Non-linear learning the "open" way: language acquisition on the Web

Isabelle De Ridder - Licia Calvi - Walter Geerts

Abstract[1]

The present paper considers the use of the Web in second language learning within a theoretical framework combining the constructivist theory of learning and the open learning paradigm. It begins by exploring the fundamentals of this mainly learner-centred model and goes on to show how this framework can be translated into a Web-based course to enhance business Italian. Within this course, different kinds of materials from the Web are gathered by broad themes or objectives, are annotated and made accessible to all potential users regardless of their knowledge level or background.

1. Introduction

The Web has reached acceptance quite quickly and is now one of the most powerful tools in information technology. With its constantly growing number of sites, it broaches every possible theme, connects people and offers some major commercial possibilities. The Web is a fact, even in education. In language teaching, the Web triggers imagination and fascination: worldwide, the number of language courses being conducted through the Web is increasing daily. But just what can the Web bring to the language class? Is it just another medium, a new way of delivering material, a simple data carrier? Or is it in itself a sound pedagogical tool that can actually change our views and insights in foreign language acquisition? In the literature, one can find reports on the pedagogical use of the Web, Web project development, general Web-based development tools, formation of theoretical frameworks, instructional design and the Web as a research tool (e.g., Liou, 1997). However, considering the Web as a foreign language learning environment is still treading on slippery ground. Indeed, what exactly are the advantages of the Web in language learning? Firstly, the Web is nothing less than a gold mine of authentic language learning material, some of it even

---

[1] The present paper was presented at the Eurocall '98 conference in Leuven, Belgium.

of high quality. Secondly, through its electronic communication capacity it creates an opportunity for real communicative activities (e.g., St. John, 1998). Thirdly, its non-linearity and hypermedia character make it possible to follow several routes, explore all kinds of material and this for every student at his or her own pace. Fourthly, it offers students the possibility to actually produce material in the foreign language, publish it on the Web and make it accessible for native speakers and other second language learners (Zhao, 1997). What is, however, most important in our view, is that the Web as a virtual platform for language learning, with as main characteristics the four advantages discussed above, seems to support perfectly a constructivist view of language learning.

Applying the constructivist theory of learning to network-based CALL is a recent but promising tendency (e.g., Zhao, 1997; Levy, 1998). Since "learning by doing" has already proved its efficiency in many other applications - like in theories and practices of apprenticeship (Lave and Wenger, 1991; Billet, 1994, 1996; Kerka, 1997) -, this approach might also be fruitful to language learning.

Nevertheless, within a hypertext environment, the question of how learning is to occur cannot but be paired with the problem of guidance and freedom. Indeed, how much freedom can the second language learner handle? How can students be encouraged to manage their own learning process without getting lost in hyperspace? In other words, how "open" can language learning become? It is precisely this three-cornered relationship between the Web, constructivism and open learning which this paper aims to discuss. Furthermore, it demonstrates how such a theoretical framework can find an actual application on the Web within the context of business Italian.

2. Constructivism: learning as a situated activity [2]

In the constructivist view of learning, active participation is at the centre. Learning is said to occur through experience, through activity. Instead of passively absorbing, learners eagerly construct knowledge by integrating new information and experiences into what they have previously come to understand. Acquired knowledge is constantly revised and reinterpreted in order to reconcile it with new knowledge. Students are

---

[2] The research in this area draws to a greater or lesser degree on the work of activity theorists such as Vygotsky (1978) and Leontyev (1981). For more recent work, see for instance Rogoff and Lave (1984), Brown et al. (1989), Lave and Wenger (1991).

continuously motivated to question and check their assumptions, while teachers merely facilitate learning by guiding student inquiry (Kerka, 1997).

Constructivist authors, however, emphasise that knowledge only receives its meaning and reason for existence through the context in which it is acquired. Although learning is a matter of personal experience and interpretation, it is not an isolated fact but a process that takes place within a social, functional context. Therefore, it is of the utmost importance that the learning process should also be anchored in a meaningful context in which the newly acquired knowledge and skills can be used. This principle of learning is referred to in the literature as "situated learning". Situated learning takes place when the learner can undertake authentic activities embedded in a context - or culture/community of practice -, under the guidance of expert practitioners. These experts seem to organise their constructed knowledge base in such a way that they can easily recall and reuse the acquired cognitive structures in completely new situations (Glaser,1989; Prawat, 1989). The goal of learning then is for novices to evolve towards this level of expertise.

