Peripatetic Considerations on Research Challenges in CALL

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An imaginary walk around the cathedral of Amiens in France. A virtual discussion between two CALLers who have a lot in common, but whose paths did not cross frequently. They discuss a number of topics and issues in CALL research such as academic evaluation, the pressure to publish, research design, learner monitoring and changing roles.

1582. A man stands on a boat towed by a steaming horse on the chemin de halage. Slowly, the contours of a gothic cathedral emerge from the thick fog. Under his coat, the man hides a portfolio with the music scores of his ‘Cantiones Aliquot Sacrae’. Composer Andreas Pevernage, born in Harelbeke (Flanders), arrives in Amiens (France) looking for a job. The religious wars made him unemployed — Calvinists were not really into music — after years of service as chaplain and choirmaster in Kortrijk and Bruges.

This is the beginning of a film scenario I am planning to write. Once I find the time ... Bob, I think this parc de l’Evêché near the Cathédrale Notre Dame in Amiens is also the perfect décor for a virtual meeting with you. You already know all the details about the history of this cathedral: the gargouilles, the vitraux, the porch, its architecture.

I have just come back from a visit to the Hortillonnages in one of these typical boats, the barques à cornet. Emblematic indeed. I know your students are waiting, but on this first sunny day of summer they will probably understand that you wish to unwind a little… Let’s walk.

You know … Pevernage got published in Venice very soon after that, but unlike his fellow Flemish polyphonists and despite the religious wars, he stayed in Flanders, and eventually died in Antwerp, where his tomb can still be seen in the cathedral. It is impossible for me to imagine that Pevernage would never have travelled to Amiens, with such a beautiful cathedral, free of Calvinists. So the entire film scenario would be imaginary, as we do not know what exactly happened.

Less imaginary is the fact that you visited Amiens many times with your students. Just as I wonder why Pevernage did not travel to Amiens, I am wondering why you did. It must have entailed an extreme workload while the academic valuation of this kind of activity is very poor.

It is amazing how many things we have in common: our passion for French
culture and language, our experience as language teachers, editors of a CALL-related journal, conference organizers, courseware developers and department (vice-)chairs, our stress and the way our bodies reacted to it … and yet our paths did not cross frequently. Although I have excellent souvenirs of conferences such as EuroCALL 1998 in Leuven (where we talked for the first time), CALICO 2002 at UC Davis (where you handed me the CALICO-Tandberg Outstanding Graduate Student Award) and the XII International CALL Research Conference 2006 in Antwerp (where we had invited you as our keynote speaker).

The reason for this entretien is that I would like some feedback on the way I think we should tackle a number of current issues such as our academic evaluation, the pressure to publish, research design, learner monitoring and changing roles.

The Publish and Perish Syndrome

Bob, have we become members of an endangered species? Are the contributors to this volume the last of the Mohicans? Scholars driven by epistemic curiosity, passion for education and service to the field are disappearing at an alarming rate. In a recent editorial (Colpaert, 2012) I describe how colleagues worldwide cope with the current academic evaluation system, which in my view is unjustified, incomplete, unfair, perverse, demotivating and counterproductive. The way they experience the pressure can be situated on seven levels:

Level 1: Silence. You ignore the problem.
Level 2: Struggle. You cope with the challenge and work as honestly as possible.
Level 3: Meritocratic behavior (Verhaeghe, 2012). You play the game, hide your agenda and focus on your strategy.
Level 4: Cognitive dissonance and emotional friction. You start feeling alienated from what you are doing.
Level 5: Clear mental and/or physical complaints. You suffer from symptoms such as high blood pressure, sleeplessness, headaches, badly organized agendas, less creativity and lower productivity.
Level 6: Academic misconduct. You do not see any other solution than to cross the boundaries of make-belief, fraud and plagiarism (Decoo, 2002).
Level 7: Burn-out. You disappear for eight months or commit academic suicide by accepting an administrative job.

