

# Who's Steering: Technology or Pedagogy? Analyzing an Arabic Immersion Experience

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**ABSTRACT** — *With reflective practice as framework, this paper ponders whether the ICT tools used during an Arabic language immersion course run by the National US StarTalk program at the University of Wyoming are subservient to pedagogy or whether pedagogy has primacy over these tools. In Part One, I introduce the context for this immersion initiative. In Part Two, I examine two paradoxes: (i) the disjuncture between teaching and pedagogy, and (ii) the conflicting representations of the net-gen. In Part Three, I analyze the Arabic StarTalk curriculum to determine whether its objectives were served or enslaved by the available technologies. I conclude with a call for rethinking this binary technology/pedagogy theorization toward a position suggesting instead a rapport of interdependence, convergence and symbiosis.*

**Keywords**— Immersion, Web 2.0, Technology, Pedagogy

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## 1. INTRODUCTION

Our world is abuzz with extensions “2.0”: Web 2.0, enterprise 2.0, business 2.0, and even museum 2.0. The field of education, too, has its share of such slogans: education 2.0, school 2.0, curriculum 2.0, English 2.0, Arabic 2.0, etc. One way to appraise this state of affairs is to say that technology happens, and then rolls unto other fields, with the inevitable question Salomon (2002, 71) asks, ‘Could the new information technology leave education unchanged [...], or would education experience profound changes...?’ This question echoes an earlier one by Heilbroner (1967): “Do machines make history?” Commenting on computers in the mid-nineties, Bigum (1997) asks a more direct question: “Teachers and computers: In control or being controlled?” An inspiring answer to these questions appears in an OECD publication (2010): ‘Inspired by technology, driven by pedagogy’.

This article considers the relationship between pedagogy and technology with reference to a two-week Arabic immersion program for Wyoming school students at the University of Wyoming in Laramie, under the aegis of the US national program called StarTalk. The main question I address is this: In the design and implementation of this program, was pedagogy subservient to ICT, or did ICT prime over pedagogy as an organizing principle? In Part One of this article, I briefly introduce the national context of this initiative. I then follow a two-pronged approach to answer this research’s question. First, I consider the literature on the rapport de force between technology and pedagogy in a general sense. Next, I examine this specific Arabic StarTalk initiative and consider the technology/pedagogy interface from the angles of the curriculum and its implementation. I conclude with some thoughts on the altogether not so antithetical relationship between pedagogy and technology.

The main impetus for this research comes from a principled position which consists in stepping back from my context of practice both as an Arabic teacher and program designer. I seek to examine this practice and evaluate it both empirically and theoretically so as to be able to improve upon it for future StarTalk programs and in the day-to-day conduct of my teaching and life as a reflective practitioner and researcher. Del Carlo, Hinkhouse & Isbell (2010, pp. 58-59) list five types of reflection, including reflection in action, deliberative reflection, and reflection on action. While the first two formally and informally occurred throughout the program, during regular and chance meetings of program staff, and primarily through a site visit conducted by officially-appointed StarTalk site program evaluators, reflection on action is an exercise that I am engaging, after the fact, and at my own behest.

Also, the ubiquitous presence of technology during the course more than begged the question about the degree of fit between the technologies used and the course goals and activities: Was technology an alien from outer-space in the program, or was it part of the program in seamless ways? In other words, was I, as program designer and one of the program teachers, using technology to serve the goals of the Arabic language program, or was technology there simply because it had to be there and because it naturally imposed itself on the context?

## 2. CONTEXT OF RESEARCH

### 2.1 National Context

Information about StarTalk is mostly drawn from a white paper prepared by the Ingold & Wang (2010) of the National Foreign Language Center of the University of Maryland, which runs this program. StarTalk signals a growing awareness in the US for the need to equip students at a young age with global linguistic and cultural competencies to deal with security, business, environmental and economic issues. Acting on this awareness, StarTalk aims to help students develop bi-literacy in English and an additional language. In contrast to the traditional bias toward European languages, StarTalk favors the teaching and learning of so-called critical languages. Arabic is now considered to be one such language.

Teachers and administrators manning these programs generally attend two conferences, one before program implementation and the other after. During these conferences, they receive intensive mentoring and assistance with program administration, design, implementation and follow-up. Like all other critical languages programs in the US, Arabic StarTalk programs often include a distance/online learning component, while the stress on technology-based learning is an important component of the training teachers and program designers receive.

