

LEARNER AUTONOMY, THE LANGUAGE LEARNER AND THE LANGUAGE TECHNOLOGIES THAT ASSIST AND EMPOWER LEARNING

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Abstract

Learners are increasingly able to shape their own Personal Learning Environments (PLEs) through using their own individual technologies. At the same time, their locus of control is limited by their educational and sociocultural contexts, for example the content of their courses, their teacher, the examination system and so on, and these factors in turn shape the degree to which they may act independently or autonomously. Through considering: (1) learner autonomy and in-class/out-of-class language-learning activity; (2) the new technologies in use inside and outside the institution; and (3) the socio-cultural/educational context, this paper describes the factors that work together to ultimately shape the nature of the learner's PLE. The discussion draws upon large and small-scale empirical studies conducted in South-East Queensland, Australia to help make the case. In a recent large-scale study by Steel and Levy (2013), it was discovered that the two most frequently used technologies in-class and out-of-class were online dictionaries and web-based translators, often accessed via a mobile phone. In some ways this result was surprising: it appears to signal the importance of discipline-specific, personal technologies rather than those made available solely via the institution. Technologies in use for work and for social purposes increasingly overlap, and yet in educational settings there can remain striking differences. This paper will focus in part focus on the discipline-specific technologies often chosen to be a part of a learner's PLE when working autonomously.

1 Introduction

This paper aims to engage with three interacting and interdependent facets of the contemporary language-learning environment. The first perspective looks at the evolving relationship between what the learner might engage with in class with a teacher and what they might do independently out of class to further their language learning. In-class activities may tend to be governed by the dictates of a class textbook or study with a view to passing an examination. Out-of-class work may be used to supplement this work. In CALL, the term 'integration' has often been used in order to reflect upon the ways the various in-class and out-of-class components fit together. 'Blended learning' is another means of expressing this concept. From the learners' perspective, the ability or capacity to work independently outside class is critical. Thus, learner autonomy will be considered at the outset.

The second perspective, one that is continuously evolving, considers the technologies available to the learner. In particular it looks at the powerful personal technologies available through such means as mobile phones, iPads and the wide range of applications in use, and

the potential of technology to be *emancipatory*, a fundamental feature of all technologies. It compares such technologies and applications, that is those used in the wider world with current institutional choices regarding technological infrastructures (e.g. BlackBoard). It also examines what particular applications are being used, especially those that might be referred to as discipline-specific such as online dictionaries and translation tools.

The third perspective emphasizes the importance of the local context and conditions. Research and practice in computer-assisted language learning (CALL) has shown repeatedly that local conditions, incorporating their own unique opportunities and constraints (affordances), combine together to shape actual practice. The socio-cultural contextual features are highly significant. Similarly, the attributes of the individual learner are all important, and this includes their capacity to work with and without a teacher, in class and out of class. Such a discussion inevitably implicates the socio-cultural context, a learner's background knowledge and capacity and/or inclination toward autonomous learning.

Although, inevitably, an over-simplification, these three facets of the language learning environment combine to shape the learners' experience. All three, learner autonomy and in-class/out-of-class work, the technologies in use, and the nature of the socio-cultural context are interdependent and all three effectively work to provide certain opportunities and constraints for the learner. The notion of learner autonomy becomes central. Through an understanding of learner autonomy, as it is realized in-context, we will come to an understanding of the nature of the individual learner's Personal Learning Environments (PLE), the end point of this particular discussion. Learner autonomy impacts on the learner's technology choices and their inclination and capacity for independent study: it effects the learner's capacity to work independently out of class; and the way in which it manifests itself is largely subject to the unique attributes of a particular socio-cultural context. Thus, it is with learner autonomy that we will begin.

2 Learner autonomy in-class and out-of-class

2.1 Learner autonomy

It appears now almost mandatory in discussing learner autonomy to begin with Holec's famous definition, 'the ability to take charge of one's own learning' (Holec, 1981, p. 3). In the simplicity of this concise definition lie many layers of complexity. Each keyword is open to nuance and interpretation, and each keyword also points towards further factors that determine meanings in actual practice in any given setting. 'Ability' and 'take charge' are especially loaded when one reflects upon the conditions surrounding the individual language learner in any given context. Factors such as age, pre-disposition, expectations, priorities, skill and numerous other factors come into play. There are situational and individual factors that play out in any manifestation of learner autonomy. To a great or lesser extent, these factors relate both to individual choices as well as socially-shaped ones (see Benson, 2001, 2005, 2006; Smith & Ushioda, 2009).

