

Language Learning in Mobile Environments

– A Pedagogical Review for Teachers and Learners

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1 Introduction

We see everywhere a change in the lives of adults. As our world seems to alter at an ever faster pace and many issues appear ever more complex, it has become evident that adults need to be able to solve a wider range of problems with a greater degree of reliance on their own resources than they have been used to (cf. Mezirow 1991, 34). This general trend cannot pass working life without leaving traces. One of those traces is the requirement for life-long learning. It has its logical translation in second language learning as well.

With this review we hope to help learners understand the essential features of second language acquisition and thus help them become better second language learners. The ability to reflect upon one's own studying and learning process requires special attention in distance learning. In addition, this review provides useful advice for teachers who are using a virtual platform, and gives an overview of different language learning approaches dealing with web-based environments.

The concepts of *Learning Just in Time*, *Learning on Demand* and *Learning on the Job* need reviewing and blending with the approaches we have today in second language learning. In Chapter 2 we will discuss the learner tasks in the project *Just in Time reBlending* as interpretations of the learning theories behind the actual exercises. In Chapters 3 and 7 we discuss the relation between teaching, studying and learning, the so-called TSL process, and the use of information and communication technology (ICT) in this process. In Chapter 4 we view characteristics of learning environments which have the emphasis on virtual platforms and mobile learners. Chapters 5 and 6 focus on the roles of learners and teachers in this particular setting, and the possibility or necessity for changes in modern teaching and studying paradigms.

Blending teaching methods is a key factor in distance learning. Blended learning is often used to describe the effort to integrate different learning environments or tools of interaction offered by information technology and teaching methods (cf. Levonen et al. 2005). On the other hand, language learning, as we understand it, can entail "traditional exercises", for example in grammar: words are translated from foreign language to mother tongue and vice versa, articles and plural forms are added to a text, and verbs conjugated, in order to gain solid and fluent communication skills.

What does *reBlending* refer to, then? The concept describes an attempt to be part of the creation of a culture for learning and teaching, where the special focus lies on efficient ways of learning a foreign language in a distance learning modus. *Learning on the Job* and *Learning Just in Time* are concepts that challenge both learners and teachers in lifelong learning projects.

2 On Language Teaching and Learning

2.1 Syllabus and Objectives in Just in Time *reBlending*

Just in Time reBlending supports a learning mode in which the learner independently uses the virtual platform for self study, and in addition participates in small group face-to-face teaching. Face-to-face teaching can also take place in a virtual space. When discussing language learning or acquisition, we first need to define what we mean by the use of language in the respective framework. In other words, what kind of competence and skills are the learners seeking to acquire?

The learners are primarily staff members of small and middle-sized businesses, as well as students in applied sciences and vocational education. In this case the learners aim to acquire (business) culture-sensitive communicating skills in difficult meeting and communication situations as well as skills in negotiation and other marketing-related topics. All this is embedded within the framework of participating in a trade fair.

Another goal of this project is to develop new motivating and rewarding learning methods for acquiring a foreign language in an authentic working environment; methods which support a self-directive and effective way of learning.

In this chapter we will discuss relevant second language learning theories when using a virtual platform and acting as a “mobile learner”. In a way we are “looking back” from the exercises in order to illustrate which approaches provide the theoretical background and research behind the materialized learner tasks.

2.2 On Blended Learning and the Role of Technology in Language Learning

The concept of blended methods in language learning involves a broader point of view than single “operations” or single situations of interaction. Blending can mean more than using a variety of

methods. It suggests that learning environments are integrated and blended into a *new* entity or wholeness.

The problem in such a broad definition is that it in fact describes almost any learning environment or process that involves interaction. But usually blended learning today describes an effort to put together a learning environment where the focus lies in integrating, in an appropriate manner, learning processes, environments and tools of interaction offered by the information technology (Levonen et al. 2005). Other elements to be integrated include various learning and teaching methods in single sessions, training that is integrated with learning on the job, and autonomous learning with group learning.

Technical solutions like the web and computer-based applications have been an integral part of education and second language acquisition for several years (Levonen et al. 2005). Nevertheless, language learning and the use of language still require social interaction, the criterion of which is the “feedback loop”: receiving information, observing and adapting it and as a result changing it (Aarseth in Tella & Ruokamo 2005, 26–27). In Chapter 4 we will more closely discuss the impact that the use of mobile techniques and computer-mediated communication has on language learning under the precondition of social interaction (cf. Tella & Ruokamo 2005, 21).