Second language acquisition, too, can be viewed as the result of social coparticipation within a culture of practice. Zhao (1997), for instance, emphasises that the learning of a language can only be successful if the learner actively engages in meaningful, authentic and productive activities within the culture of practice. Therefore, courseware that is said to enhance foreign language learning should offer the learner the possibility to engage in such interactive activities.

Nevertheless, it cannot be denied that language learning contains also a more individual aspect. Indeed, the creation of a "product" in a foreign language requires already some acquaintance with the language which could be achieved through activities that we would like to qualify as "exploratory" (see below). From a constructivist perspective, learning is a situated, meaningful activity which prompts the learners to build knowledge by confronting former and new experiences. In order to be able to do so, language learners should be given the opportunity to engage in communicative activities but they should also be allowed to use their linguistic knowledge in activities of research and experimentation (Rüschoff, 1993). If the already acquired linguistic knowledge has to be activated, re-examined and modified, it is important that the learner should be exposed to as much linguistic discourse as

3

possible (Rüschoff, 1993). This spoken, written or audio-visual discourse can then function as new input which is to be confronted with already available knowledge. For this process of hypothesising and testing to be successful it is necessary that the learners actively explore the language they are exposed to. An example of such an exploratory activity could be the reading of an authentic economic text with annotations on grammatical issues, lexicon and adapted exercises.[3]

The Web-application that we propose to develop takes into account these two aspects of situated language learning: it allows productive interaction with expert practitioners of the target language and it allows the students to engage in meaningful experimental activities within an authentic context. Furthermore, we will show how in such an educational setting, the open learning paradigm can guarantee that the learner receives the right degree of freedom to ensure that s/he gets *all* there is to get out of the learning process.

3. What is open learning? [4]

A review of the literature indicates that open learning can be considered as an approach to education primarily based on flexibility and learner autonomy. These fundamental principles are said to operate on two different levels (Maxwell, 1995; Bell & Tight, 1993).

The first level relates to the organisational side of education and refers to the actual removal of all barriers to access. As all prerequisites of education are eliminated, education becomes "open" and available to all of those interested. Providing the student with the freedom to select his/her courses, and liberating education from the constraints of time and space, open learning hands over the structural responsibility for education to the participant (Maxwell, 1995). It is precisely this aspect of openness which has been promoted by the Open University (OU) of the United Kingdom (Bell & Tight, 1993).

---

[3] The use of authentic material in all aspects of second language acquisition seems to essential to prepare the students to handle the complex reality of a foreign language culture (e.g., Pusack & Otto, 1997). Indeed, several studies indicate that authentic material can be motivating to second language learners (Cobb & Stevens, 1996). According to these studies, foreign language learners express a high degree of interest in authentic current events materials (Kienbaum, Russel & Welty 1986 cited in Cobb & Stevens, 1996).

[4] For a detailed overview of the literature on open learning we would like to refer to Leigh Maxwell in an article on the integration of open learning and distance education (Maxwell, 1995).

The second level refers to more methodological issues. Viewed from this angle, open learning is an educational model that actively involves the students in the learning process and invests them with the responsibility for their own learning. Indeed, within the open learning paradigm, the student is left with as much choice and control as possible over study goals, content, methods, assessment procedures and the selection of associated resources (Foks, 1987). In such an educational setting, the traditional roles of teacher and student are drastically changed. If students are to determine their own learning objectives, plan course content and design, select and use appropriate learning strategies and decide whether they reached what they targeted (Maxwell, 1995), they no longer function as passive recipients of rigid course material, aiming at externally set standards. Subsequently, the teacher can no longer be considered as an almighty keeper of knowledge or a unique source of information, but s/he becomes a facilitator, a counsellor, who represents one of the available teaching resources and who guides the student through the learning process (Maxwell, 1995).

