EMERGING TECHNOLOGIES

AUTONOMOUS LANGUAGE LEARNING

Robert Godwin-Jones
Virginia Commonwealth University

Interest in learner autonomy has increased substantially in the last decade. Given the emphasis on student-centered pedagogy and on accommodating student diversity, this is not surprising. What is also both driving and, to some extent, enabling this approach to learning are new directions and developments in technology. The dramatic increase in online resources, network services, and educational software, together provide new opportunities for self-directed learning. In the last few years, developments in mobile technology and the explosion in social media use have accelerated the level of interest.

LEARNING TO LEARN

The concept of learner autonomy of course pre-dates computing, traceable at least back to the enlightenment thinkers and likely to a much earlier period. Interestingly, its importance for language educators parallels the growth of computer-aided language learning (CALL), with the two intersecting increasingly in recent years. Most accounts reference Henri Holec's work for the Council of Europe in the late 1970's as the starting point for language educators' work in this area. From the beginning it's been recognized that developing learner autonomy does not just involve putting appropriate learning materials in front of a student, but necessitates helping the student develop the skills and mindset that can lead to successful self-guided language study. Part of that effort has a psychological side; the student needs to have the proper motivation for independent study. Partly the process is political and has to do with educational or school policies and the degree of individual freedom afforded learners to engage in autonomous learning, which may well entail making choices and taking actions that go counter to prevailing educational or cultural norms/guidelines.

The starting point for enabling language learning autonomy is for the student to develop effective strategies for pursuing individual learning, while being willing and able to change and improve those strategies over time, as the language learning progresses. Writing learner diaries has traditionally been one of the ways used to help learners develop this kind of metacognitive knowledge. Leni Dam has written extensively about "logbooks" used for this purpose, both by students and teachers. Writing works well for this purpose, as it invites self-reflection, an important component of learning to learn. Today, online writing through class or personal blogs, can serve this purpose, with the added benefits of sharable diaries, potential for resource linking, and inclusion in an electronic portfolio. Another possible tool is an online editor such as Google Docs. Documents created are by default private but can be shared as well, allowing learning diaries, as appropriate, to be read by teachers or peers. Dam herself sees the future as e-logs.

E-portfolios can be an effective means to document both personal achievements and learning trajectories. They serve a variety of purposes: personal, educational and vocational. The European Language Portfolio, as does the LinguaFolio on which it is based, includes a language biography, self-assessments based on the Common European Framework of Reference for Languages, and a collection of learner-created language samples. Portfolios of this kind, in addition to their more formal role, can perform a powerful pedagogical function, in encouraging both further language study and learner autonomy. They give the student concrete evidence of achievement and build confidence in one's ability, an important component in language learning success. As is the case for other mechanisms to encourage autonomous language learning, use of language portfolios works best if separated both from an educational setting and from a proprietary platform, so that the portfolios can be seen as personal documents (not a school assignment) and can be used long after schooling has been completed. The IMS ePortfolio project is an effort to

encourage a helpful development, namely compatibility of electronic portfolios across systems. Currently import/export of portfolios from systems such as Blackboard Learn is problematic.

THE TEACHER'S ROLE

It's not only learner diaries that are being digitized, but so too are instruments for assessing student metacognitive and social-affective readiness for language learning. The widely used Motivated Strategies for Learning Questionnaire (MSLQ) and the Strategy Inventory for Language Learning (SILL) are available online. Mei-Mei Change (2010) has written about her use of the online MSLQ. Karen Bond has created a Web accessible version of a questionnaire on successful language learners, broken down in sections dealing with language background, learning strategies, and motivational factors. Learning style questionnaires are available online as well. Such information is useful for all language learners but it is especially so in a distance learning environment. The higher percentage of students who drop or fail online courses compared to face-to-face courses points to the lack of preparedness of many students in terms of time management, online skills, and effective learning strategies. More studies such as that by Elke Stracke (2007) on why students drop online or hybrid language courses could be informative. Students in her study reported major concerns in the areas of support and course structure, factors which to a large extent are under the teacher's control. Part of the difficulty in cultivating learner autonomy may be cultural. In many cultures, education is entirely teacher-centered. Students may well have difficulty breaking the mold of passivity. The difficulty may well lie on the teacher side as well; the loss of control that may accompany increased learner autonomy can be unsettling.

