Chapter to be published in J. M. Spector (Ed.), Finding your online voice. Publisher Lawrence Erlbaum Associates, Mahwah, NJ. References should be made to published version of the chapter.

ONLINE LEARNING: FOR BETTER OR FOR WORSE?

A REFLECTIVE VIEW

Jan Visser

Learning Development Institute

ABSTRACT

This chapter reflects on the development of learning in an environment of diverse processes and technologies of educational communication that can no longer be designated by such simplistic terms as distance education (currently often referred to as online education or e-learning) or traditional face-to-face education. Competent learners of any age have always been able to find their ways to the resources that work for them. At the present stage, however, and thanks to the proliferation of ever more sophisticated and effective information and communication technologies that span the globe, learners are less than ever defined by specific formal courses and programs in which they enroll. In finding our online voice—which may, on occasion, also be heard offline—we, educators, increasingly are thus no longer limited to merely attending to learning opportunities purposefully designed or co-designed into a deliberate instructional context; we should additionally keep our eyes trained on the extremely rich and rapidly growing wider range of resources that make up today's learning ecology. Hence, our voices will become less instructional, less also those of 'guides on the side', but increasingly those of

friends, mentors in the true sense of the word, those of co-explorers and co-constructors of the learning landscape.

THE POWER OF VIRTUAL COMMUNICATION: A DEDICATION

I dedicate this chapter to David Wolsk.[1]

I never met David face to face. Yesterday he died. I received the news this morning by email from my friend Diana in Tucson, Arizona, whom I never met either. However, I had been able to bring her and David into contact with each other not so long ago when David happened to be in Tucson and had told me so, also by email. So I mentioned Diana to him and he took the initiative to look her

[1] David Wolsk was, at the time he died, an Adjunct Professor of the Faculty of Education and Associate, Centre for Global Studies, University of Victoria, Canada. He spent his life as neuroscientist and as an educator who championed self-directed, experiential/real-life learning, which is how we got to know each other. Above all, David was a man of wisdom and peace, qualities that are perhaps best described in the words of another Canadian friend, who responded to his death in an email I just received. "David had achieved much of what he wanted to achieve in his life—although he could never have achieved everything that was in that incredible mind of his. And I know how happy he was in his kids and his grandkids. I will hang on to the memory of a sunny four hours sitting on a bench by the Thames in London, surrounded by trees in all their fall glory, sailing boats and swans on the river, and a couple of dogs running around as though they had to get all their fun in life into one day, and talking as though we'd known each other for years, instead of actually having met each other live just a week earlier" (Lee, 2005, April 23).

up. We would all meet a few weeks from now in The Netherlands—at least, that's what we had planned. But now it will never happen. I lost a friend whose face I never saw.

Such is the power of virtual communication.

Actually, I never called Diana 'my friend' before. Somehow David's death drew us closer together. I also found myself this morning addressing the members of two lists that both David and I used to contribute to as 'Dear Friends.' Many of those list members probably never met David either, at least not face to face, but I felt we had all become friends because of this shared loss. For such is the power of virtual communication. People experience a real sense of loss when someone transits from the world of the living to that of those who lived, leaving it to others to build on their heritage. That sense of loss is apparently not determined by physical closeness but rather by the words they created, words on a screen, words on paper, vibrations in the air, resonances in the mind.

This is what explains the power of virtual communication. It allows us to separate the words people utter from their physical external reality. However, it does not detach those words from who and what those people were or are. The words they utter that appear on our screens "are more than 'just words on the screen' for behind those words are love, care, support, interaction [and] growth" (Y. L. Visser, 2005, April 23).

Four years ago Francisco Varela died. He was a member of the same small community of people interested in transdisciplinary research in which I also partake. On the day he died, the coordinator of our small community sent out a message to all members suggesting that "we all meet in mind and spirit at his Web site http://web.ccr.jussieu.fr/varela/index.html and discover the extent of his undying genius" (Nicolescu, 2001, May 30). As I am writing these words, I just checked that Web site (Varela, 2000) again. It is still available, including Francisco's phone and fax numbers and his email address. For such is the power of virtual communication that the mechanisms through which we used to communicate with those who are no longer with us remain a reality that transcends their bodily existence. So great is that power that it led me to defy yesterday any rational thought and copy my message about David's death to David's own email address.

A VISION OF LEARNING AND TEACHING— AND WHAT IT MEANS TO BE AN (ONLINE) EDUCATOR

This book, according to its subtitle, compiles the stories of experienced online educators. I don't normally think of myself as an online educator. I have a certain experience, though, as an educator, having engaged in interaction with learners—both face-to-face and at-a-distance—for more than four decades, ever since I started teaching while I was still a graduate student of physics. In addition, I have been a parent for some 35 years. Interacting with my own children, initially in the

immediate family environment and later on, as we spread around the globe, increasingly online, has significantly contributed to my perceptions of what it means to be a good educator.

Being a good educator implies, in the first place, being a good listener. The voice required for being a good listener is that of someone who knows when it is better to be out of the way of the other person's learning and when one should be involved. It's also the voice of someone who is able to make the other person feel comfortable and welcome. It is often a soft and tender voice, one that includes moments of deliberate silence and that respects the intricate emotional substrate of the conversation. It is a voice that invites the learning individual to awaken in him or herself the lure of learning (Liston, 2005).

At times, the professional activity of teaching was my main job, but most of the time it has been something that I love to do on the side of other things. That same love is still there. It has not changed since the advent of online communications, nor has my style of educationally interacting with people greatly changed as a consequence. I think I would find it difficult to teach if I weren't engaging in a significant manner in other things than just teaching. Anchoring the teaching-learning dialogue in the shared but different realities of teacher and learner is for me an essential part of my voice as an educator. This implies more than the occasional reference to real-world examples. It means developing a dialogue that is meaningfully connected to the lives of two people who communicate with each

other with the aim to grow, both of them, beyond where they were when the dialogue started. A precondition for this is the disposition to be vulnerable.

