



# The SLA 2.0 Hypothesis

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Studies and research about second language acquisition (SLA) and Web 2.0 often regard how 2.0 tools (wikis, blogs, podcasts, etc.) are used to enhance and support language learning. However, little has been said on the theoretical side about how and why this adoption might be successful. This work, therefore, takes a theoretical approach to explaining why Web 2.0 should be adopted as a valid support to SLA, based on analogies between the nature of language and that of the Web and second language learning and software development. I demonstrate how an appropriate integration of Web 2.0 tools in language learning could truly offer a new approach to the whole discipline based on open practices, enriching the learning experience and supporting everyday teaching practice.

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## 1 Introduction

Studies and research on language acquisition (SLA) and Web 2.0 often have a descriptive approach and are based on empirical data about the use of computer-assisted language learning (CALL) and Web-based tools to support language learning. However, little has been said on a theoretical basis about why the adoption of such tools and technologies might be successful, or why they should be adopted at all (Wang & Vasquez, 2012). This work aims to start filling this gap by providing a first theoretical approach towards the adoption of the Web as valid support to SLA, based on structural and developmental analogies between language and the Web. First I briefly present the characteristics of the Web and human language in order to demonstrate the possible similarities. I will then compare the developmental dynamics of the two systems highlighting their analogies. Finally, I make a comparison between the developmental models that support the respective processes, concentrating on the juxtaposition between formal and informal approaches. On the basis of this analysis, I propose a new approach to SLA that can better support the learning process and more rationally allocate teaching resources.

## 2 The Web-language analogy

The starting point for the development of the proposed hypothesis is based on the basic analogy that exists between the Web and human language: they are both complex systems that work as a platform on and through which human communication takes place. In both cases there is an overlap between the developing object and the instrument through which the development happens: language develops through language use and the Web develops through Web use. The aim of both processes is the development of a system functional to information exchange that is flexible and dynamic in its evolutionary possibilities, is sensitive and adaptive to context and evolves proportionally to the use made of it. Language is the main instrument through which we communicate, establish, maintain and terminate social relationships, and narrate the world around us. In this way, humans create their representation of the world around them. Through narration, interaction, and therefore through language we develop our social character. Language is the main instrument that allows us to create abstract concepts and transport them through time and space: education and learning are largely based on this typically human ability.

Language, just like the Web, is alive and dynamic: the more it is used, the more it develops in both breadth and depth, gaining new speakers and lending expressions to other languages while getting more and more specialized in

specific fields thus becoming an identity marker for groups of speakers that identify themselves with a certain variety of it. It is an instrument which, given a relatively few number of fundamental rules, allows for extreme flexibility of use through modifications and high customizability, adapting itself to any context and towards any end. In the same way, the Web, especially since blossoming into what has been defined as 2.0, has found one of its most effective representations in the metaphor of a platform for interaction, as coined by Tim O'Reilly (2005). Just like language, the Web's primary function is to allow its users to exchange information: without users – or speakers – both systems are useless. A language with no speakers is considered dead, and a network with no nodes is no network at all. Another feature that a language and the Web share is that neither has «a hard boundary, but rather a gravitational core» as in «a veritable solar system», whose constituents are in orbit «at varying distance from that core» (*Ibidem*). The idea of a number of key features at varying distance from a theoretical center is similar to the idea of interlanguage<sup>1</sup> (Selinker, 1972) as non-native speakers gradually try to move their competence closer to the commonly recognized center of the target language (Chini, 2005). The platform metaphor had already been proposed for language by Van Buren (1972), who defined the center of the language platform as its most stable and defined area, while the fuzzy edges were characterized by more unorthodox but creative use of language, such as the language used by poets and advertisers. Language learners, in their quest to become fluent in a second language, may therefore also fit the metaphor, progressing from the edges towards the ideal standard center<sup>2</sup>. Finally, language by itself might represent the best possible example of open educational resource, as it «[...]may be freely accessed, reused, modified and shared by anyone» (Downes, 2011) simply through interaction.

### 3 The dynamics of language development

Camilla Bettoni (2001) has examined the processes underpinning language learning and highlights the importance of a few anchors in a scenario which is otherwise extremely inconsistent. She defines language learning as the development of a system-competence: the process is initially loosely structured and not very efficient, but as it evolves, through learning, it becomes more stable,

<sup>1</sup> Interlanguage is a constantly developing and idiosyncratic language system developed by a second language learner which maintains features of the learner's native language while evolving into the target language. It often employs simplification strategies and over-generalization of grammar rules; its evolution directly depends on the learners linguistic experiences, and whenever it stops it results in language crystallization (Selinker, 1972).