Most distance learning today is delivered in an environment that is not always conducive to autonomous learning, namely through a learning management system (LMS, also called a virtual learning environment, or VLE). Some LMS's such as Moodle—popular in language learning—are more flexible and customizable than others. A recent study from Thailand discusses how one institution customized Moodle for delivery of language instruction (Wright & Wright, 2011). There are also examples of LMSs custom-designed for language learning. The CNAI Center in Pamplona has used their own LMS that incorporates not only administrative and content retrieval functions but also features a personal learning portfolio with student notes and individual vocabulary lists. The English Language Self-Access Centre (ELSAC) at the University of Auckland uses a similar system which includes student monitoring, enabling language advisors to base recommendations on actual student language performance. A Thai LMS called My English features an inviting user interface with nine different learning modules (Darasawang & Reinders, 2010).

Yet even if they incorporate language-specific tools or collaborative services, LMSs are essentially a teacher-centered tool. It is rare that anyone other than the teacher makes the decisions on what is presented in the LMS course Web site, how the materials are organized, and how the learner is expected to progress through the course. An alternative some teachers are beginning to embrace is to use a more flexible and customizable tool such as a personal learning environment (PLE). PLEs such as netvibes or pageflakes are designed to serve as containers for modules or widgets which can be added or deleted as the user wishes. This allows an instructor to create a master Web page or site, which can then be customized by individual learners, who might add resources they find useful. An example of this kind is the Laowai site, for learning Mandarin Chinese, created using iGoogle. Another benefit of PLE's is the ability to add modules that may not be related to language learning at all but which are personally important to the learner, such as a twitter feed, messaging service, or webcam video. Widgets are built in Flash or HTML/JavaScript and are available for many different services and can be found in collector sites such as WidgetBox.

One of the primary roles teachers can play in enabling and encouraging learner autonomy in a face-to-face or online context, is to provide students with guidance on recommended online tools and services. For instructors lucky enough to have a language lab or self-access center, this role may be played by the

language professionals working there. Some such centers also do language advising, which can go considerably beyond the frequent role of administering a language placement exam, to include one-on-one counseling on possible approaches and resources appropriate to a student's language interest and proficiency level. The Language Center at the Hong Kong University of Science and Technology created an electronic advising service, Virtual English Language Advice (VELA), which enables students to develop individual learning plans with the help of the VELA system and in conjunction with center staff (Lázaro & Reinders, 2007).

Individual teachers can also play a useful role in helping students find and evaluate appropriate online resources. One of the folders I include in each of my language course Web sites provides links to the many online resources now available for learning German, including translation tools, online dictionaries, grammar sites, German language news, proofing tools, flashcard programs, and links to how-to-learn sites. Particularly useful for students who are interested in working with language materials beyond class assignments are sites which offer pedagogically assisted authentic content such as news broadcasts slowed down or articles with vocabulary aids and audio versions. For German, all of these are available from the Deutsche Welle. We know from second language acquisition (SLA) research how useful such enhanced input is to the learning process, but these resources also enable greater learner autonomy, encouraging students to go beyond course assignments. Teachers can also play an important role in demonstrating how specific online tools can best be used. Instead of discouraging use of a tool such as Google Translate, for example, teachers might discuss its use, point out how it works (mostly parallel corpus-based) and illustrate its benefits/problems with some sample translations. Some discussion of proofing tools (grammar and spelling) even at early stages of language study can also be very helpful. It would be nice to see more studies, such as that by Rimrott and Heift (2005) on the use of generic spellcheckers. Not unexpectedly, their study shows that a spelling tool designed for first language users has problems with second language errors. Studies on the effectiveness of students consulting online dictionaries are also helpful.