I became an active and dedicated user of email and the Internet in 1990 and have been using the ever increasing variety of online facilities of communication and knowledge processing, now also including voice interaction and collaborative authoring, ever since. Compared to my pre-online life, the volume and diversity of my communications with other people has dramatically increased. However, while my writing style in general has evolved over the years, there is no marked difference in tone between the letters I used to write and put in the mail in the past and the electronic communications I now prepare sitting in front of my computer screen, sending them out via the Internet. In other words, my voice as an educator has been more influenced by my experience-based views of what it means to learn and to teach than by the technological means that carry my voice.

I see learning and teaching as intimately and inseparably interwoven. Besides, I define both these concepts in much broader ways than most people generally do. Briefly formulated, learning is what one does to generate intelligent behavior that enhances one's constructive presence in the world (see for a more elaborate discussion J. Visser, 2001). This includes the acquisition of specific competencies, but is in no way restricted to it. Teaching means being present in the learner's environment in such a way that learning is facilitated. Learning being an essentially social and dialogic phenomenon, teaching is best done when

one learns oneself. Consequently, my voice as an educator is one that suggests openness to the kind of dialogue in which both communicating parties accept to be equally vulnerable. Communicating such a disposition is more than making a statement to that effect. Usually it is not making a statement at all, but rather a showing over time of one's preparedness to engage with problems the same way one expects one's students to do. There is no fundamental difference between how one does this online or in a face-to-face context. In both cases it is important that student and teacher have agreed, often implicitly, to be interacting with problems and that doing so is a serious matter. It assumes that problems are real and relevant and that the student is genuinely interested in learning (rather than in grades and degrees) and the teacher is equally interested in learning, both his or her own learning and that of the student (rather than being motivated by the salary it generates and the tenure or promotion opportunities tied in with the teaching task).

STORIES OF LEARNING - LEARNING FROM STORIES

A few years ago my attention as a researcher was drawn to the stories of learning that people were able to generate about their experiences as lifelong learners (e.g. Y. L. Visser & J. Visser, 2000, October; some sample stories are available at http://www.learndev.org/LearningStories.html). Those stories were almost invariably fascinating. I collected hundreds of them. Those were not only stories

of learning; they were also stories *for* learning, stories one could learn from. In fact, we learned from those stories that, generally, the learning that impacts people most takes place outside the formal contexts that are specifically designed for the purpose of helping them to learn, such as schools and universities. Indeed, experiences of life and death, love and despair, care and exclusion were found to be the powerful prompts for people to change course and to start interacting with their always changing environment (the heart of what it means to be learning [J. Visser, 2001]) in crucially different ways.

ONLINE LEARNING: A DIFFERENT KIND OF LEARNING?

I recently concluded a chapter for a book on the future of higher education asking myself and my readers the question whether it would be useful to continue to treat 'distance education' as a field in its own right? I concluded it wasn't. Among other considerations, I had the following thoughts:

> I consider questions about the technologies, mechanisms and processes used to facilitate the kind of learning demanded by the challenges…[of our time] largely irrelevant. It is not irrelevant, though, that we have those technologies and that more sophisticated ones will become rapidly available, and that knowledge exists about mechanisms and processes through which technologies are being used. However, the key challenge is to the

> imagination to reinvent, and continue to reinvent…education using all means available and inventible. While doing so, it will become increasingly irrelevant to try and reserve a special place for what we used to call distance education. (J. Visser, 2006)

It matters little in the above context that we now often refer to online learning or e-learning when previously we used the term distance education. The crux is that, from the learner's perspective, learning, in the full sense of the word, is usually much richer than what the instructional context provides for. The competent learner will complement the affordances of the deliberately designed learning environment with whatever else is at hand. Thanks to developments in information and communication technology the variety of complementary resources to choose from is tremendous. Some such resources involve the online voice of others. I discuss a few examples below, deliberately choosing instances that fall outside the realm of formal educational settings.

THE INCREDIBLE WEALTH OF VIRTUAL SPACE

24 hours on the Net

I look back at the last 24 hours. During it I engaged in a variety of online activities that affected either my state of mind or that of the people with whom I interacted—in case the online activity was interactive—and probably both. In other words, learning has taken place. I and those other people are no longer the

same, thanks to our neural plasticity. In what follows I mention several of the online activities I engaged in and discuss them in terms of their potential significance for human learning and their implications for finding one's voice.

Instant text messaging

Chatting with a teenager

Early today I had a brief chat with a 14-year old girl (Exhibit A). She usually adds a short personal message to the nickname she uses for the particular chat platform we both use and changes it frequently. As she is on my list of contacts I can see when she comes online. Thus, whenever she signs in I'm immediately being made aware of what mood she is in, at least according to what she has decided to broadcast to her circle of friends and acquaintances. This time it said "Broken…." It had done so a couple of times before, usually when she had been disappointed in establishing an emotional relationship with someone she liked. The rest becomes clear from reading the sidebar (Exhibit A).