### 2.2 Local context

In the following table, I provide, for the record, a face sheet for the program, its home, duration, theme and actors. More information on the Arabic program per se is under section 4.0.

**Table 1:** Face sheet of the University of Wyoming Summer Arabic StarTalk Program

Sponsor: StarTalk	Place: University of Wyoming	Theme: Sounds and Strings of Arabia	Type: residential/immersion	Ratio of staff to student: 1 to 3
Program duration: 2 weeks	Total number of hours of exposure: 108	Program directors: administrative coordinator; program designer	Number of teachers: 6	Number of Resident Assistants: 2
Number of students: 20	Students grades: 9-12	Age range: 14- 17	Heritage speakers: 0	Prior exposure to Arabic: none

## 3. PERSPECTIVE FOR APPRAISING THE ISSUE

A careful review of the literature on the relationship between ICT and pedagogy reveals two paradoxes that have to be explicated and reconciled as a backgrounder to this research.

### 3.1 The School/Technology Disconnect

In this view, the relationship between teaching and technology is variously characterized as one of disconnect, disjuncture (Snart, 2010) and lack of synchrony. Schools are seen as undergoing a ‘legitimacy crisis’ (Selwyn, 2007, p. 7) because they fail to recognize students’ technological savvy and maintain the often frowned upon ‘centralized’, ‘broadcast’, ‘linear’, ‘hierarchical’, ‘transmission’ ‘one-to-many’ model (McLoughlin, & Lee, 2011; Selwyn, 2011; LeBaron & McDonough, 2009; Bigum & Rowan, 2008). This attitude, Selwyn (2007, p. 2) contends, has rendered the school a site of ‘passive consumption’ and a ‘dead site for technology use that is no longer appropriate for a ‘past-industrial age’.) (In an article about how the teaching of Arabic can be enhanced with online learning, Bush & Brown (2004, p. 498) lament the quasi-total absence of technology in language teaching environments: ‘One has only to walk into just about any language classroom in the world on any given day to see that the actual use of technology for language learning is slim to nonexistent.

Let us juxtapose this picture of schools as loci for outdated methodologies with how ICT and particularly Web 2.0 tools provide ‘the many-to-many facility of the read/write web software’ (Bigum & Rowan, 2008, p. 250), and are touted as being ‘the future of education’ (Hargadon, 2008). In lieu of the transmission model, ICT provides ‘an architecture of participation’ (O’Reilly, 2005) and opportunities of an ‘interactive or even sociable’ nature (Selwyn, 2009a, p. 5) that allows users to ‘expand discussion beyond the classroom and provide new ways for students to collaborate and communicate within their class or around the world’ (Bryant, 2006, p. 62).

In the present-day ethos, such a characterization of the divide between technology and pedagogy creates the clear impression that the disruptive force of technology and its intuitively appealing slogans put it at the helm, leaving but little room for traditional teaching methods to toe the line and ‘go with the technological flow (Dale, Robertson & Shortis, 2004). Bigum and Rowan (2008, p. 247) laud the proactivity of banks, airlines, government and military institutions, which have had to rethink and revolutionize their methods of operation as a result of new technologies, while the education system has yet to come to terms with how to reconfigure the syllabus. Selwyn (2009, p. 3) goes on to ask, ‘Are we at the mercy of technology?’ and recalls Shirky’s (2008, p. 307) image of a kayak to denote the irreversible nature of the path which technology is charting for education:

“...our control over [Web 2.0] tools is much more like steering a kayak. We are being pushed rapidly down a route largely determined by the technological environment. We have a small degree of control over the spread of these tools, but that control does not extend to being able to reverse, or even radically alter, the direction we’re moving in”. (in Selwyn, 2009, p. 3)

In an evaluation of computer-assisted pronunciation training, Neri et al. (2002, p. 7) note that companies favor new technological novelties over pedagogical criteria that learners are likelier to learn more from. They conclude that these softwares appear to be “more like the result of a technology push, rather than of a demand pull”.

### **3.2 The Learners’ Love Story with Technology: Rhetoric and Reality**

Another paradox to address is the conflictual reports on the net generation’s levels of ease and depth of engagement with Web 2.0 tools, as opposed to their teachers, who are still attached to teacher-centric ways of going about their business. On the one hand, there are accounts from the zealots of technology that today’s curriculum has to be so reconfigured as to include the right kind of engaging technologies short of which a large portion of students will be enraged (Prensky, 2001a) and will deem our school curricula irrelevant. These ‘digital natives’, to use Prensky’s phrase, ‘function best when networked’ (2001b, p. 2), and there is evidence that their brains may be wired differently than their older teachers: “They are finding new ways to contribute, communicate, and collaborate using a variety of tools that empower them to develop and share ideas’ (McLoughlin & Lee, 2008). Prensky (2001b, p. 6) goes so far as to suggest that we (teachers) need to invent ‘Digital Native methodologies for all subjects, at all levels, using our students to guide us. The end result of this widely-publicized love story is that students seem to go through the motions of their formal curriculum, but willingly, actively and intensely engage in their virtual, ‘extra-curricular’ curriculum so to say.