AUTONOMOUS, NOT ALONE

In addition to the teacher-student dynamic, another critical component in the development of effective learner autonomy is a peer network. Contrary to what the term might evoke in popular usage, learner autonomy does not involve secluding oneself in a cork-lined room with a mountain of learning materials. This is all the more true for the social phenomenon of human speech. Computer interactions can simulate aspects of this process, but it is not nearly the same as direct human-to-human communication. This aspect of autonomous language learning occupies a prominent place in published studies. The essays in the collection *Maintaining Control: Autonomy and Language Learning* (2009), an excellent introduction to the topic, virtually all highlight the social dimensions of learner autonomy. Edith Esch in that volume succinctly lays out how this use is often addressed in recent research, "Language teachers and researchers need to make a choice between two roads to guide their future practice and research: the road giving prominence to *individual personal autonomy* or the road giving prominence to *autonomy as the capacity to exercise critical thinking about learning as a participant in a social milieu*" (Kindle e-book location 731, emphasis in original). It is in fact "in the social milieu" that developments have accelerated in recent years. Improvements in network access and speed in the last 20 years have enabled a plethora of services for language learners to connect with peers. Not all are conducive necessarily to building language autonomy, and their use is one of personal choice (if not mandated by a class assignment). There is a great deal of difference in the approaches used by online services, ranging from the highly interactive immersive environment in Second Life to a predominantly email exchange system in tandem learning networks. Common to most computer mediated communication (CMC) is the possibility of moving beyond text exchanges, to include audio or video. Voice chat is a powerful addition to Second Life, as video conferencing is to tandem exchanges.

While teachers may provide the initial setup and basic guidance for CMC, the participants themselves ultimately determine how useful the communication becomes for language learning. Many studies, including a recent analysis by Lai and Li (2011), have shown that engagement in CMC helps learners to create a positive second language persona. As the authors discuss, this development may arrive incidentally to the pursuit of other online activities, such as multi-player gaming. Studies have shown that the changes taking place in CMC often provide, through peers, the kind of scaffolding helpful in guiding learners towards greater self-confidence and autonomy. We know from SLA research that enabling language learners to teach others provides a powerful mechanism for deep language acquisition. This is a process that peer exchanges in CMC can make possible.

Françoise Blin (2004) has pointed out, in reference to tandem learning and other online tools and services, that "some CALL applications may...promote the development and the exercise of learner autonomy, provided that learners are already significantly autonomous" (p. 381). Case studies in recent years of CMC tend to emphasize the importance of providing up-front guidance both on the use of the tool or service as well as on ways to leverage its use for the purpose of improving language skills. A crucial part of that process is leading students to be self-reflective in their use of language in CMC. This is not an easy thing to do, leading Schwienhorst (2007) in his recent study of MOOs (text-based online multi-user virtual reality systems) to wonder if creators of CALL tools might consider forcing users to do planning, reflection and self-assessment. Greg Kessler's use of wikis in language learning (2009) also points to the difficulties in that environment of having students writing move beyond an exclusive concern with content editing to examine language forms, even if, as in his case, the users were aspiring language teachers. Kessler points to an important consideration in respect to CMC and linguistic accuracy, "[i]t may be important to provide students with varied contexts in which they can interact. They may benefit simultaneously from autonomous contexts in which they do not feel compelled to strive for accuracy as well as contexts that provide explicit demands for accuracy" (p. 92). Using multiple kinds of online writing is helpful as well in having students learn about different registers, and the appropriateness of language constructions in different contexts.

SELF-DIRECTED STUDY

From the beginning CALL programs have provided some degree of choice to the learner, but in the early days that was generally limited to the pace of program prompts or the mode of presentation. Today's individualized CALL such as adaptive CALL (also called intelligent tutors) offers a wide variety of choice and an extensive set of tools for independent learning. They also can include advanced features such as voice recognition and multiple feedback options. Here, too, the challenge has been to convince users to take advantage of the multiplicity of choices as well as the available help mechanisms. The personalizing advantages are only available if the user actively selects them. As Carol Chapelle (2005) has pointed out in reference to reading and listening comprehension aids in CALL applications, the act of choosing to use such help leads to deeper mental processing that promotes language acquisition. Moving students to the point where they will take advantage of feedback and comprehension aids involves enhancing their metacognitive knowledge about language learning. If they can learn how to build on existing knowledge, how to profit from errors, how to examine more closely the forms they are using, this can only have a salutary effect on their language ability and on their capacity for autonomous learning.