Why broken again?
Sounds like a flip-flop.
lol
no it's the name of a song
IC
Actually, I know.
ok
But I thought you also used it in the real sense, to express the mood you are in.
Everything alright?
yeah i'm good
great!
going to paint i think, i feel like it
What's on your mind? (regarding what to paint)
well i feel like learning to draw hands so i'll look up a tutorial online and try to learn then i'll paint something like my avatar with a hand
Hope you'll find something like this online. Would be interesting. Let me know if and how it works.
Okay
Alternatively, there are also books that are quite good.
Da Vinci had some interesting sketches
yes but i'm a little low in the money department at the moment.... i spent 80 euros on art supplies last week :S i love DaVinci... i don't know all of his work but while i read the DaVinci Code i was obsessed with him
Wow. But it's probably money well spent. I love him too. Great guy.
^^
yeah too bad we missed him by a few centuries....
indeed
But with some luck someone like that may emerge again in our era. It may be you. :)
haha i doubt it will be me i don't spend that much time on my art but it could happen ^^
Never underestimate your abilities and opportunities!
good advice i'll stick to it!
OK. Have to go again. Love you.
bye me too

Exhibit A: Chat via MSN Messenger with 14-year old girl whose personal message said "Broken..."

There are probably zillions of conversations like these being conducted around the globe every day. They have their own flavor, so different from a face-to-face or telephone conversation that they are usually not interchangeable with those other modalities of communication. I think of them as an enrichment of our communication environment, rather than as a reason to do away with those other and older ways in which we used to converse.

Finding one's instant messaging voice—speaking the language

Finding one's voice in such an environment is not difficult; it's almost automatic. It works mostly by trial and error. One finds out using one's intuition how to express oneself, when to take turns in the conversation and how to prompt the other side into responding, thanks to the fact that conversations, including online ones, follow definite patters (Mazur, 1996). Familiarization with the special lingo and abbreviated phraseology used in instant text messaging also occurs largely through exposure and getting involved. Actually, the example given in Exhibit A is a very mild case of such usage. Text messaging lingo is hardly used in it. Had it been used, it would rather have looked like Exhibit B. The use of text messaging lingo is prominent among teenagers, particularly in Europe, thanks to the ubiquitous use of the cell phone in conjunction with the limitations of the usual cell phone keypad for inputting text, prompting users to economize whenever they can on the number of characters that have to be keyed in. Batista (2002) refers in this context in a brief journalistic article largely written in the lingo in question to

"gnr8n txt" (generation text). Becoming familiar with the medium requires being sensitive to the other person and the context of the communication. If in doubt, one can of course always ask the user of a particular acronym or shorthand about its meaning, but it may require some courage to reveal one's ignorance in an environment in which a new language seems to be emerging not only for reasons of economy of communication but also because using the lingo is a way of expressing one's group identity. Luckily, there is always the Web, that huge haystack in which, thanks to the technology of search engines, even a needle can be found. A Google search for the exact phrase 'text messaging lingo' currently results in 9,600 instances found, including entire dictionaries as well as Web-based translation facilities, such as http://www.transl8it.com and http://www.lingo2word.com.

Y brkn 'gen?
swNdz llk a flip-flop.
lol
n itz d nAm of a song
IC
Actually, I knO.
k
bt I thawt U also Usd it n d real senS, 2 express d mood U R n.
evrtng aiight?
yyssw im gud
gr8!
goin 2 p8nt i tink, i fEl llk it
wot's on yor mind? (re: wot 2 paint)
weL i fEl llk LernN 2 draw h&z
so i'll L%k ^ a tutorial on9
& try 2 Lern
thN ill p8nt somTIN llk my avatar
w a h&
hOp UL find somTIN llk DIS on9. wud b intRStN. It me knO f & how it worx.
k
Alternatively, ther R also bukz dat R quite gud. Da Vinci had som intRStN sketches
yS bt im a ltl low n d monE department
@ d momNt.... i spent 80 euros on art supplies last wk :S
i luv DaVinci...
i dun knO aL of Hs wrk bt whll i rED d DaVinci Code i wz obsessed w him
Wow. bt it's problE monE weL spent. I luv him t%. gr8 guy.
^^
yyssw
t% bad we msD him by a few centuries....
indeed
bt w som luk SOME1 llk dat mA emerge 'gen n our era. It mA b U. :)
haha
i doubt it wiL b me i dun spNd dat much tym on my art
bt it c%d hpn
^^
nevr underestimate yor abilities & opps!
gud advice
ill stiK 2 it!
k. hav 2 go 'gen. luv U.
bi
me t%

Exhibit B: Chat of Exhibit A translated into text messaging lingo using http://www.transl8it.com.

Not surprisingly, different kinds of lingo develop also in languages other than English. They are as different as the languages from which they derive are diverse. I am somewhat familiar with text messaging lingo in French and Dutch. Development of all these different kinds of lingo seems to follow similar rules in

all three languages. Some of the character combinations (such as on9 = online or h& = hand) are reasonably good intuitive prompts for discovering the phonetic equivalent of particular words in the language in question. You say them aloud and hear something that resembles the original word. French speaking teenagers have developed the capacity to shorten words and phrases to a particularly high level, undoubtedly because the French language in its canonical form is rather uneconomical from the point of view of the number of characters required to express a particular thought. Examples are such expressions of affection and adoration as 'jtm' (*je t'aime*) and 'jtdr' (*je t'adore*), or a phrase like 'tt ce kil te fo' (*tout ce qu'il te faut* [all you need = 'aL U nEd' or 'll u nd' in English, depending on the variety of lingo used]). Another kind of character combination stands for series of words. Btw (= by the way) and g2g (= got to go) are examples. It is not difficult to get used to reading text messages expressed in text messaging lingo. With only a little practice one is readily able to read them; using the lingo for one's own writing requires somewhat more practice.

Finding one's voice—sensing the specificity of the communication environment

The use of specific lingo is not what makes communication via short messages so particularly interesting. In fact, it's only a minor detail of little significance that one simply has to become familiar with if one wishes to communicate effectively. There are three far more relevant aspects that I like stressing, because they make this mode of communication stand out among alternatives.