Sinclair (2000, p. 11-12) also notes that autonomy can take place both inside and outside the classroom and has a social as well as an individual dimension, and, importantly, that the promotion of learner autonomy has a political as well as a psychological dimension. Dang

provides a useful discussion and concludes, wisely: ‘As educational ideology and philosophy have been interpreted differently, depending on particular social and political situations, learner autonomy has also been understood and translated into practice in various ways.’ Of this there can be no doubt. Freedom, choice and negotiation are often identified as crucial environmental factors for learner autonomy development (see Lamb, 2009; Sinclair, 2009). An individual learner’s inclination, pre-disposition or ability to exercise such qualities or actions depends upon numerous factors, both internal and external. Hunter and Cooke (2007) speak of student *dependencies* ‘rooted in sociocultural realities’ and state:

Students use teachers and other students, as they comply with courses designed by teachers. They work together, in and out of class, on course material and assignments and, where possible, they obtain recent examination papers to prepare for end-of-year exams (p. 74).

Such word choices as ‘comply’ are indicative and the frequent, all-pervading role of the end-of-year examination another. As Little (1990) observed over a decade ago, in second language learning especially, learner autonomy is undoubtedly a complex concept (see also Benson, 2001, 2009; Littlewood, 1996; Oxford, 2003). There is now an extensive literature on the topic, but for now we will move to consider its relevance and value in relation to in-class and out-of-class language learning.

2.2 In-class/out-of-class

From the early days in CALL, the ways in which in-class and out-of-class work might be combined has been a central consideration. Pusack (1999) stated: ‘[M]y concept for the design of foreign language instructional software derived from the need to achieve an optimal mix between in-class and out-of-class learning.’ (p. 26). Typically, in a university environment only a small proportion of the students’ weekly language practice time is spent in class: the expectation in our School is normally three to four contact hours plus seven hours of private practice per week, per course. Thus, the majority of “the work” is intended to happen out-of-class with the student working independently of the teacher. In Australia this distribution varies by university, by language and by year level, but it remains a critical point when one considers the workload balance: out-of-class learning may constitute up to two thirds of the total predicted workload for the student in a course.

Levy and Kennedy (2010) discuss materials development in three Italian CALL projects with a focus upon seeking an optimal mix between in-class and out-of-class learning. There is much detail in this paper on the various “settings” that may be made to facilitate a successful combination of in-class and out-of-class work. In practical terms, the Italian team’s propensity for outside-class-CALL derived in part from the conviction that the short, precious class time needs to be exploited as far as possible for face-to-face communication in the language and that it is essential to provide useful guidance for the students on ways to make the most of outside-class practice time, in a context where most students have few opportunities for face-to-face contact with native speakers. In terms of pedagogical principles, supporting outside-class practice reflects the concern to support students’ development as independent, strategic learners.

Importantly, Levy & Kennedy (2010) report that when computers *are* used in the Italian classroom, beyond the day-to-day use of *PowerPoint* and display of material from the Web, it is generally for training the students for the outside-class CALL work, or in discussion and troubleshooting in relation to that work. For three of the four projects discussed in this paper, only a small proportion of class time in the semester is needed for these purposes. The exception is the *CWIC* project, where an ‘apprenticeship’ in corpus use is a major component of a second-year course and conducted in a series of half-hour class activities spread throughout the semester.

3 Technology choices: The individual and the institution

3.1 Technology choices

In her 2008 article entitled, ‘Listening to the learner voice: The ever changing landscape of technology use for language students’, Gráinne Conole reported on two in-depth case studies and selected audio log data, and commented on general trends in the wider data set. The case study data, in particular, illustrated the very wide range of technologies in use both for social and for work purposes (with some overlap). For example, email (articles for a presentation), MSN (collaborating on a project), blogs (making notes on a project), BlackBoard (downloading course material), even Web radio (Music to help concentration), and numerous others. Three communication technologies were mentioned: QQ (MSN-type system for communicating with friends), Skype (communicate with parents) and phone (to keep in touch with Turkish friends).

The range of technologies in use was extremely broad and ranged widely from well-established technologies and tools (e.g., phone, Word) to relatively new technologies *at that time* (e.g. Skype, podcasts). Language-specific technologies were very much in the minority. The only language applications mentioned, and this was seldom, were phonetics, concordancing and lexical software (e.g. Wordsmith), and an online dictionary (for checking words and finding new vocabulary).