One argument that we maintain throughout this review is that studying does not equal learning (Tella & Ruokamo 2005, 12). Meaningful and purposive studying *can lead* to learning. It is therefore necessary to distinguish between *studying* (the tasks accomplished by the learner) and the *psychological and cognitive process of language learning* (Tella & Ruokamo 2005, 12).

There is strictly speaking no such thing as “web-learning”. There is just learning, which is the result of various teaching procedures and studying processes; the web can be used, for example, as a platform to distribute tasks, to practice and communicate (Tella & Ruokamo 2005, 12). In the case of *reBlending*, an intelligent tutoring system is additionally provided on the internet to take over some of the tutoring tasks and allow the learner some independence regarding tempo-spatial limitations.

2.3 Communicative Language Teaching and Co-operative Language Learning

The focus of the learner is not primarily on grammatical correctness but on communicative competence, according to the guidelines in communicative language teaching. Naturally, the ability to use the linguistic system effectively and appropriately is essential. Grammatical correctness on the one hand, fluency and comprehensibility on the other hand, should be perceived as counterparts, not as opposites.

The communicative approach in second language acquisition is often contrasted to the audio-lingual method, which, along with behaviourism, has lost in significance. But the audio-lingual method will survive changes in foreign language teaching, as repetition of phrases simply can be useful as (a small) part of the methodology. Repetition activities can therefore be found on the *reBlending* platform as well.

Finocchiaro and Brumfit (1983) contrasted the communicative approach to the audio-lingual method in the following manner (the list here is partial, involving only the principles which concern the *reBlending* concept):

Language learning is learning to communicate, according to which dialogues centre around communicative functions (rather than being memorized). Drilling may occur peripherally. Effective communication is sought (not “over-learning”), and learning objects are contextualized.

Language is understood as the creative construction of individuals who work it through trial and error; errors are therefore tolerated (rather than prevented at all costs). The use of language has to be acceptable in terms of correctness; accuracy is judged in context.

Learners are expected to interact with other people either face-to-face, through pair and group work, or in their writings (rather than interacting with the language system).

In pronunciation a comprehensible level is sufficient.

Grammatical explanation is offered; in fact, any device that helps the learners is accepted.

Intrinsic motivation will spring from an interest in what is being communicated by the language, rather than from an interest in the structure of the language; although this naturally is acceptable “on the side”. (Cited from Richards & Rodgers 2001, 155–156)

This type of approach can be supported through task-based materials and simulated communication activities that integrate different language skills. It suits well learners who in fact have a primary task that they need to accomplish, such as entering a business meeting where they need to succeed. The communicative approach is by its nature rewarding and it motivates the learners to invest in the language learning process if they feel they have profited from it in a real-life situation (Richards & Rodgers 2001, 160).

Cooperative language learning (CLL) is part of a more general instructional approach known as collaborative learning (CL). CLL is an approach to teaching that makes maximum use of cooperative activities involving pairs and small groups (Richards & Rodgers 2001, 192–203). It is viewed as a learner-centred approach to teaching. In language teaching its goals are:

- to provide opportunities for naturalistic second language acquisition through the use of interactive pair and group activities
- to enable focused attention to particular lexical items, language structures, and communicative functions through the use of interactive tasks
- to provide opportunities for learners to develop successful learning and communication strategies

The role of the teacher is to be the facilitator of learning. As a facilitator the teacher needs to create a highly structured and well-organized learning environment (Richards & Rodgers 2001, 199).

2.4 The Natural Approach and Krashen’s Affective Filter Hypothesis

The acquisition/learning hypothesis distinguishes between learning and acquisition. Accordingly, acquisition is the ‘natural’ way, paralleling first language development in children. Acquisition is also an unconscious process involving the naturalistic development of language proficiency through understanding language and using language for meaningful communication, thus lowering the affective filter (see below). In learning, by contrast, conscious rules about language are developed; explicit knowledge of the forms of the language is the goal; teaching is formal, correction of errors is essential

(Richards & Rodgers 2001, 181). According to this theory, learning cannot lead to acquisition, a hypothesis which we won't go further into here.