In the first place, participants in an exchange of instant messages often display a level of spontaneity they would not normally show had the conversation taken place face-to-face, via letters or email, or by telephone. Participants are generally much more playful in the text messaging mode. They inject jokes, laugh out loud (lol), communicate basic feelings (via a growing range of emoticons) and often seem to be on the lookout for opportunities to tease or challenge each other intellectually, not always in an entirely subtle manner.

……..

Isn't it true that I would weigh 500 kg (or is it 5000?) on the moon, instead of 50 here?

No. You wouldn't. The gravitational pull on the moon is much smaller. So you would feel lighter. Your weight on the moon is less than on earth. But your mass is the same. A balance with two scales, which you use to compare masses, would measure the same mass as on earth. But a spring balance would tell you that your weight is less, I think about a sixth of that on earth.

spring balance?

Yes. A device that determines your weight by comparing the pull of gravity on your body with the elastic force caused by deforming a spring (compressing or stretching it, for instance).

Ah. Now I understand how that spring system works. Never thought of it that way. So it's kind of a counter force to gravity. Why then did they tell me in school that somewhere (I forget where) I would weigh ten times as much?

No idea.

Could it be that gravity has a 10x relationship with something else? (trying to remove the cobwebs from the back of my head to bring it all to the fore again).

Now that I think of it, it's quite obvious you'd weigh so little on the moon. Why, otherwise, would astronauts behave so ballerina-like? :-)

Since Newton, everyone knows that two masses attract each other with a gravitational force that is proportional to those masses. The factor 10 is the acceleration (in m/sec) an object undergoes when it falls freely in the gravitational field of the earth.

If it wouldn't be for the widespread lack of scientific understanding, the media effect on body image of women would long have caused them to go to the moon. "Men are on earth; women on the moon" instead of "Women are from Venus…" :-)

meters per second squared, I meant.
I guess women are more concerned about their mass than about their weight…

Got it. But I recall that it has something to do with weighing, not acceleration. Perhaps the teacher mixed it up.

Might he have said something about expressing a force in either kilogram-force or Newton? There is a difference of a factor 10 (approximately) between the two.

……..

Exhibit C: Excerpt of chat with 30-year old female on Newtonian gravity

A second interesting aspect of text messaging is the fact that such exchanges of brief statements force the minds of the communicating parties into a dialogic mode. No way that a question like the one raised in Exhibit C would be answered through a lengthy explanation. By nature of the use of this technology, the style is entirely conversational and interactive. This is wholly different from had the same question been raised in a face-to-face context, whether formal or informal. How easily, then, would the experienced educator have reverted to the lecturing mode!

"Look here. Let me explain this to you. This is how it works." And there you go, chalk or pencil in hand.

A third interesting aspect, possibly a corollary of the conversational nature of this way of communicating, is that it so easily branches out into seemingly unrelated—but not necessarily irrelevant—issues. Exhibit C is only a small excerpt (about a quarter) of a much longer conversation that opened with remarks about the weather at the two places from which the communicating parties were 'talking' to each other. From there it moved into a couple of jokes about the use of the metric system versus the use of the US customary system of units. That led to the discussion of weight and mass excerpted in Exhibit C. Without any logical connection with anything that had come before, the conversation then switched to a lengthy and profound discussion of the life and thinking of St. Augustine, whence it moved into the contemplation of ethical considerations originally entertained by the Bishop of Hippo but equally relevant for our time, before the conversation had to close because other business started claiming priority. Such varied digressions would likely not have occurred had the mode of communication been email.

Being educational without being didactic

Note that almost everything in the conversations of Exhibits A and C had educational value, both in the sense that understanding of some phenomenon improved, such as demonstrated in Exhibit C, and that motivation to advance

beyond one's current state of growth was being reinforced, as in the case, more in particular, of Exhibit A. However, none of it had been planned and none of it was in any way strongly linked to a formal educational setting in which one person is teaching the other. The parties involved in the two examples knew each other face to face before they initiated their online conversation. However, this is largely irrelevant to the quality and depth of the dialogue. I have had many online conversations with people I knew exclusively online—sometimes even exchanging thoughts and feelings with them for the very first time—and such conversations were in no way inferior to the ones of the two examples given above.

While the above referred chats occurred spontaneously, instant messaging can very well be used in a deliberately planned manner, such as in a formal educational context. Relevant practical reasons can call for the inclusion of text messaging in a formal educational setting, such as that of a distance education course or program. L. Visser and West (2005) argue for such use in the case of developing countries where cellular telephone networks, whose operators usually offer Short Message Services (SMS), often penetrate where other channels of communication, including the Internet, are not or less well accessible. Messages transmitted via these networks are limited in size—usually around 150 characters, including spaces—but they are ideally suited for communicating short motivational prompts. Motivational messaging has been shown to be crucially

effective for improving learning performance in both instructor-led face-to-face contexts (J. Visser & Keller, 1990, for print-based messaging) and in distance education settings (L. Visser, Plomp, Amirault, & Kuiper, 2002, for print- and email-based messaging). The immediacy and the sense of proximity associated with the cell phone can only add to the effectiveness of this particular aspect of educational communication.

It should be noted that, while text messaging via any medium—such as the Internet, cellular telephone networks or postal services—can significantly enhance the effectiveness of educational processes, whether deliberately planned or spontaneously engaged in, it does not automatically do so. There must be an intention among those who partake in the conversation to educate each other and to be willing to learn from each other. If that is not the case, then, what can potentially be an opportunity for "inspirational interaction" can easily degenerate into "idle talk" (Van der Spa, 2004, p. 97). One sees examples of such idle talk not only in the cyber-communities analyzed by Van der Spa, but also in many a threaded discussion in a formal online course environment in which students are motivated by the mere requirement to mark their presence in order to make the grade. The uninspired participation by some in which this results is easily able to turn off fellow students who are genuinely interested.