3.2 The wider environment

It is worth reflecting for a moment on the technologies in use the wider environment and their distribution (see Table 1 below).

Table 1. Distribution of technologies against tasks (n=39)¹

N=39	Not used %	Phone (Mobile) %	Tablet (e.g., iPad) %	Laptop %	Desktop %	E-Reader (e.g., Kindle) %	Trad. %
Read news		59	26	90	26		18
Read magazines	21	4	21	46	13		33
Read books		31	31	59	18	10	62
Read/Write emails		74	26	95	26		
Write essays			8	92	36		8
Watch videos/movies		33	23	97	28		26
Access online dictionary		79	21	92	15		3
Access BlackBoard		33	21	95	23		
Twitter	77	21	5	8			
Access Internet		95	31	97	28		
FaceBook	18	69	15	82	18		
Social networking	21	56	15	67	10		
Online shopping	15	36	18	79	13		
Online banking		64	18	100	21		

Table 1 shows the distribution of technologies for a variety of tasks and activities for a single CALL class. Students attended this class as part of their MA in Applied Linguistics in 2012. The data as a whole provides an important reminder that the students who come to our classes are no longer naïve users—they are in fact knowledgeable and, in some ways, sophisticated users of technology (though not necessarily as advanced when utilizing the same technologies for learning purposes). Key observations that may be drawn from Table 1 are as follows:

- A range of technologies may be used for the same purposes (e.g. reading the news via phone, laptop, tablet, desktop).
- For reading, the choice of technology varied with perhaps one determining factor the length of the text. The traditional hard copy book was still largely in evidence.
- The laptop was largely favoured over the desktop for a wide range of tasks.

Further, although the data is not reported here, a record of patterns of use for this class (taught once per year) has been maintained year by year to catalog notable changes or trends over time. For example, when comparing 2011 and 2012 data, the results showed a distinct increase in mobile phone use for a range of tasks (e.g. telephone banking) and a marked decrease in other technologies, especially the desktop, again over a range of activities.

The profile of the pairings between task and activity demonstrate both the freedoms of the student to make choices across technologies and the diverse and powerful capabilities of

¹ ‘Trad.’ refers to the traditional or normal technology typically associated with the task. Thus for ‘read news’, Trad refers to newspapers; for writing essays pen and paper; for watching a movie going to the cinema etc.

those same technologies. In the 1980s, when our students came to our institutions, it may have been their first time they encountered a computer. How different it is now when we think of the time and experience students may have acquired using different technologies—although it is always important this knowledge and experience may relate more to use for entertainment or social purposes rather than learning.

3.3 Technologies in use for language learning

Steel and Levy (2013) report on language students and their technologies (see also Levy (2009); Levy & Hanna (in press.) - web-based translators; Levy & Steel (in press.) – electronic dictionaries). A brief discussion of Steel & Levy’s results are presented in Table 2 with relevance to the present discussion.

The column ‘Student Use’ provides totals of the number of students who claimed they used each technology while the bracketed percentage is in relation to the total sample of 587 students. For example, 501 or 85.34% of the sample reported using online dictionaries. The next three columns show the total number of students who reported using each technology either ‘only inside class’ or ‘only outside class’ or ‘both inside and outside class’. So for online dictionaries, a total of 316 students used them only outside class whilst a further 171 reported using them both inside and outside class. Only 14 students used online dictionaries exclusively inside their classrooms. The next column gives the total number of students who ranked the technology as one of their three most beneficial technologies. In the case of online dictionaries, 316 students ranked this technology as one of their three most beneficial.

Table 2. Students’ use of technologies and rankings of perceived benefit (n=587)

Technologies	Student Use		Only inside class	Only outside class	Both inside & outside class	Ranked 1, 2 or 3 as most beneficial
Online dictionaries	501 (85.34%)		14	316	171	316
Web-based translators	484 (82.45%)		10	339	135	248
YouTube, online movies	402 (68.48%)		40	230	132	149
Social networking sites	336 (57.24%)		4	303	29	92
Mobile phone applications	331 (56.39%)		9	201	121	134

The aggregated data in Table 2 illustrates the range and diversity of technologies in use by language students in a particular setting at an Australian University. Online dictionaries and web-based translators lead the tools in use. Note the results inside and outside the classroom and both.