These large claims on learner versatility with Web 2.0 and other technologies are, however, not always borne out by evidence. In a recent article on the curricular challenges of Web 2.0, Selwyn (2009, p. 7) questions the premise that today’s learners are that much versed in Web 2.0 technologies and activities. His research shows that in even technologically-advanced countries, content retrieval remains the most popular activity among the youth while content creation is far less practiced. For example, most users approach YouTube and Wikipedia more in a ‘take-it-or-leave-it’, rather than a ‘make-it-and-leave-it’ frame of mind (Selwyn, 2009b, p. 76). In another study, Luckin et al. (2009, p. 100) conclude that even where Web 2.0 technologies are available in the schools, instances of collaborative knowledge construction and publishing outside of social networking sites’ are few and far between.

In a study on the educational use of blogs among University of Hong Kong graduate students, Churchill (2009, p. 179) asks this question: ‘in what ways does a blog environment supplement classroom teaching and lead to an improved learning experience?’ Churchill’s main finding is that while students, under instruction from their course facilitator did indeed use blogs to complete their assignments and showcase their works, they were less inclined to use blogs for their own learning, independently of course requirements.

Using a set of percentages indicative of the relationship between internet users and internet content, Selwyn (2009, p. 5) summarizes what he calls the 1% rule of thumb: Typically, 1% of internet users engage in creating ‘original user generated content’. Another 10% are ready to ‘share and contribute’ while the remainder of internet users limit their activity to downloading and consuming. This is pretty much a debunking of the myth of ‘unfettered active interaction with information and knowledge’ (Selwyn, 2009b, p. 77).

## **4. PEDAGOGY AND TECHNOLOGY IN THE PROGRAM**

### **4.1 Arabic Program Goals**

Before determining whether pedagogy was subordinate to technology or the reverse, let us list Arabic course objectives. As finalized in the document approved by StarTalk, by the end of the course, students will be able to: (i) recognize the letters of the Arabic alphabet; (ii) produce the letters of Arabic orally, in writing, in calligraphy, and on the screen; (iii) read a limited number of words introduced during the course; (iv) make combinations of letters to produce whole words; (v) count from 1 through 9 and then in sequence, 0, 10, 20, through 100; greet others; (vi) introduce themselves and others; (vii) ask for and give simple directions; (viii) thank someone; (ix) sing four to five two-minute excerpts of Arabic songs; (x) interact with each other at basic level, and (xi) recognize by name different Arab countries on a map.

#### 4.2 Slate of Technologies Used during the Program and their Functions

We distinguish two types of ICT tools: Table 2 below represents internet affordances, materials and communication softwares used during the program. Table 3 lists the physical equipment, communication devices and gadgetry that were part of program environment. For each set of tools, we list the uses made.

**Table 2:** Arabic course ICT tools and their functions

Type	Wikispaces	Blogging (within Wikispaces)	E-portfolio	Email	YouTube & internet
Functions	Posting curriculum, materials, lesson plans	Students post reflections and products for parents and public	Posting student reflections and products for StarTalk purposes	Sending and receiving program communications	Materials used during class
Type	Skype	FB	iPod app	Ustream	Camtasia Studio
Functions	Virtual communication with users/speakers of Arabic	Students share videos, pictures	Learning words, letters, via iPod applications	End-of-course banquet aired live	Prepare/edit vodcasts

**Table 3:** Arabic StarTalk program physical materials, facilities, gadgetries and their functions

Type	Internet-connected computer lab	Individual student I-pod Touch	Digital cameras
Functions	Students learn Arabic keyboarding; post reflections and products	Accessing all program materials and documenting student work	Documenting program activities
Type	Smart Board + computer + LCD projector	Arabic Karaoke machine + LCD projector	Wyoming Equality Network (WEN)
Functions	Presenting/reviewing materials/practicing Arabic handwriting	Practicing student performance of Arabic songs	Audio-video conferencing network for distance learning

## 5. DESCRIPTION AND ANALYSIS

### 5.1 Description

In this section, we try to tackle the main question of this research, which is about the extent to which the Arabic program was primarily driven by pedagogy or technology. A quick look at the Arabic program goals above shows that none of these goals stipulate that mastery of or practice with any type of technology is required for the program goals to be achieved at the end of the course. In this sense, it is clear that these learning goals are purely language learning-oriented, and have not been technologically determined.