Exchanging email

A portion of my online activity during the 24-hour timeslot arbitrarily chosen as a basis for reflection on my online behavior had to do with managing and exchanging email. Part of that process now includes circumnavigating and eliminating the uninterrupted bombardment with junk mail and virus infected messages. My typical email day thus starts off checking the accuracy of my spam control software, usually deleting all emails in my spam and junk mail boxes and occasionally salvaging one that was erroneously identified as spam. In addition I have to manually identify as spam some of the email that escaped the attention of my software. As I manage a couple of email addresses that forward automatically to my main email address, I receive most spam messages at least two or three times. Thus the proportion of spam received is, in my case, around 90 %. The total number of spam messages I have to delete after some six hours of sleep is currently around 60. During the day spam continues to come in and I normally take care of it on the fly.

This is more than a mere technical nuisance. One also has to put up with the frustration caused by loss of precious time and attention and has to face up to being addressed in ways that can be outright insulting, having to read language one rather stays away from. This is a serious problem when appreciated across cultures and age groups. I have met people in Islamic countries who told me that they gave up their email addresses because they could no longer cope with the

onslaught on what they considered dear to their culture. I also realize that the 14-year old girl with whom I had the conversation of Exhibit A and all her online friends sooner or later receive the same junk email I receive.

Finding one's online voice in such circumstances is, at times, difficult. It is like coming out of a meeting room in which you have been verbally abused and shouted at for no justifiable reason whatsoever and immediately after it having to receive a guest in your office with whom you are expected to interact as if you are totally unaffected by what happened only a moment ago. Most people, and I include myself among them, are able to do exactly that, but it adds to the daily stress one experiences. As long as the problem has not been solved, it should be seen as a significant downside that diminishes the tremendous benefit we can all derive from leading part of our lives online.

A question of response time and power law relationships

The voice one uses while exchanging email is different from the one expressed in short message exchanges. Expectations about response time, in combination with the psychological pressure this puts on the communicating parties involved to respond, is a likely factor of influence. In the case of instant text messaging the responses are 'almost immediate', rather than 'immediate' as in the case of a face-to-face or telephone conversation, where silences of more than a few seconds tend to be perceived as embarrassing. The 'little extra time' people will allow themselves in preparing their responses while conducting a conversation via the

exchange of short text messages—in combination with the need to express oneself succinctly—is just enough to make this mode of communication distinct from instant voice communication.

For the same reason, the exchange of email is distinct from both instant voice communication and instant text messaging. Not only is the average response time significantly longer; the range over which response times vary may go from instantaneous to more than a year. In that sense the way today's users of email manage their interactions with others does not differ significantly from that of prolific letter writers of the past. Oliveira and Barabási (2005), who analyzed the correspondence patterns of two prolific letter writers of the past whose correspondence has been preserved, Darwin and Einstein, conclude that "although the means have changed, the communication dynamics have not: Darwin's and Einstein's patterns of correspondence and today's electronic exchanges follow the same scaling laws" (p. 1251). What is different, though, is the scaling exponent, providing evidence, according to these authors, "for a new class of phenomena in human dynamics" (p.1251).

Assuming that Darwin and Einstein were not essentially different in their letter writing behavior from today's academics who communicate mainly via email, the comparison is of interest, including the fact that the scale is different. According to the cited article, Darwin and Einstein sent during their lifetime more than 7000 and 14000 letters, respectively; they received more than 14000 and 16000 letters,

respectively. This compares of course favorably with the thousands upon thousands of emails today's academics receive and send every year. Nonetheless, prioritizing today's email conversations and letter-based exchanges in the past is a comparable challenge. It is no wonder, therefore, that the same power law applies to the probability $P(\tau)$ that either a letter or an email gets responded to within a particular response time τ, namely $P(\tau) \approx \tau^{-\alpha}$, with $\alpha = 3/2$ in the case of Darwin's and Einstein's letter writing behavior.

Barabási (2005), in another study, argues that, contrary to thus far employed models of human dynamics, the patterns according to which we engage in such actions as sending emails are not randomly distributed in time. They can thus not be approximated by Poisson processes. Instead, the waiting time between such events is "better approximated by a heavy-tailed or Pareto distribution" (p.208). Leaving the mathematical detail aside, what matters is the striking phenomenon that, while under a Poisson distribution "consecutive events…follow each other at relatively regular time intervals" (p. 208) virtually excluding very long inter-event times, by contrast, events that follow the Pareto distribution "allow for very long periods of inactivity that separate *bursts of intensive activity*" (p. 208, my emphasis).

Varying one's online (email) voice

Because of the above phenomenon, our voice in email exchanges should allow for variation. Some issues, usually the majority, get responded to immediately. Other

matters, those that require serious thought or extensive work, need to wait till a next 'burst of intensive activity' occurs. Looking back at my 24-hour timeframe under consideration, there were emails that I responded to briefly, merely to recognize that I received them. This could either mean the conclusion of a conversation, or the announcement that I would attend to the matter at a later moment. Alternatively, other emails received a brief and immediate response as all I was expected to do was communicating some level of agreement or disagreement; level and nature of appreciation; or providing some piece of factual information. Because of the wide variability in response time email users have grown used to and are aware of, such brief responses, even though they contain not much issue-related content, are important in order not to leave the party with whom one corresponds in limbo about where one stands in the *process* of conducting the correspondence. Considering the dramatically expanded load of exchanges the use of email allows us to engage in, keeping each other abreast of where we stand or what we intend to do following receipt of a particular message greatly diminishes the stress and distraction from creativity that surrounds this mode of communication (Fried, 2005).

