online

CAL "<http://www.cal.org/>" Centre for Applied Linguistics, Washington DC

CALICO Journal "<http://calico.org/journalarticles.html>" (Computer Assisted Learning instruction Consortium)- Texas State University - a good collection of articles on CALL. Papers from 1983 to 2000 are viewable online; later material requires a subscription

CALICO Review "http://calico.org/CALICO_Review/" - Reviews of CALL language learning programs on the market, sorted by language

CALL on The Web "<http://edvista.com/claire/call.html>" - links by Claire Badin Siskin

ColossalStorage.net "<http://colossalstorage.net/colossal5.htm>" – a website promoting optical holographic memory storage.

COMFM "<http://www.comfm.com/live/tv/>" - live TV on the Internet from every continent, multiple languages

Course Website (CMS) Programs

"http://www.excite.co.uk/directory/Reference/Education/Instructional_Technology/Higher_Education/Course_Website_Software" - listing by Excite Search Engine

Digital Games Research Association "<http://www.digra.org/>"

English for Everybody "<http://www.english-online.org.uk/games/gamezone2.htm>" - some free online language learning games

English Raven website The Audiolingual Method

"http://www.englishraven.com/method_audioling.html" - this is a useful summary of this method's characteristics

Example Blog - Two Authors (teacher and shared student account)

"<http://exampleblog.teacherhosting.com/blog3/>" at Teacherhosting.com

"<http://teacherhosting.com/>" (a commercial site)

Glenweb.org "<http://www.glenweb.org/>" – example of a shared student website

LanguageCourse.net "<http://www.languagecourse.net/online-language-course/english-language-course.php3>" – rating of online language courses

Language Learning Technology Journal "<http://llt.msu.edu/>" - all articles available online

Languages-on-the-web.com "<http://languages-on-the-web.com/>" – a large number of links and resources for online language learning

Learning Games Initiative "<http://www.mesmernet.org/lgi/>" – University of Arizona – a forum "to examine computer games (arcade, console, PC, and handheld) in order to better understand their cultural and pedagogical import..

Learning Languages "<http://www.micheloud.com/FXM/LA/index.htm>" - Micheloud's homepage on how to learn any language

LRNJ (Slime Forest Adventure) "<http://lrnj.com/>" - A free role-playing game for learning Japanese

Mylanguageexchange.com "<http://www.mylanguageexchange.com/>" – Penpals for language learning via e-mail

Omniglot "<http://www.omniglot.com/links/courses.htm>" – links to online language courses

Online Learning Update "http://people.uis.edu/rschr1/onlinelearning/archive/2004_06_20_archive.html" University of Illinois at Springfield - online learning news and research

PimsleurDirect.com "<http://www.pimsleurdirect.com/>" – packing audiolingual courses onto PDA-type memory chips

Refdesk.com "<http://www.refdesk.com/paper.html>" – listing of online newspapers worldwide

The Education Arcade "<http://www.educationarcade.org/>" – "consortium of international game designers, publishers, scholars, educators, and policy makers who are exploring the new frontiers of educational media that have been opened by computer and video games."

The Palace "<http://www.thepalace.com/>" - a chat community built around a software program of virtual worlds and avatars.

The Serious Games Initiative "<http://www.seriousgames.org/>" – "uses for games in exploring management and leadership challenges facing the public sector.."

Schmooze University "<http://schmooze.hunter.cuny.edu/>" - a centre for MOO (Multi Object Oriented) communal games and activities in language learning

Sensor Web "<http://www.geoplace.com/gw/2003/0309/0309swb.asp>" – stitching the earth and humans together with sensors

Summer Institute of Linguistics "<http://www.sil.org/>" a faith-based organization (Christian) which has accumulated huge resources on the world's languages

University of Oregon English Mailing Lists
"<http://babel.uoregon.edu/yamada/lists/english.html>" - an example of list servers dedicated to Second Language SIGs (special interest groups)

Virtual Human Web Resources "<http://www.ordinarymagic.com/v-people/Webresources.html>" - links to many forms of the emerging bionic man

VOA Special English Assistant "<http://www.bitday.com/bitdaystudio/>" – downloadable MP3 English learning from the Voice of America, via BitDay Studio

VoiceXML Review "<http://www.voicexmlreview.org/>" – a journal of ongoing VoiceXML research, and its applications

WELL Project "<http://www.well.ac.uk/wellproj/index.html>" (Web Enhanced Language Learning) - to promote wider awareness and more effective use of the World Wide Web for Modern Languages teaching across Higher Education (HE) in the United Kingdom (UK)

WorldWideLearn.com "<http://www.worldwidelearn.com/language-courses/index.html>" – directory of online language courses (and other online courses too).

Thor May has been teaching English to non-native speakers, and lecturing linguistics, since 1976. This work has taken him to seven countries in Oceania and East Asia, mostly with tertiary students, but with a couple of detours to teach secondary students and young children. He has trained teachers in Australia, Fiji and South Korea. At the moment he is teaching in Chungju National University, South Korea.