4. Integrating constructivism and open learning in foreign language acquisition
4.1 The notion of freedom

Offering the learners enough freedom to interact creatively with the material provided could enhance learning [especially in a hypertext environment, (Anderson, Kibby & Mayes, 1990)]. This principle also seems applicable to language learning: some authors stress that control over what happens with the learning material once it has been delivered should largely be left to the learner (e.g., Rüschoff, 1993). It is indeed probable that extending one's own individual knowledge base means pursuing one's own assumptions, checking one's own hypotheses. If learners have to reorganise previously acquired knowledge, they will all have different needs and different educational wishes. The satisfaction of these individual demands will require a certain amount of freedom and autonomy. The learners, once confronted with enough linguistic material to investigate and enough possibilities to engage in interactive activities, will need some liberty to fully explore all these possibilities and thereby actively construct their own individual knowledge.

It is precisely this degree of freedom that the open learning paradigm can bring to the twofold situated language learning model that we have introduced. "Opening" this model means investing the learners with the autonomy, the freedom to decide which goals to achieve, how to reach the set targets and how to evaluate the learning process.

However, acquiring language the "open" way does not mean leaving the students completely to their own devices. Nor does it mean installing complete *laisser-faire*, which would inevitably confuse the students and prevent actual learning taking place (Anderson, Kibby & Mayes, 1990). Within this open, constructivist language learning model, freedom actually means a large freedom of choice. Indeed, objectives and assessment procedures are strictly recorded at the beginning of a language learning session. As for the route to be followed in order to reach the targets, the students can consult different sources at their own discretion. Nevertheless, once a certain choice has been made, other possibilities are eliminated.

4.2 A counselled procedure

In the language learning model presented the teacher primarily ensures that the student acquires legitimate access to the target culture of practice. Furthermore, s/he assumes the role of a facilitator, a counsellor: s/he guides the students through the language learning process. The teacher assists the students in the choices they make and s/he can be consulted for extra information and explanation. The teacher becomes mainly an adviser. However, if the student wishes, the teacher can also play a role in the evaluation process. In the application developed, the teacher can be reached at any time through email.

4.3 An open learning process?

We have established before that actively building a language requires a certain degree of freedom, of choice. In the model proposed, the individual can choose from a range of study objectives, material and evaluation procedures. Thus, the individual student is not obliged to spend time on material or skills already mastered. In this sense, open learning permits a more effective use of time. It may be stated that opening the learning process is attempting to satisfy the individual needs of the learners.

Opening language learning also means involving the learners even more in their own learning. This engagement will allow a more profound assimilation of the information provided, a more intense incorporation of the material selected and a more adequate use of the strategies chosen. In such an educational setting, students might be more motivated and thereby get *more* out of the learning process. The affective bond created with their learning results for the students in a higher commitment and a greater sense of fulfilment. This will increase the self-esteem of the participants and it will consequently provide them with more confidence to set their future goals (Maxwell, 1995).

5. Application outline

The foreign language learning paradigm presented makes high demands on the supporting courseware. In the first place, the courseware should provide access to the target culture of practice. Furthermore, the learning environment created should allow the learner to engage in authentic communicative activities with expert practitioners. This educational setting should also stimulate activities of research and experimentation and permit the students to puzzle, analyse, forecast, test interpretations and explore varied authentic language learning material. Moreover, in such an application, language learners should be able to define their study goals and elucidate their assessment procedures.

In the light of these ideal characteristics it seems clear that a non-linear learning environment offers some major advantages that could be used in the development of this kind of complex courseware material. Non-linear learning makes it possible for the student to investigate different routes and to explore several choices and possibilities. For obvious reasons, we have chosen to create such an educational environment on the Web. Zhao (1997) views the WWW as a global, virtual community of language learners who develop language proficiency skills in real communicative activities, while being exposed to the culture of native speakers in its authentic form. Indeed, discussion groups and email contacts on the Web offer the possibilities to engage in authentic interaction with expert practitioners of the target language. Furthermore, the Web contains a whole range of authentic material, mostly

related to current events. In a business language course, this could be considered as one of the major assets.