There also are those emails one receives where it is not immediately clear how and in what manner one will respond. For such cases I have developed the habit of flagging the message in question for follow-up by a specified date, when I think I will have had sufficient time to think about how to handle the matter at

hand. My self-chosen target date for follow-up may on occasion be different from the expectations of the sender, resulting, in such cases, in a request like to following one:

> Could you confirm having received my email of September 26?

which would typically trigger an immediate brief reply, such as:

> Thanks for checking.

> Yes, I received your email as well as the attached document a week ago, but I'm swamped and haven't yet had a chance to even glance at it. I will read the attachment, though, hopefully before long. I've marked your message as 'unread' and flagged it so that I will be reminded. Don't hesitate to ask me again later.

In the given example I added the last sentence as I had meanwhile decided I would indeed follow up.

Thus, my online voice while using email is one that gets indeed distributed over time in a non-random fashion with typical bursts of intensive activity that focus on the serious issues, usually with a long breath. Accordingly, the way in which I use my voice adapts to the varying circumstances. Within the 24-hour timeframe under analysis there were, in addition to the many messages that could be responded to briefly, immediately and usually informally, two that related to more serious matters. One concerned my participation by email in a collaborative

authoring effort; the other one requested my advisory feedback regarding a research proposal (someone's dissertation work) into the development of collective mindsets among communities of problem solvers. I postponed responding to the latter and informed the sender accordingly. As to the former, I wrote the equivalent of several pages of single spaced text.

My voice in such much more extensive and serious email messages is usually that of discursive writing, a form of art less and less practiced in the context of today's digital communications and wrongly so. A portion of the use of email opens excellent opportunities for engaging in the kind of discursive writing that one can still come across when exploring the volumes of collected letters of some well-known people (e.g. Feynman, 2005; Born & Müller, 1986; Van Gogh-Bonger, 1955). The fact that such writing is so little engaged in any longer is probably largely due to the attitude to consider all email the same, and thus respond to it in a similarly relaxed fashion whatever the nature of the correspondence. As I argued above, there are solid reasons why we should discriminate between different uses of email with, on the one extremity of the spectrum, those messages that allow to be responded to with a few words or at most a couple of quick lines and, on the other end, those that invite to deep thinking and careful crafting of a response. It would be one of the roles of the school system to prepare the generation that comes of age in today's world for the technologies it may encounter—i.e. for the uncertainty surrounding new forms of technology that will

undoubtedly emerge—and particularly instill among its members the capacity to critically discriminate between different ways and opportunities to use emerging technologies. As most school systems don't do so (yet), it remains a challenge to the online educator to lead in this area both by example and, when appropriate, through instruction.

Email-like communications

I include a few remarks here about forms of digital communication that are somewhat related in my mind to email, such as blogs, listservs, and discussion boards. Subscribers to them, assuming they set themselves up appropriately, often receive new postings (or alerts to new postings) via email to which they can then respond, if they so wish, either by email or via a Web-based platform. With blogs and listservs there is normally no definite expectation as to whether a specific recipient should respond, unless he or she is expressly addressed in a particular post. There is thus normally less urgency surrounding these forms of communication. This may be different for a discussion board, at least in cases when one has signed up for the deliberately agreed purpose of participating in a planned discussion with a clearly defined timeline. Considering all these various options, I argue that, just like in the case of regular email communications, there are different degrees of urgency that will determine if, how and when one responds. This leads to a similar pattern of online activity as discussed earlier, distributed in time according to a power law, thus comprising bursts of intensive

activity separated by long periods of inactivity. Relating this to my personal experience, I offer the following observations.

I subscribe to lists populated by a limited number of people—usually between ten and twenty—who are all focused on the same set of issues. Because the size of such groups is small and thanks to the shared focus, all individual members contribute regularly with responses and original postings that are typically short and more or less immediate. So are mine. My voice in these cases is usually business-like.

Other lists to which I subscribe bring together hundreds or occasionally thousands of people interested in some broad area of concern. Here the size of the group and the lack of focus on any specific issue within the area of concern lead to an entirely different communication behavior. I intervene from time to time, conditioned by my interest in a particular upcoming topic and the possibility for me to make time available for composing a well-crafted response. My response might be immediate or delayed, depending on whether I find myself in one of those 'bursts of intensive activity.' My voice will typically be that of the discursive writer as I will be motivated by the consideration that I am coming across an opportunity that I shouldn't miss. By taking advantage of it I can engage in an interaction through which not only I but all those who participate in it can grow.

On discussion boards, at least in those cases where the discussion was previously agreed upon and planned for, my postings and responses will be a mix of short business-like communications and longer discursive ones. Typically, such discussions are themselves a mix of procedural events—such as to establish consensus regarding a particular point—and exploratory dialogues—such as to deepen understanding or to become aware of all the different angles of an issue. Discussions that I generate myself, whether in formal educational settings or in less structured contexts in which people communicate in order to learn something, will almost always be of an exploratory nature, aiming at understanding something better after the discussion is over. I believe creative exploration to be one of the most important ways for people to advance beyond their present state.

The above mentioned propensity for discussions of a creatively exploratory nature probably explains why, in the sphere of blogs, I selectively choose to interact with only those blogs where I sense that the interaction may help discover new horizons. A good example is Ron Burnett's Personal Weblog on 'Critical Approaches to Culture + Communications + Hypermedia' (Burnett, 2005). My participation in providing contributing comments to postings on such blogs follows the already mentioned pattern of bursts of intensive activity that characterize my digital communication behavior in general. According to the studies by Barabási (2005) and Oliveira and Barabási (2005) I am not alone in obeying to such patters in the dynamics of my interaction with my fellow human

beings, though my choice of creatively exploratory blogs and emphasis on discursive writing may be idiosyncratic.