In this review we use both acquisition and learning to describe the learner's/acquirer's task. It is clear that in using the concept and the platform of *reBlending* the learner does not merely "submit to formal teaching", nor is he/she a pure acquirer in the sense of the parallel with first language development in children, but is often in between (for example, taking photos of certain issues and collecting a topic-related dictionary together in a group of students). A study on "How do learners want to learn a foreign language?", involving more than 500 respondents, was carried out prior to designing the platform and concept of *reBlending*. Oral communication, game-like exercises and the use of all kinds of technology are examples of the kinds of activities that were wished for. As a result, learners can improve their competence through various methods including those wished for, through self-directed studying, self-guided goal setting and using language for meaningful communication.

According to Stephen Krashen's affective filter hypothesis, the learner's emotional state is an adjustable filter that passes, impedes or blocks input necessary to acquisition. Affective or attitudinal variables that are related to second language acquisition are motivation, self-confidence and anxiety. "The Affective Filter Hypothesis states that acquirers with low affective filter seek and receive more input, interact with confidence, and are more receptive to the input they receive. Anxious acquirers have a high affective filter, which prevents acquisition from taking place" (Richards & Rodgers 2001, 183).

In this particular setting the learner participates in the planning of his/her own individual syllabus, which affects all the attitudinal variables mentioned above. Independence in many different respects such as choosing the time and moment used for studying or the personal accumulation of work in a portfolio is conducive to motivated studying. Defining for themselves what they want and need to learn motivates learners in their studying, allows them to concentrate on certain matters at a time, and allows them in turn to seek support where they feel unsure. Acting on these terms should diminish the anxiety level, which accordingly promotes learning.

2.5 Constructivism

Constructivism is not a method as such. The word constructivism derives from the perception that during the process of learning the learner constructs a reality, or at least interprets it, based upon his/her

apperceptions (Jonassen et al. 1993, 233–234, Tella & Ruokamo 2005, 26). The fundamental problem that originally led to the development of the constructivist viewpoint is the fact that learning something in school often failed to lead to corresponding performance and skills outside the school context. The subsequent perception was that students must construct their own knowledge and that education consists of providing appropriate learning situations that afford students opportunities to develop personal knowledge that will be useful in later life (Gott et al. 1996, 33).

The real art in the design of constructivist learning environments, as Honebein (1996, 18) puts it, is in interpreting the learning goals and subsequently translating them into learning activities. At the heart of the knowledge construction process is self-directed learning. The conceived learning activities need to provide the learners with a level of autonomy in the learning process.

Constructing knowledge begins with the active and generative mental processing of perceptions, which should result in understanding (Jonassen et al. 1993, 233–234). Knowledge is therefore constructed, not repeated. Similarly, the intellectual process of knowledge construction, not repetition, should be the object of assessment. Typically, constructivist exercises have possible outcomes, each of which provides acceptable evidence of learning, whether the evaluation is done as self-assessment or is teacher-based (Jonassen et al. 1993, 244).

Examples of constructivism in *reBlending*: sending speech to the teacher to be checked, working with comics (drafting texts, matching text and picture), collecting word families and concept schemes, elaborating on the outcome.

2.6 Task-Based Language Teaching and Content-Based Instruction

The increased mobility of the work force will increase cross-cultural contacts, which are facilitated by the information and communication technologies (ICT) (Kohonen 2001, 8). Another challenge and goal in language teaching is how to respond to the demands and needs of the business world. Language students should be prepared for situations which they will encounter in their professional activities. In problem-based learning, information is valued according to its applicability. When the learners self-assess their learning, their problem-solving skills develop and this can be useful in their occupations

(Boud & Feletti 1999, 19–29). The problem-based teaching method is therefore well-suited for learning in a web-based environment where learning materials are chosen from a large pool according to the personal syllabus.

Task-based language teaching refers to an approach based on the use of tasks as the core unit of planning and instruction in language teaching (Richards & Rodgers 2001, 223). At its core are activities and tasks that learners might need to achieve in real life, as we see in the setting of *reBlending* (S. Feez according to Richards & Rodgers 2001, 224). Tasks are said to improve learner motivation, to tolerate and encourage a variety of communication styles, and to call on the learner's past experience (cf. constructivism), all of which is very likely to promote learning (Richards & Rodgers 2001, 229).