In particular Table 2 shows that language learners are seeking technological tools that can offer them functionality that is directly relevant to language learning, in other words discipline-specific tools and apps rather than generic ones. Language students are drawing

upon their own personal technologies that are fit for their purpose. The technologies and tools that language learners now have at their fingertips are powerful, expansive and changing.

4 Local context (socio-cultural)

We now know from numerous studies that the parameters and conditions set by the local context are paramount in any conceptualisation of CALL (e.g. Levy & Stockwell, 2006). The local setting, with its own unique opportunities and constraints (affordances), combine together to shape actual practice. This applies to both the technological environment, with the opportunities and constraints it presents, and to the individual learner who must learn to work effectively within it. Thus, for example, access to a multimedia language laboratory may be an option, but numerous factors work to determine whether or not it will be used, or used effectively, from such mundane matters as availability and access, through to the knowledge and understanding of the learner in how to make best use of the resource for learning.

In relation to the totality of the learning environment, what the individual student believes is possible (and what is not), what the students believes is expected of him/her become all important to determining, ultimately, whether any given learning environment is successful or not. An important part of this discussion involves what might be termed in layman's language, the learner's 'mindset', a learner's background knowledge and capacity and/or inclination toward autonomous learning. In a particular context, can we rely on an individual student's capacity to work with and without a teacher, in class and out of class?

Dang, 2010 describes the general context of education in Vietnam. He says the students are often described as 'passive' and are accustomed to 'rote learning' while teachers 'dictate' in class and, importantly, for our purposes, 'do not give students enough opportunities to express themselves' (p. 3). Dang's study sets out to, 'explore possible situational constraints that produce conflicts with the prerequisite notional conditions for learner autonomy' (p. 3). It is also worth Hunter and Cooke (2007) again in this vein:

Some courses lock learners into sets of activities, which meet the requirements of the programme without necessarily advancing their language learning. For example, setting large amounts of busy work from textbooks or the Internet, doing copious quantities of grammar and spelling exercises, answering mundane and relatively trivial questions about a reading passage, learning long lists of vocabulary out of context and writing formulaic essays do little in developing independence or resourcefulness in language learning. (p. 80)

Note tedious, unproductive work can be completed on the Internet and involving new technologies just as it can with more traditional media (see Nunan, 1997). But beyond that, of course all contexts impose opportunities and constraints on individual actions at some level (or at many), and will variously contrive to predispose learners to work in particular ways, more or less autonomously. The educational context and the socio-cultural conditions that envelope the learner's experience matter greatly, well beyond any inherent qualities that may be attributed to the individual. Individual factors, background knowledge, skill and experience still matter—but the broader sociocultural/educational context shapes their means of expression, and the actuality of their everyday practice.

5 Discussion

5.1 Learner autonomy

Given these contextual constraints, and the predispositions of the learner in a given setting, what is especially pertinent for our present discussion is the individual's capacity for confident decision-making and skill in using technologies effectively for learning. When given the freedom to choose, users—and potentially learners too—have the skills and the capacity to do the job. While there are provisos, which we will return to in a moment, users' technology knowledge is, in certain domains, well-informed and sophisticated, partly driven by individual priorities, partly by social practices that influence them. Our students are well able to choose their mobile phone, for instance. They are highly competent at downloading apps on all manner of topics, including language learning. What is intriguing here is the evident disconnect between technology use in the wider world and technology use in the institution. Asking students to switch off their mobile phones as they walk into a classroom is the perfect example—reminiscent of my English teacher decades ago insisting that I use a fountain pen instead of a ballpoint point, or the mathematics teacher who banned electronic calculators where the impact on the early curriculum was sweeping.

However, where users or students become learners, we perceive a problem. Whilst individuals may confidently and adequately utilize new technologies for social or entertainment purposes, they do not necessarily carry the skills into learning. The significant work of Phil Hubbard (2004) amply demonstrates the critical importance of learner training and the difference it makes for learners who have received its benefits. But the gap between the wider world and the institution remain (Levy & Stockwell, 2006).

5.2 In-class/out-of-class

In CALL, 'integration' can refer to the ways in which two or more parts or elements might be combined to make the whole in order to produce the optimal conditions for effective language learning. For example, it could refer to the way CALL work relates to the course textbook, how work with the teacher present is organised in relation to online work without the teacher, or how in-class work combines with out-of-class work using new technologies. As Pusack (1999) observed, at the class level, in-class and out-of-class work need to be successfully combined or integrated. 'Flipped Learning' or 'Blended Learning' are indicative of other approaches and potential solutions to this fundamental question, one that aims ultimately to maximise time on task. As different technological resources are often available in-class and out-of-class, in the library or home for example, the integration of these elements needs to be thoughtfully and coherently configured, often with the needs and resources of the individual learner in mind. The potentials of mobile learning also have a role to play (see Kennedy & Levy, 2008).