Finding the voice I want to listen to

The third and last instance of spending my 24 hours online that I wish to reflect on in this chapter has to do with finding a different kind of voice—not my own, but rather that of someone else whom I wished to listen to. Like most other examples in this chapter the context is again informal learning, my own. During the timeframe in question I downloaded a podcast about 'Learning and Memory,' an interview by Ira Flatow with Eric Kandel (Science Friday, 2004), from the relevant Web site onto my MP3 player and went out for a walk in order to listen to it. Learning on the go? M-learning? No, just learning, but I happen to like walking and have learned by experience that certain of my mental processes, like stimulating my creativity, benefit from such rhythmic bodily activity as walking (J. Visser, n.d.).

A multitude of interesting audio programs with important value for one's learning is now available on the Web. In the category to which the above mentioned Science Friday program pertains, there are for instance The Naked Scientists Online (n.d.); Nature Podcast (n.d.); and Universe Today (n.d.), to mention but a modest scoop out of what comes up if one does a simple Web search for 'science podcasts.' Audio files are available on the Web in a wide variety of areas of interest. Some are free of charge, such as the above mentioned science programs,

other programs, such as those of The Teaching Company (n.d.), have to be paid for. Given the programs I have immediate and free access to, why do I choose one over the other. What characterizes the voice I want to listen to? Why do I have those preferences? What is the voice I recommend to others to listen to? Following are some of the thoughts that come to mind as I try to answer these questions.

When listening to someone, not having the opportunity to interact directly with the person in question—such as is the case of a podcast of a radio program like Science Friday, even though in its original version there was the possibility to interact with it by phone—one is at risk of being left only passively involved. To become actively involved, which is what I prefer because it improves the depth of my learning, the voice one hears must somehow prompt a dialogue that one conducts inside one's own head. What kind of voice is that?

Dreyfus (2001) argues that embodiment is key to effective learning. In the literal sense this means that without the bodily presence in each other's proximity of the people who participate in the learning dialogue no effective learning—learning that results in expertise, mastery and practical wisdom—can take place. Dreyfus argues that learning develops according to seven stages, namely those of Novice; Advanced Beginner; Competence; Proficiency; Expertise; Mastery; and Practical Wisdom. The first three stages can adequately develop in the distance education mode. However, says Dreyfus, reaching proficiency and expertise requires

"emotional, involved, embodied human beings" (p. 48), something that he fears the online environment is incapable of accommodating. Moreover, apprenticeship, which is necessary for the last two stages, calls for the physical presence of experts of flesh and blood whose "style is manifest on a day-to-day basis" (p. 49), allowing it to serve as a model, to be emulated, to be inspired by, to become a bridge to the culture of which one gradually becomes part and in which one develops one's own style. Dreyfus thus concludes that what he calls "the dream of distance education" (p. 49) can only be achieved if and when "the bodily presence required for acquiring skills in various domains and for acquiring mastery of one's culture [can] be delivered by means of the Internet" in the form of telepresence that enables human beings to be present at a distance "in a way that captures all that is essential about bodily presence" (p. 49).

Considering the above observations, what I look for and what particularly attracts me in the voices I decide to listen to (both literally, or figuratively, when I hear them while reading), is the space they leave me to do my own thinking, to conduct my own mental and emotional explorations, to add questions, those that are relevant to my entire being, to those already asked, allowing me to feel bodily, i.e. emotionally and intellectually, part of a community of people who advance from question to question, driven by their unending curiosity and embodied presence in a world of which I am also part. For it to be relevant and real, it is also crucial that I am convinced that those voices I let into my life come from people

whose expertise and wisdom I respect and admire. A program that simply does an excellent job at informing me about the current state of research—and I access those as well—is therefore less satisfying than one that explores, that takes current achievements not as an end point but rather as a beginning, a prompt for asking the next set of questions, questions that get asked by those who are courageous enough to explore, to put themselves at the frontier of a particular development.

The beauty of a program like Science Friday is that it never makes the impression to have been scripted, at least not in detail. While the dialogue I am listening to develops, I become aware of emotions, uncertainties and ambiguities among those who participate. They start resonating with my own, even though I am separated in time and space from those others. I realize that the experience is similar to what happens when I listen to music composed—and, assuming the music is recorded, also often performed—by people whose lives I do no longer share in the immediate physical sense of the word. I can't resurrect the body of Chopin, but his virtual presence becomes an embodied one when I listen to his music performed by others, dead or alive, and, even more so, when my hands touch the keys of a piano on which I play, hesitatingly, as I rediscover the original emotions from which it emerged, his music myself.

CONCLUSIONS

In this chapter I have tried to give a reflective view of what it means to be learning at a time when the environment in which such learning takes place is conditioned, among other factors, by the pervasive availability of computing technology and associated ways for human beings to be in touch with each other. At the back of my mind was a further question: Is it for better or for worse? I have no definitive answer to the latter question. It is probably too early to expect such an answer, but it is not too early for the question to be asked.

Prompted by the challenge posed by the title of this book, I have particularly asked myself how I want to sound to others as I interact with them and influence their learning and they mine. Towards the end of the chapter I have transformed that question into one that was looking for what it is in me that makes me prefer one voice over the other. In making that digression, I was considering that teaching and learning always go together and that, therefore, I shouldn't put myself outside the equation.

As a basis for my reflections I considered that learning in the context of premeditated learning events, such as courses, training interventions and educational curricula that stretch over timeframes of multiple years, is only a small part of the learning we engage in along and across our lifespan and the broad range of experiences that integrate our lives. I thus deemphasized formal settings, considering also that in all likelihood many of my colleagues would

anyway tackle that area, choosing instead informal events and settings as my examples.