Secondly, save for Camtasia Studio, a video-editing software, a demonstration of whose capabilities was made before students, learning to use most tools in tables 2 and 3 above was almost intuitive and required very little direct instruction for students. Though the program designer stressed the value of products as evidence of learning, there was no stipulation that technology had to be used, especially not for its own sake. It was simply there, and it was up to individual teachers and students to enrich their learning and teaching with it.

This Arabic program's 'use-technology-if-you-wish' policy can be contrasted with ICT policy guidelines issued by educational authorities in Flanders (Tondeur, Braak & Valcke, 2007). Flemish education authorities determined that primary school students had to achieve certain ICT competencies, and further that these competencies had to be integrated in the learning and teaching process, which means that a pedagogical position should be the point of departure (p. 964). The way teachers implemented this policy in the Flemish context was to focus on ICT skills, rather than integrate ICT competencies in teaching content. And though this Arabic program had an array of technologies on hand, the goals of the course primed over other technological considerations. To take up and modify Tondeur, Braak & Valcke's wording (2007, p. 66), the aim is for students in the Arabic program was to learn with ICT [where it is available] and not to learn the use of ICT.

Another piece of independent evaluation of the Arabic program as a whole comes from formal assessment conducted by StarTalk evaluators who visited the program and commented among other things on how they perceived the relationship between technology and pedagogy. Program evaluators strongly agreed with the statement that students have used technology to meet program goals, and that if when used appropriately, technology can be advantageously used to teach Arabic. In hindsight, it is worthy of mention that the orientation, support and training provided by National StarTalk authorities have significantly consolidated the pedagogic thrust of the course and steered it away from any kind of unwarranted technologization. In fact, the curriculum template StarTalk provides requires a blueprint centered on the so-called five Cs of language learning: communication, cultures, connections, comparisons, and communities (ACTFL, 1996). To be sure, technology could be involved in implementing any of the five Cs, but such involvement is only ancillary to the goal of each of the five Cs and not a condition for their implementation. Thus, again, it appears that the pedagogic framing for the curriculum acted as a guard against any possible technologization.

## **5.2 Analysis**

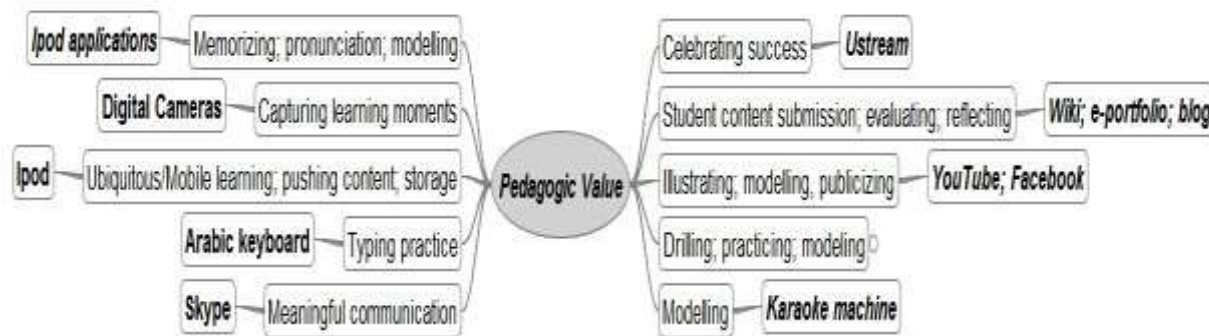
This still leaves the question about the balance of power between technology and pedagogy largely unanswered, and in order to tackle this question head on, we need to look at the ways in which the presence of technology facilitated the learning goals specified earlier, and how this presence actually made a pedagogic differential. To do this, it will be important to somehow backtrack in time, and imagine a world without technology, or with minimal rudimentary technology, such as a TV or tape recorder, or to a certain extent, the one-to-many, top-down, read-click-learn web 1.0 tools of the early nineties.