<sup>2</sup> Recently there has been significant debate regarding the concept of 'native speaker' and 'standard language', especially with reference to language. This debate is beyond the scope of this paper. What I intend here is simply the foreign language learner's attempts to make the foreign language his/her own, regardless of what 'standard' is used, for the primary aim of effective communication in that foreign language.

complex, structured, and effective (*Ibidem*). The most important variables in this process can, in my opinion, be summarized into two main points, both centered upon the learner: motivation and self-correction of mistakes. The importance of motivation in language learning has long been recognized, in particular integrative over instrumental motivation (Krashen, 1980), and intrinsic over extrinsic motivation (Cardona, 2010). This means that the most effective learning dynamics for a language are the ones driven by the inner desire to become part of a community, to get to know it, understand it and integrate into it (integrative motivation) and the learning process has to be gratifying in and of itself (intrinsic motivation). The other important element that underpins effective language learning is self-correction, as explained by Long (1996) in his Interaction Hypothesis, supported by empirical data from experiments by Mackey (1999): when, during a meaningful spontaneous interaction between a second language learner and a speaker of the target language (or even another learner), the flow of conversation is interrupted by a mistake made by the learner and the implicit negative feedback of the interlocutor (e.g. request of clarification or long pause) provides the learner with contextual linguistic information on which to base self-correction and, therefore, progress in competence. One interesting point that these two key elements have in common is the fact that they are both informal in nature. Both motivation and self-correction come from within the learner, and can only arise spontaneously. Although they can of course be supported, stimulated, and encouraged through external intervention, as in the case of the implicit negative feedback, they cannot be directly elicited.

#### 4 Models for language development

If we analyze the predominant pedagogical models in the field of foreign language teaching, we see that the approach is formal and the structure vertical: language learning is traditionally based on face-to-face classes where the central figure of the teacher follows a syllabus previously determined by the institution responsible for developing language courses. Even e-learning approaches simply replicate this structure instead of taking full advantage of the affordances of the Web. This model is most effective when adopted for formal tasks, e.g. teaching grammar, since it can be planned and delivered effectively with a top-down approach. Grammar, though, is only one aspect of the development of communicative competence (Hymes, 1972) which, as seen in the previous paragraph, is strongly characterized by informal dynamics. Studies on memory retention ( Craik & Lockhart, 1972; Craik & Tulving, 1975) demonstrate how motivation in language learning lies on the content of a discourse (i.e. the topic of a conversation), active on the semantic processing level, and

not on its structure (i.e. grammar), which will eventually emerge by itself as a consequence of organizing information. Thus, the study of grammar can be clarifying and useful for organizing linguistic knowledge, but not for acquiring full communicative competence. In other words, knowing the grammar rules does not automatically mean that one is able to effectively communicate.

The language teacher, therefore, stands between the formal structure of a language course and the informal dynamics of language learning. Given the dynamics for effective language learning, it becomes clear how an important part of a language teacher's job is to come up with motivating and meaningful interactive situations. These must often be designed for a very mixed group of people, with different needs and interests, in a context of a period of a couple of hours within a classroom. If we take all of these factors into consideration, and are aware of the fact that other systems do not lead to stable language acquisition, the scenario facing language teachers is definitely ambitious, to say the least. Until just over a decade ago this 'recreation' of interactive situations in the classroom was the only 'practical' approach to language teaching in institutional contexts since there were no instruments that could systemically stimulate and support the informal dynamics mentioned above.

It is worth remembering how one of the most critical points in language teaching is still the distinction Krashen (1985) made between acquisition (spontaneous, unconscious, tied to informal contexts and focused on the pragmatic-communicative aspects of the language), and learning (controlled, conscious, formalized, and focused mainly on structural accuracy). In Krashen's theory, acquisition will always be qualitatively superior compared to any result acquired with learning. This strong claim tends to dramatically scale down the role and power of teaching, and, therefore, initially received an understandably cold and skeptical reception by foreign language teachers and researchers (Ciliberti, 1994, p.54), who eventually settled on a less marked distinction between the two processes (Ellis, 1992). This did, however, lead to more specific branches of SLA and foreign language teaching (FLT) research that analyze the natural paths and strategies of acquisition of foreign languages, developing syllabuses that favor more rapid and effective learning<sup>3</sup>.