Some individualized CALL programs have a wide sweep, aiming at virtual language and culture immersion. This is the case for the Operational Language & Culture Training Systems (from alelo) such as Tactical Iraqi Arabic. Less ambitious are the more common CALL projects which target individual learner improvement in discrete areas such as grammar and vocabulary. In these programs, too, guidance is seen as needed to help users to "notice" forms . Often such vocabulary and grammar training programs are language corpus based. Concordancers can be especially useful for working in an area that often gets short shrift in classroom instruction, namely collocations. Dealing directly with a corpus through use of a

concordancer or key word in context (KWIC) interface can be a demanding proposition for many learners. We are starting to see more experimentation on the use of concordances in different ways so as to make access available for students at all levels. The CANDLE project, for example, draws on a parallel corpus for constructing a bilingual concordancer, which may be easier to use for less advanced students (Liou et al., 2006). Chang and Sun (2009) effectively deployed a concordancer in lower level language instruction by supplying abundant scaffolding. The Intelligent Academic Discourse Evaluator (IADE) is a corpus-based automated writing tool aimed at improving writing and good grammar usage through providing extensive color-coded feedback (Cotos, 2011). Vickers and Ene (2006) used typographical elements to make it easy for learners to compare usage of particular forms in their own writing and in a passage by a native speaker.

Many such studies show a marked improvement for individual learners compared to other methods. Geraughty and Quinn (2009) found their method for helping users learn Japanese characters through a Flash vocabulary program to be twice as effective as a paper approach. On the other hand, Jarvis and Szywczk (2010) in their study of students working with English grammar, found paper materials to be preferred to computer tutorials. Interestingly, one of the reasons for their preference was the portability of the print materials. This was also a concern expressed by students in Stracke's (2007) study of students in a hybrid elementary language class. It would be interesting to see if the availability of easy to carry but powerful mobile devices causes a shift in favor of those devices.

Students preferring print materials also highlighted their ease of use, probably indicating navigational, logical, and structural issues with online resources. Ease of use and the inherent device-encouraged single focus have helped to make the Apple iPad a phenomenal commercial success. Developers for mobile devices including smartphones and tablets have reduced screen real estate at their disposal, which forces them to be more efficient in their content presentation and navigational structure. Debra Hoven and Agnieszka Palalas' recent study (2011) indicates that not all design issues in the mobile setting have been solved, as students in their study, using iPod Touches, reported good experiences using multimedia, but not with text. Hoven and Palalas highlight another important aspect of design for mobile devices, namely the unique combination they offer of a highly personal device with powerful networking capabilities. This is ideal for enabling what they call "ecological constructivism," focusing equally on the individual and on the group. By their nature mobile devices feature on-demand flexibility, adjusting automatically and instantaneously to new information. Hoven and Palalas advocate building on this environment to personalize learning by allowing for continual and dynamic content creation and modification.

OUTLOOK

For students mobile devices integrate real-life interests and academic roles. If learner autonomy is about personal choice, then mobile should serve as an ideal enabler. Examples of personal choice in action, that is, case histories of individual learner stories, can be an effective method for exploring how individual choice can work in a variety of circumstances. This kind of case history research is illustrated by Gao's story of Zhang Haidi (2010), the disabled Chinese woman who famously learned English on her own during the Cultural Revolution, or Murray's story (2011) of the Japanese student who becomes motivated to study English after falling for a Norwegian girl (like a Rosetta Stone ad come true). Murray highlights the role of imagination in the process. Both Gao and Murray's learners imagine a second self (in Zhang's case an English girl from Yorkshire, inspired by Jane Eyre) that helps them to learn. Learner autonomy ultimately should provide the ability to choose modes of learning of significance to the individual. As Phil Benson has written (2009), learner autonomy viewed in this way has a socio-political significance:

> Do we view autonomy as a matter of the production of responsible, active, flexible and adaptable worker-learners who are capable of fitting into and matching the demands of the new economic order? Or do we view autonomy as a matter of learner agency—the production of critically aware

learners who are capable of controlling their own learning and lives and of participating in the authoring of the worlds in which they live?" (Kindle e-book location 595).