Academic meritocracy is a new attitude, behavior, and system. Good colleagues become career-threatening competitors. What is nowadays called ‘academic success’, mostly self-proclaimed, has less to do with research quality, epistemic contribution and service to the research community than with other skills such as emotional and social intelligence, leadership, team building, strategic insight, organization and management, networking, fund raising, serendipity and public relations. All these skills are not necessarily negative, but we should be aware that we are selecting different professors than we did a couple of decades ago. Are
we ready for the consequences of this choice?

Look at the faces of these gargouilles, Bob. You ask how I feel? *The inmates are running the asylum.* Meritocrats have taken over power, in perfect collusion with the administrators, who take their revenge by harassing scholars with ridiculous procedures and a lot of red tape. When I started at the University of Antwerp, academic freedom was a sacred principle and professors were considered – or at least felt themselves to be – demi-gods in their own right. Now, they are slowly turning into emotionally deprived civil servants who follow procedures, pursue quantitative targets and are being constantly evaluated. Young researchers are being put under huge pressure in order to contribute to the ranking of their university.

You say the CALL field is extremely vulnerable in this respect. I agree. It may be relatively easy for colleagues in CALL to obtain real-world projects for educational institutions, governments or companies, but it is much more difficult for them to get theoretical research projects approved. Given the fact that the field of CALL is multidisciplinary, relatively young and not very large, it is also more difficult for CALL journals to score high in ranking, or for CALL authors to score high in citation indexes.

Bob, what can we do to fight this academic meritocracy, or at least show some kind of direction to our younger colleagues? It is extremely difficult for them to find the balance between these newly set professional goals (they cannot identify themselves with easily) and their personal goals. They have to spend more time and energy in designing their own lives before designing their research.

**Research Design**

Do you remember the early years of CALL research when authors wrote “I used this program and my students just loved it” as proof of concept? Now, they submit articles which deal more with Cronbach’s Alpha, Multilevel Analysis, Structural Equation Modeling and Principal Component Analysis than with linguistics, technology or pedagogy. We need an extra reviewer for having all the statistics checked … CALL researchers nowadays obviously have followed more courses in research design, methodology, academic writing, statistics, project management, assertiveness and publication strategies, which is a good evolution in se. But I am also worried by a number of less reassuring phenomena.

First of all, the research methodologies applied so far all belong to the canonical list (the perfunctory Cohen et al., 2011) of classical research methods in education. Researchers religiously choose a quantitative or qualitative method, and justify their choice. It is also fashionable to apply some triangulation nowadays. However, no dedicated method has ever been designed for CALL, although it is a field *par excellence* for conceiving and testing an innovative method, given its specific mix of theory and practice, the number of actors and stakeholders involved, its multidisciplinary nature and the lack of available knowledge. Our 2004 CALL conference in Antwerp on ‘CALL and Research Methodologies’ did not deliver the expected results in that respect either.
Secondly, there is this inextirpable belief that ‘real’ research should focus on measuring the learning effect generated through the implementation of some technology. I still make people upset when I state that no technology has an inherent and measurable effect on learning on its own. “Jozef Colpaert pouring some cold water in the #icce2012 audience about the effect of using experiments in evaluating learning techs” tweeted someone immediately after my opening statement at the ICCE 2012 conference in Singapore. No technology possesses an inherent effect on learning, nor on our brain. Not even games. I cannot prove this point, but nor can someone else prove the opposite. It has only shown to be more beneficial in real-world projects to adopt this hypothesis as attitude. I will explain this in a moment.

The No Significant Difference Syndrome refers to a particular phenomenon that occurs when only technology is added to a specific learning environment (typically in a Blended Learning approach) without changing anything else in that environment. If differences are being observed at all, they might be significant in one context, but not necessarily in other contexts. So this is why replication studies are needed in order for local findings to acquire some degree of generalizability (Chun, 2012). Or we should try to find some other angle of attack.