Today, the in-class/out-of-class relationship is much more fluid and complex. For example, computers are often available within classrooms. Learners may access the Internet in class, just as they would from the library or from home. The number of technologies and applications available for language learning has grown enormously, especially in the area of computer-mediated communication, so that the options for interactions of various kinds are

numerous. These developments lead to new and different conceptions of the in-class/out-of-class relationship, both in terms of teacher roles and materials development.

5.3 Technology choices: The generic and the specific

Though only drawn from a single setting and a single study (though large scale), the results by Steel and Levy (2013) may indicate an important trend. The results on technologies in use reveal that students in our study used a good number of discipline-specific technologies and also perceived these tools as beneficial for their out-of-class learning. One could argue that many of these technologies, such as online dictionaries, web-based translators, conjugation websites and online language games are akin to a language learner's toolkit, encompassing the basic necessities for learning languages.

Enriching this language learners' toolkit, are a number of technologies that were not originally developed specifically for language learning but nonetheless offer exceptional opportunities to access language specific resources and to listen to, watch and interact with the foreign languages. Here we are referring to online video, audio and downloadable mobile apps. Using these technologies, language learners can access language resources that cater to their various languages, learner levels, styles and interests. The fact that these resources are easily located, often free (or minimal cost) and can be self-accessed, is reflected in the number of students who use these technologies 'only outside of class' and 'both inside and outside of class'.

It is interesting to note that students reported relatively low usage of technologies that are often built into, or made available via the institution's LMS (Learning Management System). In Table 1, technologies tended to be those that students personally select and use on their own devices rather than through institutional LMS or other centrally provisioned technologies. A likely explanation for students' higher usage of non-institutionally provisioned technologies resides in the fact that high-frequency-use technologies can be more specifically tailored or personalized for language learning. Now, more than ever before, there are many cost effective (or free) technologies available online or via downloads to personal devices that students can choose for themselves and that are better suited to the ways they learn languages. Conversely, institutionally provisioned technologies tend toward a 'one size fits all' solution that does not take account of disciplinary needs or difference (Steel & Levy, 2013).

5.4 Personal learning environments (PLEs)

In her study, Conole (2008) suggested that, 'students are creating their own social networks to support their learning, tailored to their particular needs and using the technologies that suit them rather than being constrained in topic and technology via discussion forums' (p.135). While in this study discussion forums were used by 38.67% of students, the communication technologies that dominated were those that students routinely used in their lives outside of university. As these communication technologies were predominantly used outside of class it also suggests that students were self-initiating their networks to meet their particular needs. Together, these usage patterns imply that as signaled by Conole, students are showing a preference for their everyday communication and social networking technologies over LMS

communication technologies. However, the integration of students' personal technologies and technological choices into university learning, and assessment in particular, remains an area in need of more attention by institutions.

6 Conclusion

The technologies and tools that language learners now potentially have at their fingertips are varied and powerful. Students are using their own technologies both inside and especially outside the classroom to access language learning opportunities and to supplement face-to-face classes. Out of this labyrinth of opportunity and constraint emerges an individual learner with a particular experience and a pattern of practice. They appear to be much less reliant upon the technologies and tools supplied by the institution via LMSs and somewhat resistant to their use within the management system or learning environment structure. Future research needs to evaluate very carefully exactly how and how much LMS-type systems are effective for *managing* language learning and the relative *cost* in terms of time and effort for both the teacher and student, especially in learning how to use it. Increasingly, students are using their own technologies and tools of choice to support their study. Increasingly, the evidence seems to suggest they are becoming more independent and autonomous, and more able to use their own technologies purposefully to meet their goals when given the opportunity and support to do so.