According to the theory of task-based language teaching learners should be prepared for new tasks, and not go in “cold” (Richards & Rodgers 2001, 236). Pre-task preparation might include topic introduction and helping students to learn or recall useful words and phrases. With a concept like *Learning on Demand* the preparation is partially endogenous; one finds oneself in a situation which requires special knowledge (corresponding to topic introduction) and language knowledge. *Learning on the Job* often requires equally conscious and organized “tuning in” to a situation.

Research on problem-based teaching, studying and learning (where problems are used as stimuli and foci of attention, Tissari et al. 2005, 77–78) shows that an insufficient definition of learning goals has a negative impact on the participation in the collaborative exercises and knowledge construction. On the other hand, task-based language teaching shows the benefits of open, cognitively-challenging and constructive instruction.

Content-based instruction refers to an approach rather than a method of second language teaching. Here also, teaching is organized around the content or information that students will acquire, rather than around a linguistic or other type of syllabus (Richards & Rodgers 2001, 205–219). “The principle behind content-based instruction is that people learn a second language more successfully when they use the language as a means of acquiring information rather than as an end in itself” (Richards & Rodgers 2001, 207).

3 The Relation between Teaching, Studying and Learning

Though many would claim that studying and learning are synonymous, it seems that learning is something that happens when one is studying, i.e., consciously trying to learn something. Studying is thus conscious and intentional while learning is not necessarily so. Learning includes the unintentional acquisition of competence. The term learning refers both to the process and to an actual change in competence. Learning can be seen as a primary phenomenon in relation to teaching and studying. Without such a phenomenon as learning, activities like studying and teaching would not be meaningful (Uljens 1997, 36–37).

However, a study process cannot always guarantee that the desired learning will occur (Kansanen 1993, 56; Uljens 1997, 37–39). The relation between teaching and learning is discussed within the theory of didactics and the approach to the term learning depends on one's didactic perspective (Harjanne 2006, 54).

In an attempt to deepen our understanding of the teaching-studying-learning-process (TSL) itself we may begin with one or more aspects of teaching, such as syllabus design, methodology, task design, content teaching, or evaluation. There is an ongoing interaction between these fundamental matters in the TSL process. In this process the teacher tries to mould the learning process by teaching and supporting the student, and the learner participates by studying. The teaching affects the learning process indirectly through the student's study behaviour (Uljens 1997, 39). This process (see Fig.1) in which the student studies intentionally to learn and the teacher supports the student in this effort is called the TSL process. In this didactic theory there is an indirect relation between teaching and learning where studying has gained a significant position (see Tella et al. 2000; Uljens, 1997).

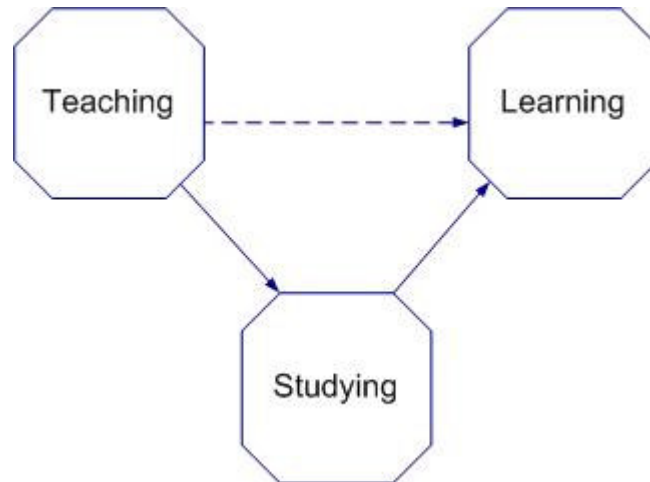


Figure 1. The Teaching-Studying-Learning process (TSL) (Uljens 1997)

Until fairly recently it has been regarded that what is fundamental to good learning is the active role of the students, and the teacher's role is seen as being more or less supportive during the learning process. This view relies on the existence of a supportive teacher and an active student and the perspective on learning is cognitive-constructive (Rauste-von Wright 1997). The learning process is influenced by the learners' prior knowledge, motivation, orientation, study strategies, learning styles and regulation of their own learning (see Rauste-von Wright & von Wright 1994). The goal is a researching, self-directed and motivated student, with an active role as a constructor of information (Jonassen 1993, 233). In studying it is also a question of learning how to collect and deal with the new knowledge. Studying can be seen as a physical action in different social contexts such as writing, reading or in conversation (Vahtivuori 2001, 81).