An example of another way of looking at things is what I call the Ecological Paradigm Shift: the targeted learning effect does not come from a single technology, but from the entire learning environment as a coherent entity, an ecology of interacting components. The realized learning effect is proportional to the quality of the design of this learning environment, and this quality is a function of the methodological and conceptual frameworks applied. The added value of technology is then the extent to which it contributes to the realization of the goals of the learning environment. Once the learning environment is designed, the role and shape of needed technology become obvious, and often surprising, results of a natural process based on a lot of common sense. My students usually ask me at this point: so the result of a design exercise might be that you do not need any technology at all in a specific context? Sure, that’s it!

Now another surprising working hypothesis that is slowly getting more and more of my attention is what I have called the Psychological Paradigm Shift (Colpaert, 2010). Design seems to improve considerably if we do not focus on pedagogical goals first, but on subconscious aspects which hinder or stimulate the learning process instead. I have called these aspects personal goals. These personal goals are quite difficult to elicit, but once identified, designers can easily detect points where pedagogical and personal goals conflict, which is mostly the case when motivation is not optimal. Design can thus be seen as an attempt to reconcile conflicting goals.

So, young and ambitious CALL researchers stick to traditional methods, they are not into replication research and focus too much on some learning effect generated by technology. Bob, what can we do to convince them to redesign their strategy?
Design as Real-world Research Method

Let’s walk around this lawn before arriving at your favorite spot. I am currently working on a publication entitled ‘Educational Engineering as Research Method’. I basically try to show what educational engineering is and why it can be considered a full-fledged research method.

Educational Engineering is a strategy to apply when not enough knowledge is available for guiding the design, development, implementation and evaluation of educational artefacts for learning, testing and teaching. It focuses on formulating working hypotheses, based on theory and practice, for building the best possible learning environment within the constraints of the context and given the available resources. While traditional research methods would rather focus on dependent variables in the product (the learning and teaching process), educational engineering focuses on how to improve the engineering process itself. I am currently conducting research into how to measure the effect of process indicators. My eventual goal is that Educational Engineering can be considered a novel research method in education, and that it would be perfectly compatible and complementary with existing research methods.

Without going into detail, I would like to point out a methodological point I am struggling with. Any type of intervention-analysis research design focuses on changing one aspect (independent variable such as the introduction of a particular technology) without changing anything else in the learning environment with a view to observing any effect on other aspects (dependent variables such as motivation, perceptions, attitude, knowledge, self-efficacy …). Next to the earlier mentioned problem of generalizability, the question I am asking myself is what the effect would be of the designedness of the learning environment (degree to which the design process has been applied in a methodological, systematical and verifiable way) on results measured during a classic experimental intervention analysis.

Challenges for Learner-Computer Interaction

In extenso, Bob, what would be the effect of designedness of the learning environment on learner usage and behavior? As you have always been interested in learner monitoring (e.g., Fischer, 2007, 2012) I would be very glad and honored to hear your reaction on this.

This said, we obviously agree on a number of exciting research challenges regarding the topic of learner monitoring: the effect of the learning ecology, the link with personal goals, the effect of system features or attributes (cfr. Cognitive Multimedia Theory), the influence of content types (commercially available, authentic from the web, didactic materials available on the Internet, Open Educational Resources, MOOCS, …), the role of the coach/teacher, the role of the co-learner, and the impact of task types.

There is, however, one topic that gives me back my old-fashioned scholarly passion. Consider this as an invitation to work together on the following research project. Our rationale would be the following. My premises are two arguments
which I consider sufficiently substantiated with evidence. Argument A would be that mobile devices already afford anytime anywhere learning, but based on our location and time, they can also offer us contextualized information such as weather forecasts, traffic information, public transportation data, touristic information … A typical example would be that when I am in the neighborhood of an Italian restaurant, and it is almost noon, the system should be able to give me the lunch menu. In Italian, French or Dutch, according to my profile, and only if it fits my level.

As argument B I would use that we have always assumed that the learner wants to make his/her own decisions about learning. Based on many project experiences, and formulated within my Personal Goal Theory, the least we can say is that a large number of learners adopt the attitude ‘Just give it to me’, which they prefer to complex menu systems. In fact, we can identify three ways of learner interaction: learner-controlled, system-controlled (on the basis of information about the user) and teacher-controlled; or miscellaneous forms of course.