References

- Benson, P. (2001). *Teaching and researching autonomy in language learning*. London: Longman.
- Benson, P. (2005). Autonomy and information technology in the educational discourse of the information age. In C. Davison (Ed.), *Information technology and innovation in language education* (pp. 173-191). Hong Kong: Hong Kong University Press.
- Benson, P. (2006). Autonomy in language teaching and learning: State-of-the-art article. *Language Teaching*, 40(1), 21-40.
- Benson, P. (2009). Making sense of autonomy in language learning. In S. Toogood, R. Pemberton & A. Barfield (Eds.), *Maintaining control: Autonomy and language learning* (pp. 13-26). Hong Kong: Hong Kong University Press.
- Conole, G. (2008) Listening to the learner voice: The ever-changing landscape of technology use for language students. *ReCALL*, 20(2), 124-140.
- Dang, T.T. (2010). Learner autonomy in EFL studies in Vietnam: A discussion from a sociocultural perspective. *English Language Teaching*, 3(2), 3-9.
- Holec, H. (1981). *Autonomy in foreign language learning*. Oxford: Pergamon.

- Holec, H. (1987). The learner as manager: Managing learning or managing to learn. In A. Wenden & J. Rubin (Eds.), *Learner strategies in language learning* (pp. 145–157). Englewood Cliffs, NJ: Prentice-Hall Inc.
- Hubbard, P. (2004). Learner training for effective use of CALL. In S. Fotos & C. Browne (Eds.), *New Perspectives on CALL for Second Language Classrooms* (pp. 45-68). Mahwah, NJ: Lawrence Erlbaum Associates.
- Hunter, J., & Cooke, D. (2007). Through autonomy to agency: Giving power to language learners. *Prospect*, 22(2), 72-88.
- Kennedy, C., & Levy, M. (2009). Sustainability and CALL: Factors for success in a context of change. *Computer-Assisted Language Learning*, 22(5), 445-463.
- Lamb, T. (2009). Controlling learning: Learners' voices and relationships between motivation and learner autonomy. In S. Toogood, R. Pemberton & A. Barfield (Eds.), *Maintaining control: Autonomy and language learning* (pp. 67-86). Hong Kong: Hong Kong University Press.
- Levy, M. (2009). Technologies in use for second language learning. *The Modern Language Journal*, 93, 769-782.
- Levy, M., & Hanna, B. (in press.) Student perceptions of web-based translators (and why they matter). *System*.
- Levy, M., & Steel, C. (in press.) Language learner perspectives on the functionality and use of electronic language dictionaries. *ReCALL*.
- Levy, M., & Kennedy, C. (2010). Materials development in three Italian CALL projects: Seeking an optimal mix between in-class and out-of-class learning. *CALICO Journal*, 27(3), 529-539.
- Levy, M., & Stockwell, G. (2006). *CALL Dimensions: Options and Issues in Computer-Assisted Language Learning*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Little, D. (1990). Autonomy in language learning: Some theoretical and practical considerations. In I. Gathercole (Ed.), *Autonomy in language learning: Papers from a conference held in January 1990* (p. 106). London: Centre for Information on Language Teaching & Research.
- Littlewood, W. (1996). "Autonomy": An anatomy and a framework. *System*, 24(4), 427-435.
- Nunan, D. (1997). Designing and adapting materials to encourage learner autonomy. In P. Benson & P. Voller (Eds.), *Autonomy and independence in language learning* (pp. 192 - 203). Harlow: Longman.

- Oxford, R. (2003). Toward a more systematic model of L2 learner autonomy. In D. Palfreyman & R. Smith (Eds.), *Learner autonomy across cultures: language education perspectives* (pp. 75-91). New York: Palgrave Macmillan.
- Pusack, J.P. (1999). The Kontakte multimedia project at the University of Iowa. *CALICO Journal*, 17(1), 25-42.
- Sinclair, B. (2000). Learner autonomy: The net phase? In B. Sinclair, I. McGrath & T. Lamb (Eds.), *Learner autonomy, teacher autonomy: Future directions* (pp. 4-14). Harlow: Pearson.
- Sinclair, B. (2009). The teacher as learner: Developing autonomy in an interactive learning environment. In R. Pemberton, S. Toogood & A. Barfield (Eds.), *Maintaining control: Autonomy and language learning* (pp. 175-198). Hong Kong: Hong Kong University Press.
- Smith, R., & Ushioda, E. (2009). 'Autonomy': under whose control? In R. Pemberton, S. Toogood & A. Barfield (Eds.), *Maintaining control: Autonomy and language learning* (pp. 241-253). Hong Kong: Hong Kong University Press.
- Steel, C., & Levy, M. (2013). Language students and their technologies: Charting the evolution 2006-2011. *ReCALL*, 25(3), 306-320.