Apart from the teacher/tutor, other important elements in the TSL process are the learning environment and tools. Taking the TSL process into web-based environments has brought a new perspective into this world – the information and communication technologies (ICT) (Tella et al. 2001; Nevgi & Tirri 2003).

4 Learning Environment and Tools

4.1 A Short Description of the “Courses” or “Modes” in *reBlending*

There are (at least) two kinds of tool packages in web-mediated learning:

- a) *devices based on computer and information technology* and
- b) *cognitive tools*, such as learning strategies and know-how in (self-)assessment. In this chapter we shall only focus on the technological side.

On a course such as *Learning on the Job* learning takes place mainly at the computer. Feedback comes partially from the tutor, partially from the intelligent tutoring system on the platform.

Learning Just in Time / Learning on Demand imply that learning is driven by actual needs and that learning is happening precisely when one needs certain information or the skills. Therefore, a central factor from the viewpoint of the learner is mobility and the use of mobile tools.

The learner downloads from the multiplatform knowledge (phrases, vocabulary, texts) and exercises (reading and listening comprehension, use and making of sentence structures). Feedback follows immediately from the ITS after a completed exercise, or possibly from the tutor via a mobile device.

4.2 Technology

Mobile technique refers to applications and the skill of using such applications adequately; mobile technology means the hardware (Tella & Ruokamo 2005, 9), such as mobile phones, wireless laptops and iPods. We can be sure that no new technical solution is of help unless the users of the technique are aware of the motives and goals that lie behind the use of the new devices and concepts (Tella 2005, 69).

The technology has to be simply operative so that a minimum of focus and resources have to be spent on the actual operation of the technology. Obviously, technical support should be at hand at all times. The role of technology mainly lies in mediating communication (Tella 2005, 69). Computer-based applications are used to simulate language use and design assignments for the learners. Nevertheless, modern techniques do not invalidate the requirement for the pedagogical justification and know-how of

studying techniques. As stated in Chapter 2, individuals learn (languages) according to certain principles, and the available technique and tools must be used according to those guidelines.

Jonassen et al. (1993, 237) believe that hypertext is one of the best examples of a constructivist learning environment. It is task driven and requires engagement in constructivist learning processes. Hypertext originally refers to non-linearity and the linking of text elements with each other. Through the internet, hypertext has additionally evolved from plain text into multimedia hypermedia (Levonen et al. 2005).

Although it can be argued that not all learning must be intentional (Mayes, cited from Jonassen et al. 1993, 237) and that “browsing may well result in learning, as will any engagement with information for which appropriate schemata already exist” (Jonassen et al. 1993, 237), in our view the learner, especially in an approach such as *Learning On Demand*, must invest in learning adequate studying strategies, since time is inherently limited in the concept and (broad or narrow) learning goals can be specifically expressed. Technology-based environments and the applications within will only be effective tools if learners use them to represent their understanding, which can be reflected, for example, through networking software, databases or microworlds (Jonassen et al. 1993, 237).

4.3 Defining a Learning Environment

If you ask people to name something that they have learnt really well, it is unlikely that very many will mention an environment, for example their own childhood neighbourhood. But environments are something that it is really possible to get to know. They have dimensions such as length and breadth, places and parts, constancy and change, all of which make it possible for someone to move through them and learn their way around. (Perkins 1996, v)

A learning environment is part of the constructivist answer to the problem of internally-focused schooling which is not “providing learners with knowledge” that will be useful in later life (cf. Gott et al. 1996, 33).

The virtual world of learning environments on the web consists on the one hand of computer microworlds (for example a single learning object or a learning situation) that may stand alone or be supported by a larger classroom environment or programme, and on the other hand of open learning

environments that allow interactions with resources and other networked participants (Wilson 1996, 7–8).

Typical problems in web-mediated courses and e-materials relate to the closed nature of the microworlds: the tendency for behaviourism (e.g. correction on the scale right/wrong), uncommunicativeness, and insufficient tutoring in writing and oral skills. Open learning environments in turn offer solutions which add to the communicativeness and reciprocity of the learning process in order to make more complex assignments as well as their correction and feedback possible.