Looking back at what I wrote, I conclude that the voice I have gradually found and am in the process of still further developing, as well as the one I seek in others, is the voice that explores; that asks questions; is uncertain, yet fully and comfortably aware of and knowledgeable about where we stand. It is a voice that expresses a listening attitude; invites the other person to speak; and is grounded in personal experience. Such a voice communicates both cognitively and, above all, affectively.

REFERENCES

Barabási, A-L. (2005). The origin of bursts and heavy tails in human dynamics. *Nature*, *435*(7039), 207-211.

Batista, E. (2002). *Euro teens understand this* [Online]. Available: http://www.wired.com/news/wireless/0,1382,53659,00.html [2005, November 20].

Born, J., & Müller, M., Eds. (1986). *Briefe an Milena*. Frankfurt: 1986. (An English translation of these letters by Franz Kafka appeared in 1990 as *Letters to Milena*, translated and with an introduction by Philip Boehm. New York: Schocken Books.)

Burnett, R. (2005). *Personal Weblog on 'Critical Approaches to Culture + Communications + Hypermedia'* [Online]. Available http://www.eciad.ca/~rburnett/Weblog/ [2006, January 4].

Dreyfus, H. L. (2001). *On the Internet*. London and New York: Routledge.

Feynman, M., Ed. (2005). *Perfectly reasonable deviations from the beaten track: The letters of Richard P. Feynman*. New York: Basic Books.

Fried, I. (2005). Driven to distraction by technology. *CNET News.com*, July 21, 2005 [Online]. Available http://news.com.com/2100-1022_3-5797028.html?tag=st.prev [2006, January 2].

Lee, S. (2005, April 23). Personal communication by email.

Liston, D. (2004). The lure of learning in teaching. *Teachers College Record, 106*(3), 459-486 [Online]. Available http://www.tcrecord.org/content.asp?contentid=11524 [2005, November 14].

Mazur, J. M. (1996). Conversation analysis for educational technologists: Theoretical and methodological issues for researching the structures, processes, and meaning of on-line talk. In D. H. Jonassen (Ed.), *Handbook of Research for Educational Communications and Technology*, pp. 1073-1098. New York: Simon & Schuster Macmillan.

Nature Podcast (n.d.). *Nature Podcast* [Online]. Available: http://www.nature.com/nature/podcast/index.html [2006, January 6].

Nicolescu, B. (2001, May 30). Personal communication by email.

Oliveira, J. G., & Barabási, A-L. (2005). Darwin and Einstein correspondence patterns: These scientists prioritized their replies to letters in the same way that people rate their e-mails today. *Nature*, *437*(7063), 1251.

Science Friday (2004). *SciFri podcast 2004070224 – Eric Kandel on Learning and Memory* [Online]. Available:

http://www.sciencefriday.com/pages/2004/Jul/hour2_070204.html [2005, December 18].

The Naked Scientists Online (n.d.). *Internet Science Radio Show PODCASTS & Naked Science Live Events* [Online]. Available: http://www.thenakedscientists.com/ [2006, January 6].

The Teaching Company (n.d.). *The Teaching Company* [Online]. Available: http://www.teach12.com/ [2006, January 8].

Universe Today (n.d.). *Universe Today* [Online]. Available: http://feeds.feedburner.com/universetoday/podcast [2006, January 6].

Van der Spa, M. (2004). Cyber-communities: Idle talk or inspirational interaction? *Educational Technology Research and Development*, *52*(2) 97-105.

Van Gogh-Bonger, J., Ed. (1955). *Verzamelde brieven van Vincent van Gogh (Complete letters of Vincent Van Gogh)*. Volumes 1 & 2. Amsterdam, Antwerp: Wereldbibliotheek.

Varela, F. (2000). *Francisco Varela's home page* [Online]. Available: http://web.ccr.jussieu.fr/varela/index.html [2005, April 23].

Visser, J., & Keller, J. M. (1990). The clinical use of motivational messages: An inquiry into the validity of the ARCS model of motivational design. *Instructional Science, 19*, 467-500.

Visser, J. (2001). Integrity, completeness and comprehensiveness of the learning environment: Meeting the basic learning needs of all throughout life . In D. N. Aspin, J. D. Chapman, M. J. Hatton and Y. Sawano (Eds.), *International Handbook of Lifelong Learning* (pp. 447- 472). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Visser, J. (2006). Universities, Wisdom, Transdisciplinarity, and the Challenges and Opportunities of Technology. In M. Beaudoin (Ed.), *Perspectives on of higher education in the digital age* (pp. 187-206). Hauppauge, NY: Nova Science Publishers, Inc.

Visser, J. (n.d.). *Walking: A way of being* [Online]. Available: http://www.learndev.org/People/JanVisser/Walking.html [2006, January 8].

Visser, L., Plomp, T., Amirault, R. J., & Kuiper, W. (2002). Motivating students at a distance: The case of an international audience. *Educational Technology Research and Development, 50(2),* 94-110.

Visser, L., & West, P. (2005). The promise of m-learning for distance education in South Africa and other developing nations. In Y. L. Visser, L. Visser, M. Simonson, & R. Amirault (Eds.), *Trends and issues in distance education: International perspectives* (pp. 117-129). Greenwich, CT: Information Age Publishing.

Visser, Y. L. (2005, April 23). Personal communication by email.

Visser, Y. L., & Visser, J. (2000, October). *The Learning Stories Project*. Paper presented at the International Convention of the Association for Educational Communications and Technology, Denver, CO, October 25-28, 2000.