The very first service technological affordances made possible was content delivery and presentation', such as the curriculum, learning materials and assignments through the wiki. An internet connection, coupled with the iPod provides for so called mobile learning or ubiquitous learning; students had access to learning content anytime, anywhere. For students to submit content, there is a choice of media, including, among others, the blog, the wiki, and e-portfolio. Digital and readily-available models for handwriting and pronunciation are made possible by the use of an iPod application. Other modes of modeling and practicing are provided by the use of a smart board where students practice and emulate various types of learning tasks. To practice Arabic singing, the smart board is connected to an Arabic Karaoke machine, which also creates a feeling of competition among students by assigning grades to their song rehearsals. At various moments, while learning is progressing, and as an activity is being undertaken, web cameras come into play to document a learning moment, in picture or on video. And by way of celebrating their successes, students upload their digital contents on Facebook. Again, Facebook, YouTube, Google pictures, and the internet in a wider sense serve as a resource for illustrating all kinds of learning materials.

To prepare students for the digital age in Arabic, a most useful skill for them was to practice Arabic keyboarding and to use this skill in producing short text about themselves that they left on their blog or on e-portfolio. In a certain sense, students had to go beyond sounds and words to be able to give and ask for information about themselves and others, and to otherwise effect basic communication moves such as greeting, introducing others, and leave taking. Technology assisted with this task through online, synchronous and meaningful communication situations initiated via Skype. Finally, in order to break the top-down approach characteristic of the transmission model, each student is encouraged to access their own e-portfolio to do two things: (i) assess their own learning through identifying what they are gradually capable of doing, and through uploading evidence to that effect, and (ii) reflect on the impact of this learning and on how they are developing both as language learners and as individuals.

In summary, it is possible to discern a range of pedagogic uses for information and communication technologies: (i) pushing content, (ii) illustrating materials through providing models for practice, (iii) documentation of teachable moments, (iv) ubiquitous learning, (v) new spaces for practicing, (vi) hosting and showcasing student work, (vii) meaningful communication, and (viii) assessing and reflecting upon learning. The graphic below summarizes these uses:





**Figure 1:** ICT Tools and their Pedagogic Value in the Arabic StarTalk Program

Thus, examination of this Arabic StarTalk program reveals first that a raft of computer and social softwares was used in the delivery of the program, and secondly that the starting point was a set of pedagogically-defined learning goals the implementation of which was facilitated by technology. The internet, social media, and other gadgetry in general served as tools for learning and a repository of resources that the program amply drew upon to achieve learning goals. So far, this examination has considered benign, standard, and default uses of technology.

What we should consider, in addition to these regular uses of technology, is the extent to which this suite of ICT tools, many of which have a strong communication, collaboration and web authoring base, has yielded products that fit the description of socially-based acquisition and construction of knowledge. My focus at this point is not so much on the uses teachers have made of technology. Instead, what we need to observe are products created by students which indicate that students have used technology usefully, creatively, and collectively. A review of the totality of student work that is hosted both on the wiki and on the e-portfolio indicates that the most visible student digital artifacts consisted mostly of pictures and raw videos. Videos of action took place in various learning settings where students speak, draw, type, sing, or act together or solo. It goes without saying that these videos generally require nothing more than the pressing of a camera button. As such, it can be said that they do not rise to the level of content authoring or co-authoring and do not come close to fulfilling the potential carried by Web 2.0 tools. Even the airing of the final banquet on UStream and the invitation issued to some student family members to follow the banquet live does not in itself constitute an instance of content creation or collaboration; all it required was for students to send a URL of the activity for members on their contact list. Likewise, pictures of products or actions, such as a clay representation of the Arabic alphabet, calligraphically-drawn student names, students playing an open-air sports game, etc., unless clearly and systematically tagged and annotated by one more people, are no more than reflexes acquired by members of the net generation, a sort of a digital twitch you develop almost intuitively in this day and age.

Given the above, how are we to assess the overall absence of collectively-created and annotated digital content on the part of the students in this course? Our review of the literature painted a two-sided picture of today's students as knowing social media inside out but also as being more or less passive consumers and downloaders of products. Perhaps the answer lies in the curriculum designed and the course objectives set for this course. As we showed earlier, none of these goals directly targeted collective authoring of digital learning content. If such digital behavior were integrated into the course objectives and if classroom activity directly and specifically concerned itself with this type of behavior, then we would be clearly justified in expecting instances of such content, and signaling (partial) failure to attain course goals. In other words, getting students to work together to design, evaluate or create technologically and socially-mediated content may not happen if pedagogic time is furnished with goals and activities not designed to materialize these goals. It is conceivable that students on their own may wish to initiate collaborative action, but if such collaboration is not principally and systematically integrated into curriculum design and implementation, wishing for it to just emerge on its own is not a realistic expectation.