## 5 Web developmental models: the cathedral and the bazaar

With the expression 'Web 2.0' we usually refer to the evolution that the use, adoption, and spread of the World Wide Web underwent from its dawn as a primarily read-only service for most users to the read-write Web with ever-

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<sup>3</sup> In Italy, in particular, this branch of linguistics and language teaching go by the name of 'linguistica' and 'didattica acquisizionale' and was initially first developed thanks to the work of Anna Giacalone Ramat and Massimo Vedovelli (Giacalone Ramat, 2003; Vedovelli 2002, Vedovelli 2003).

increasing amounts of user-generated content. 2.0 better describes an evolution in the approach towards the Web, rather than a new version of it. When asked if Web 1.0 was about connecting computers and information and Web 2.0 about connecting people Sir Tim Berners-Lee himself, the inventor and creator of the World Wide Web, replied:

*Totally not. Web 1.0 was all about connecting people. It was an interactive space, and I think Web 2.0 is of course a piece of jargon, nobody even knows what it means. If Web 2.0 for you is blogs and wikis, then that is people to people. But that was what the Web was supposed to be all along. (Laningham 2006)*

Similarly, Tim O'Reilly (*op.cit.*) wrote:

*2.0-ness is not something new, but rather a fuller realization of the true potential of the Web platform.*

Still according to O'Reilly (*op. cit.*), an intrinsic feature of the Web which simply became relevant with the rise of the 2.0 approach is its "architecture of participation", defined as a structure «designed to encourage participation». This structure is reminiscent of the workings of the open source movement which has traditionally used the Internet and the Web as a backbone to cooperate to develop projects (Ljungberg, 2000). In the world of software development there is a very well-known metaphor used to describe two very different developmental models, the formal and informal, coined by Eric S. Raymond in his famous essay "The Cathedral and the Bazaar" (Raymond, 1997). Raymond compared the development of the open source Linux operating system to the development of proprietary operating system such as Windows. Cathedrals and bazaars are metaphors for two radically different models of project development. The cathedral is the result of a well-defined project, attentively and carefully pursued by a small and closed group of professionals, whose strict centralist approach directs, supervises and monitors the development and only 'releases' new software when the product is ready. On the other hand, the bazaar is a complex and chaotic environment, «open to the point of promiscuity» (*Ibidem*), where different ideas, projects and approaches constantly cross each other's paths in a vital pulsing that has neither well-defined borders nor a clear beginning or end. The cathedral metaphor describes development in big software corporations whereas the bazaar describes the open source software movement. Taking the Linux operating system as an example, open source developers are located across the globe, are not (generally) paid for their work and contribute to a never-ending iterative development process.

Although this decentralized and bottom-up approach may seem chaotic, the open source movement has managed to produce very successful software such as Linux, the Web server Apache and the virtual learning environment Moodle, proving that this model of development is stable and effective. The cathedral model is clearly formal, while the bazaar model represents the informal approach to development. This demonstrates how the Web can serve as a platform, based on informal dynamics, for effective development of software.

## 6 Comparable developmental dynamics

There is a significant comparison to be made between the dynamics behind the process of open source software development and second language learning. The two key elements of the development of the language-system mentioned above, motivation and self-correction, are also present in Raymond's paper, as part of the normal development process of open source software. Just as

*it is a foundation of language teaching that there cannot be stable acquisition of a language without motivation (Cardona, 2010, p.17),*

so for open source software development

*every good work of software starts by scratching a developer's personal itch (Raymond, 1997).*

With regards to the second element, self-correction, as described in the interaction hypothesis mentioned above, one of the key points that differentiates the cathedral and the bazaar is the correction of mistakes within the code of a program, i.e. what is technically known as debugging. Raymond states that

*these models derive from opposing assumptions about the nature of the software-debugging task*

and concludes suggesting that

*productive analogies with other self-correcting systems of selfish agents» (Raymond, 1997).*

The «selfish agents» Raymond refers to are comparable to Long's and Mackey's learners who, on receiving negative feedback from their interlocutor which interferes minimally with the flow of the conversation they are having, self-correct their mistakes and progress in the acquisition of their foreign lan-

guage. Thus they move towards the center of the language platform and a step closer to the performances of a native speaker. Language learners are very similar to open source software developers, as both work to develop more or less complex projects based on their personal motivation, and through interaction they both exchange chunks of code and correct errors. In a similar way, but making the Web itself the object of development, the Mozilla Webmaker project (Mozilla, 2012) set its goal to «help millions of people move from using the Web to making the Web[...] and create a more Web literate planet». Describing the project, Mozilla states that «The Web is becoming the world's second language» (*Ibidem*), reinforcing the Web-language analogy suggested in the first section of this paper.