The Web-course design for Italian business language that we intend to develop fully integrates the constructivist view of language learning as we have established it above, with the open learning model. When starting the application, the individual learner is asked to choose the study objectives s/he wants to reach. Among other things these objectives could be: mastering content, tackling a certain grammatical problem, acquiring vocabulary, practising a certain skill, developing cultural competence or a combination of two or more. If the learner decides to tackle a content, s/he is proposed the menu of Figure 1: a choice between newspaper articles, the stockmarket and other economic resources. The link towards the teacher and the discussion group is permanently present.
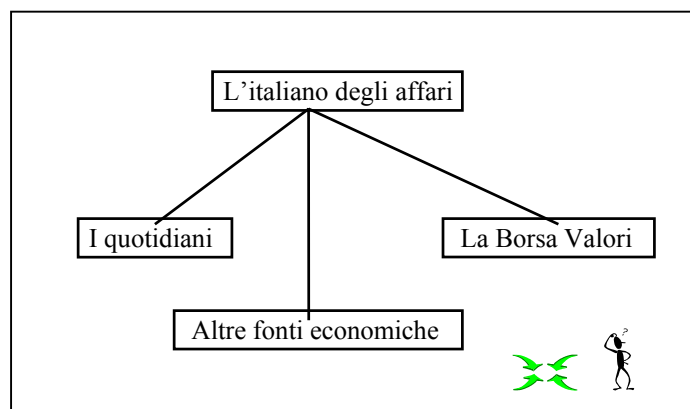
Figure 1 – Design of the first screen of the application

After choosing the section of newspaper articles, the student is presented a range of possibilities (Figure 2): *Il Sole 24 Ore, La Repubblica, Il Corriere della Sera*.
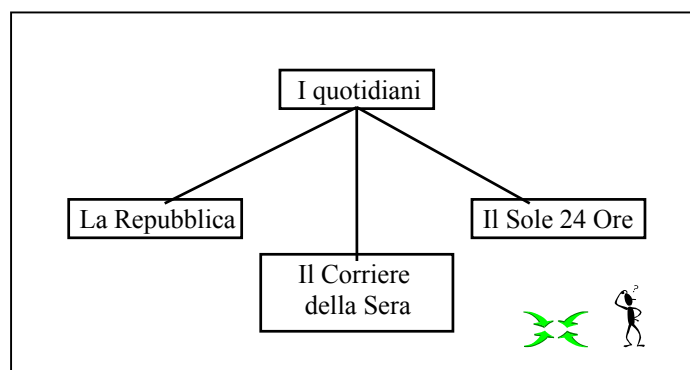
Figure 2 – Design of the screen concerning newspapers

From each newspaper a number of recent articles is collected. When the student accesses the article s/he would like to read, a link to annotations of vocabulary, grammar and to comprehension exercises is established. If the student wants to, s/he can do a comprehension test (e.g., multiple choice, open questions or an essay). These tests can then be mailed to the teacher for eventual correction.

6. Conclusion and remaining difficulties

The theoretical framework for second language acquisition that we have proposed integrates the constructivist view of learning with the open learning paradigm. In our approach to foreign language learning, the students actively expand, evaluate and alter their starting knowledge capital through situated, meaningful activities. In order to increase commitment and thus improve the learning experience, the individual students acquire a certain degree of freedom and are allowed to set their own personal goals, methods and evaluation procedures. Furthermore, we have shown how this framework can be translated into a Web-application to enhance business Italian, where the students can freely engage in authentic, productive, communicative activities and explore a considerable amount of authentic current event material.

However, it is not inconceivable that the learners might find themselves overwhelmed by this newly gained control over their learning process. It is not unthinkable that they have never been confronted before with a second language acquisition program that asks them to decide on matters of major importance. On the contrary, they may be used to being told what they should study and how they should proceed. To overcome these problems of distrust, we have suggested helping the learners in their decision-making process. Nevertheless, some authors stress that it cannot be assumed that open learning agrees with every kind of learner. Open learners will typically be self-motivated, independent, mature and goal-oriented (Maxwell, 1995). Kember (1995) therefore argues that an open learning paradigm is best suited for adult learners.