## 6. CONCLUSIONS AND IMPLICATIONS OF THE STUDY

### 6.1 Conclusions

In a world where technology permeates and defines almost every aspect of our lives, the initial motivation for this paper has been to appraise the relationship between the teaching goals of a language course for a group of 14 to 17 year-old learners of Arabic as a foreign language and the slate of technologies used in the implementation of the course. The specific object of the investigation was to find out which of the two, pedagogy and technology, had sway over the other, and which determined the other. The underlying assumption of a dichotomy between the two necessarily means that this Arabic language program was pedagogically driven through and through and that technology, abundantly present as it was in the course, was at the service of the academic goals and did not in itself constitute a goal.

The first conclusion to draw from content analysis of the curriculum is that the course targeted the achievement of language learning goals first and foremost. In contradistinction to the view that there is a large disconnect between schools and technology, this specific program availed itself of a vast array of technologies, but these technologies were neither the starting point for the lessons nor the end goal. Examination of the functions for each these technological affordances revealed that they served as tools, carriers, and facilitators of learning and teaching, and were not the object of learning per se. The range of technological uses included online content delivery and submission, provision of learning and teaching practice and models, documentation and dissemination of teachable moments, meaningful communication channels, and, finally, evaluation of and reflection. Overall, these uses were said to be ‘benign’, ‘default’, and ‘standard’ uses of technology that present-day teachers and learners are likely to make almost reflexively.

This first finding led us to consider why the strong presence of technology and social media in this course has not produced substantial evidence of co-authored, technologically and socially-mediated learning artifacts on the part of the students, over and beyond taking and posting pictures, shooting video, and conducting the odd chat session. Conspicuous absence of such artifacts seems to contradict the mainstream current of thinking according to which the so-called digital natives are versed in such actions. This is important because in today’s learning paradigms, co-creation of digital content is an index or proof of learning. A provisional resolution of this paradox appears to be that ‘higher-order’ technological activities, such as the production of co-authored content cannot be taken granted as a spontaneous, unmediated outcome of the presence of technology.

## **6.2 Implications of the Study**

There are two types of implications for this study: practical and theoretical. Practical implications are mostly concerned with how technology-rich the setting in which the learning initiative took place is. It has to be said in this regard that the wide availability of technology was not a question or a concern this program had to deal with. This is probably the case because the program was implemented in a university setting and with adequate funding from National StarTalk authorities. Therefore, for technology to be used in the first place, and to be at the service of learning, it has to be widely available in almost inconspicuous and seamless ways.

Secondly, in order for technology to be optimally used, both as a default facilitator of learning and as a springboard for the co-creation of relevant digital content, action has to be taken at the level of teacher training. Certainly, a present-day language teacher’s toolbox should be home to theories and fads about learning and teaching, but this toolbox should be enhanced with knowledge of and practice with picture and video-editing softwares, learning management systems, wikis and blogs, e-portfolios and Flickr, Skype and Elluminate, Twitter and Second Life, MySpace and Google Wave, etc., etc. In other words, language teachers should start to or continue to nurture their pedagogic and technological tools at once. Only through such a course can they hope to work with learners in the direction of achieving the full gamut of learning that technology and Web 2.0 tools are capable of.

The second type of implications is somewhat theoretical. Much of the discussion of the relationship between technology and pedagogy has assumed the existence of a binary opposition between the two. It is as though we were saying that language teaching pedagogy on the one hand and technology on the other are two separate and distinct entities and that technology were a sort of a *deus ex machina* which came into existence through the actions of autonomous agents whose technological ideas and products have no social or pedagogic or human activity bases. Instead of continuing to dichotomize pedagogy and technology and pursuing an essentialist line of thought, it will be epistemologically productive to reappraise, as Selwyn (2009, p. 2) does, the affinities between social web practices and socio-cultural, constructivist, accounts of learning in the direction of identifying where and how they converge. Technologists do not live in the technological theme park alone. They, as the goodies they churn, are the by-products of social evolution. Social evolution influences, and is influenced by technology. Similarly, language teachers are not dinosaurs in whose pedagogic habitats technology is being parachuted from outer space. Thus, this paper concludes with a call for reframing and re-conceptualizing this antithetical relationship by conducting more theoretical and applied studies on the emerging, intersecting and symbiotic interactions between pedagogy and technology.

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