"Critically aware learners" are the ones who will do well in a fast-changing world, in which knowledge is far from being fixed. In that sense, the capacity for autonomous learning can prepare students for a fulfilling future while also providing the flexibility and skills for the variety of work environments and demands they are likely to face in their lives.

In addition to individual learner stories, we are seeing as well compelling case histories of autonomous language learning in challenging social and economic conditions. One recent account (Kuchah & Smith, 2011) recounts the experience of teaching more than 200 African teenagers, engaging them in group work under trees, while striving to empower their learning without the help of textbooks. Learner autonomy is often seen as a Western concept, but more and more accounts are emerging that highlight successes around the world. An account from Vietnam (Dang, 2010) highlights achieving local and individual autonomy despite a variety of community constraints. A good number of studies have been published in recent years discussing autonomous learning projects in India and China. David Dixon's recent review (2011) of projects promoting autonomous language learning world-wide discusses a number of such projects.

Learner autonomy will look different in different cultures, and teachers need to adopt to local, regional and national contexts. In the USA, for example, the emphasis on standardized testing has sent a chill through efforts to encourage student and teacher autonomy. Nevertheless, it seems likely that autonomous language learning will grow in importance as we continue to see increased interest in language learning and language maintenance for both personal and professional reasons. It would be helpful in that respect to see studies on learner autonomy and multilingualism. What benefits are there in having gone through learning a second language to the process of learning a third or fourth language? Desirable as well would be studies that show more evidence of how enhanced metacognition leads to actual language proficiency. Françoise Blin points out (2004) that there needs to be more attention paid in evaluating CALL projects not just to the effectiveness of the individual features and functions they incorporate but also to what extent they can be used effectively in wider contexts and how they might contribute to building learner autonomy. It would be useful too to have more studies/reviews of the increasing number of commercial Internet language learning services such as livemocha or byki from these perspectives as well. As we approach the 10-year anniversary of the decision by Drake University to abolish its language departments, in part in the name of self-directed learning, we can only hope that more emphasis on autonomous language learning results in empowering learners, not sacking teachers.

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RESOURCE LIST

Learner Autonomy

- Learner autonomy - EduTech Wiki
- CALL-EJ Online: Encouraging Autonomy with an Online Language Support System
- Learning for Life
- ALL project
- CALPER: Center for Advanced Language Proficiency Language and Research

Metacognition

- Logbooks (PDF)
- Google Docs
- One to One Consultations
- European Language Portfolio
- LinguaFolio - National Council of State Supervisors for Languages
- IMS GLC: ePortfolio Specification
- MSLQ Motivated Strategies for Learning Questionnaire (PDF)
- SILL Strategy Inventory for Language Learning (PDF)
- Identifying the Characteristics, Strategies & Techniques of Successful Language Learners
- LEARNING STYLE INVENTORY
- Index of Learning Styles Questionnaire
- Comparing Electronic Dictionary Functions and Use - CALICO Journal

Computer-mediated Communication

- Tandem Server Bochum - language learning exchange partnerships - eTandem
- Language Exchange Community - Practice and Learn Foreign Languages
- VoiceThread - Group conversations around images, documents, and videos

Self-directed learning

- Operational Language & Culture Training Systems | Tactical Iraqi, Tactical Pashto, Tactical Dari, Tactical French
- CALPER: Center for Advanced Language Proficiency Language and Research
- netvibes
- pageflakes
- Laowai Chinese 老外中文