Another open issue relates to the feasibility for learners to assess their proficiency level. The students may indeed encounter difficulties in accessing adequately the level at which the material provided can be sufficiently understood. In

order to meet this objection, we propose to have the students constantly coached by a language teacher, who can be consulted at any time.

The theoretical framework we have developed allows an adequate use of the Web within a second language acquisition program. We believe that the CALL-application proposed can be fruitful and useful to actual foreign business language learning. However, more thorough research into the effectiveness of such applications is needed. The virtual language learning community created by the WWW may conceal even more possibilities which should be put on the research agenda.

References
Anderson T., Kibby M.R. & Mayes T. (1990) "Signpost for conceptual orientation: some requirements for learning from hypertext". In McAleese R. & Green C. (eds.), *Hypertext: State of the Art*, Oxford: Intellect Ltd, 121-129.
Bell R. & Tight M. (1993) *Open Universities: A British tradition*, London: The Society for Research into Higher Education and Open University Press.
Billet S. (1994) "Situated learning -- A workplace experience", *Australian Journal of Adult and Community Education* 34 (2), 112-130.
Billet S. (1996) "Towards a model of workplace learning: The learning curriculum", *Studies in Continuing Education* 18 (1), 43-58.
Brown J.S., Collins A. & Duguid P. (1989) "Situated cognition and the culture of learning", *Educational Researcher* 18 (4), 32-42.
Cobb T. & Stevens V. (1996) "A principled consideration of computers and reading in a second language". In Pennington M.C. (ed.), *The Power of CALL*, Houston: Athelstan, 115-136.
Foks J. (1987) "Towards open learning". In Smith P. & Kelly M. (eds.), *Distance education and the mainstream*, London: Croom Helm, 74-92.
Glaser R. (1989) "Expertise and learning: how do we think about knowledge structures now that we have discovered knowledge structures?". In Klahr D. & Kotovsky K. (eds.), *Complex information processing: the impact of Herbert A. Simon*, Hillsdale: Erlbaum and Associates, 93-104.
Kember D. (1995) *Open learning courses for adults: A model of student progress,* Englewood Cliffs, NJ: Educational Technology Publications.
Kerka S. (1997) "Constructivism, workplace learning, and vocational education", *ERIC Digest*, Series Number EDO-CE-97-181. Colombus: ERIC Clearinghouse on Adult, Career, and Vocational Education.
Kienbaum B., Russel A.J. & Welty, S. (1986) Communicative competence in foreign language learning with authentic materials. Final project report, ERIC 275200.
Lave J. & Wenger E. (1991) *Situated Learning: Legitimate Peripheral Participation,* New York: Cambridge University Press.
Leontyev A.N. (1981) *Le développement du psychisme*, Paris: Editions sociales.
Levi M. (1998) "Two conceptions of learning and their implications for CALL at the tertiary level", *ReCALL* 10 (1), 86-94.
Liou H.-Ch. (1997) "The impact of WWW texts on EFL learning", *Computer Assisted Language Learning* 10 (5), 455-478.
Maxwell L. (1995) "Integrating open learning and distance education", *Educational Technology* 35 (6), 43-49.
Prawat R.S. (1989) "Promoting access to knowledge , strategy and dispositions in Students: A research synthesis", *Review of Educational Research* 59, 1-41.
Pusack J.P. & Otto S.K. (1997) "Taking control of multimedia". In Bush M. (ed.), *Technology-enhanced Language Learning*, Illinois: National Textbook Company, 1-46.
Rogoff B. & Lave J. (eds.) (1984) *Everyday cognition: its development in social context,* Cambridge, Mass.: Harvard University Press.

St. John E. (1998) "Teaching, typing, talking. Two case studies", In Calvi L. & Geerts W. (eds.), *CALL, Culture and the Language Curriculum,* London: Springer-Verlag.

Rüschoff B. (1993) "Language learning and information technology: State of the art", *CALICO Journal* 10 (3), 5-17.

Vygotsky L.S. (1978) *Mind in society - the development of higher psychological processes,* Cambridge, Mass.: Harvard University Press.

Zhao Y. (1997) "Language learning on the World Wide Web. Toward a framework of network based CALL", *CALICO Journal* 14 (1), 37-51.