## Conclusions

With the expression “SLA 2.0” I would like to suggest a new approach to SLA based on interaction and cooperation among learners and speakers of a target language or simply among learners of the same foreign language. Taking full advantage of the possibilities offered by the Web, SLA 2.0 finally offers an opportunity to leverage the informal dynamics that are a fundamental aspect of language acquisition and were more or less impossible to achieve in an authentic way before the advent of Web 2.0. Informal dynamics cannot be directly elicited, but they can be supported through scaffolding. The tools and especially the very dynamics that characterize Web 2.0 and computer mediated communication (CMC) seem to offer an opportunity to effectively support second language acquisition within measurable parameters without corrupting its spontaneous and informal nature. This new inclusive approach would reduce the gap between acquisition and learning, with a double advantage: it would offer second language learners a wider range of more effective learning tools and opportunities while, at the same time, allow language teachers to concentrate on aspects of the learning process more suitably conveyed using a formal method, such as the development of linguistic competence through the study of grammar. If used effectively, a blend of formal teaching in the classroom and informal learning on the Web could lead to a more rational allocation of resources and enhanced learning.

## REFERENCES

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- Bettoni C. (2001), *Imparare un'altra lingua*, Roma-Bari, Laterza.  
Cardona M. (2010), *Il ruolo della memoria nell'apprendimento delle lingue*, 2010, Torino, UTET.



- Chini, M. (2005), *Che cos'è la linguistica acquisizionale*, 2005, Roma, Carocci.
- Ciliberti A. (1994), *Manuale di Glottodidattica*, 1994, Firenze, La Nuova Italia.
- Craik F.I.M., Lockhart R.S. (1972), *Levels of Processing: a Framework for Memory Research*, *Journal of Verbal Learning and Verbal Behaviour*, 11, 671-684.
- Craik F.I.M., Tulving E. (1975), *Depth of Processing and the Retention of Words in Episodic Memory*, *Journal of Experimental Psychology*, 104, 268-294.
- Downes S. (2011), *Open Educational Resources: A Definition*, URL: <http://www.downes.ca/post/57915>
- Ellis R. (1992), *Second Language Acquisition and Language Pedagogy*, Clevedon, Multilingual Matters.
- Giacalone Ramat A., ed (2003), *Verso l'Italiano. Percorsi e strategie di acquisizione*, Roma, Carocci.
- Hymes, D. (1972), *On communicative competence*, in: Pride J.B., Holmes J. (eds), *Sociolinguistics. Selected Readings.*, 269-293, Harmondsworth, Penguin.
- Krashen S.D. (1980), *Attitude and Aptitude in Relation to Second Language Acquisition and Learning*, in: Diller, K. (ed), *Individual Differences and Universals in Language Learning Aptitude*, Rowley, Newbury House.
- Krashen S.D. (1985), *The Input Hypothesis: Issues and Implications*, 1985, Harlow, Longman.
- Laningham S. (2006), *DevelopersWork interviews: Sir Tim Berners Lee*, URL: <http://www.ibm.com/developerworks/podcast/dwi/cm-int082206.txt> (accessed on 21st August 2012).
- Ljungberg J. (2000), *Open source movements as a model for organising*, *European Journal of Information System*, 9(4), 208-216.
- Long M. (1996), *The Role of the Linguistic Environment in Second Language Acquisition*, in: Ritchie W.C., Bathia, T.J. (eds), *Handbook of Second Language Acquisition*, 413-468, New York, New York Press.
- Mackey A. (1999), *Input, Interaction and Second Language Development: An Empirical Study of Question Formation in ESL*, *Studies in Second Language Acquisition*, 21, 557-587.
- Mozilla (2012), *Mozilla Webmaker – About*, URL: <https://webmaker.org/en-US/about> (accessed on 21st August 2012).
- O'Reilly T. (2005), *What is Web 2.0 - Design Patterns and Business Models for the Next Generation of Software*, URL: <http://oreilly.com/pub/a/web2/archive/what-is-web-20.html> (accessed on 21st August 2012).
- Raymond E.S. (1997), *The Cathedral and the Bazaar*, URL: <http://www.catb.org/esr/writings/cathedral-bazaar/cathedral-bazaar/>, (accessed on 21st August 2012).
- Selinker L. (1972), *Interlanguage*, *IRAL*, 10(3), 209-231.
- Van Buren P. (1972), *The edges of language*, New York, Macmillan.
- Vedovelli M. (2002), *Guida all'Italiano per stranieri*, 2002, Roma, Carocci.
- Vedovelli M. (2003), *Note sulla glottodidattica italiana oggi: problemi e prospettive*, *Studi Italiani di Linguistica Teorica e Applicata (SILTA)*, 2, XVIII, 173-197.

Wang S., Vasquez C. (2012), *Web 2.0 and Second Language Learning: What Does the Research Tell Us?*, CALICO Journal, 29(3), 412-430.