Our conclusion would then be that we want to investigate the affordances of contextualization of the learning process, and their effect on learner behavior and performance. Affordances of contextualization would be that mobile devices can offer information (data which help you carry out a task) and content (data you actually do something with) that are supposed to be relevant within a meaningful task in a specific situation.

Similar approaches such as Augmented Reality (e.g., Google Glasses) and Ambient Intelligence (e.g., Second Screen) are technically speaking not that challenging, provided we work on sustainability of content and on psychology first. Bob, within a couple of years, our glasses will provide us with any information on this cathedral, in any language and on any level, and learning environments will use that information in order to enrich a real-world task-based approach in language learning. These vitraux will come alive and tell the story of the bâtisseurs de cathédrales, anonymous heroes of our cultural heritage.

Changing Roles

Let’s now walk back, Bob. When people ask you what the most striking aspect is in our field in the last couple of years, what do you say? Until a couple of months ago, I had no clear answer to this question myself. But now we are standing here looking at this cathedral, which has not changed much over the centuries, now I realize how quickly things change nowadays. Aspects we are so familiar with, such as pedagogy, education, technology, academia and publishing change almost every day.

The most challenging consequence in my view is that roles are changing as well. Parents, learners, teachers, publishers, developers, authors, editors, researchers and other stakeholders all face new roles and challenges. Parents can follow the learning process online and in almost real-time. Learners become peer-and co-evaluators, co-constructors of knowledge (as they can contribute to course content and research data), ICT support staff, communicators, semi-autonomous
self-managers and administrators (writing detailed reports on their progress and reflection process). Teachers become coaches who formulate challenges and offer support. They have to be more and more available: students expect feedback on Monday morning on assignments submitted on Sunday evening. Teachers become co-authors of Open Educational Resources which entails huge changes for publishers, who already face the Open Access challenge. And I can go on for minutes on many more actors …

Just this example about researchers and the press. Researchers are more and more expected to open up their small laboratory to the broader public. They even follow courses in ‘Science Communication’. Until a couple of years ago, there were competent journalists who specialized in pedagogy, educational technology or research design. As a researcher, you would invite this journalist for lunch or dinner, and work on the newspaper article or the interview together. This year, I have received three questions by journalists I did not know and who were not particularly knowledgeable about education. Each time, I had less than an hour to prepare my answer and no possibility at all to change my responses. The questions were: “What is your opinion about the plans to replace history lessons by Twitter lessons in British education?”, “What do you think about the recent cases of academic misconduct in the Netherlands?”, and “Are you for or against tablets in the classroom?” . Never again.

Anyway, current change management techniques should enable us to cope with these changes. The only problem we have, Bob, is that we combine so many roles at the same time. We will have to reinvent ourselves … and ask ourselves how we can help our community to prepare for these upcoming and ongoing changes?

Don’t Tell Mom …

The book ‘Ne dites pas a ma mère que je suis dans la publicité, elle me croit pianiste dans un bordel’ by Jacques Séguéla reminds me of the feeling CALL colleagues told me they had when people at some social event (wedding reception or school reunion) ask ‘and what do you do for a living’? How proud are we, how proud can we be and how proud should we be of our research community? To what extent do fellow researchers from other disciplines understand what we are doing? To what extent can we count on some recognition and respect from the broader audience?

Bob, we can both look back on a rich career so far. I think we can modestly say this, but we both now know that there are more important things in life than ambition and personal success, and we consider our support to students and CALL researchers worldwide as a very meaningful personal goal. So what can we offer to our colleagues as arguments so that they can answer proudly ‘I’m into CALL’? We have the power to change the perception of CALL as a discipline and as a scholarly activity. If you could help me in trying to formulate some of my cognitive and emotional friction in a more nuanced and substantiated way, I would be more than happy and honored.
REFERENCES