A learning environment always contains certain sectors such as

- place and space, room to move and explore with generous access (Wilson according to Perkins 1996, v);
- tools and devices, collection and interpretation of information, possible interaction with others (Wilson 1996, 4);
- learner-friendliness: settings that support and stimulate the learner, making ideas accessible, problems approachable, mysteries inviting (Perkins 1996, vi).

One dilemma arises from the fact that the acquisition and use of language imply social intercourse. The question then is how the use and intervention of technology affect language learning (Tella & Ruokamo 2005, 21). At least a potential danger originates in the lessening of face-to-face communication; the component of social experience must not be omitted in a web-mediated learning process.

Social interactions and collaborative activities have to be built into the environment and exercises. This principle has received special attention in the design of the *reBlending* platform.

In fact, one of issues that is seen as an advantage of blended learning or using the web as a tool in language learning is the fact that the more introverted persons can also find themselves communicating on an equal basis with the more extrovert. Some studies even state that virtual working, communicating and studying environments contribute to the creation of a feeling of collaboration (Tella & Ruokamo 2005, 23).

4.4 Enlarging the learning environment

Johanna Pöysä (2007) concluded in her study that the technology-supported collaborative-based learning “followed” learners into their social interaction in student cafés and homes.

This shows that dedicated learners can instinctively extend their learning environments through evaluating the personal learning process, thinking over the acquired substance and discussing these with co-learners and friends after having left the or “primary” learning environment.

An over technology-centred viewpoint may just reveal a fraction of the real learning environment and the rich learning processes of active learners, says Pöysä.

5 Learner Roles in Mobile Learning

5.1 Identity as a Second Language Learner

Learners often perceive the German language as difficult. German may seem difficult because of the variety of forms, for example the four cases. From the point of view of the language user this means that whenever one uses a noun, a decision has to be made about the declination in this particular sentence. But this is just the smallest of problems in a learning process which principally uses a virtual platform.

Learning of a foreign language in a self-directive mode requires special skills and knowledge, as well as training. Learners need to be psychologically and cognitively prepared for changes that have taken place in the studying paradigm even since the 1990’s. It is challenging to those who are accustomed to whole-class teaching modes and some might not find the new set of learner roles to their liking (Richards & Rodgers 2001, 213).

The learners will have to assume responsibility for defining their own learning objectives, planning a personal learning programme and carrying out an assessment process on their progress. The approach to studying a foreign language must, in adult learning, be consciously reflexive, the learners thus finding and defining their self-concepts as learners, which includes knowledge of the personal premises and learning styles, as well as knowledge of available support in the learning environment (cf. Mezirow 1991, 200).

5.2 Level and Goals

Anyone using the *reBlending* concept and platform has the larger goal of gaining the communicative competence to enable participation in a trade fair as an exhibitor. Key areas of communication include product presentation, customer relations, asking, inviting, instructing, reserving and making an appointment.

The very first thing the learners should determine is their starting level, to ascertain whether they are “B1-speakers”, that is, Independent Language Users of the Threshold Level, according to the Common European Framework of Languages (CEF). This can be relatively easily self-evaluated because a description of the levels can be found on the internet.

5.3 Using the Platform

At the centre of the learning environment is the usage of a virtual platform equipped with an Intelligent Tutoring System. Any learner can study independently and interact with the ITS. They can in addition rely on the support of a tutor. The learners will have defined their own learning goals, which are partly individual and partly pre-defined. The overall goal is to learn to use the foreign language skills needed in certain intercultural situations.

The learner chooses the desired learning objects, interactive unitary pieces of learning material, in the pool on the platform.

The learning activities/tasks include asking on the phone for a missing object, putting sentences together to form a logical dialogue, writing a dialogue for a comic strip, making a learning card with the vocabulary that is needed to design an exhibition stand. All of the outcomes are saved in the personal learning portfolio, where the learners save all the materials, exercises and pieces of information they wish to have access to later.

The Intelligent Tutoring System provides immediate tutoring and correction, as well as links to grammatical rules.

Some learner actions on the platform may seem trivial, for example the mouse-click for adding text, but conceptually they go “higher”, returning to user functions. For example, the preceding functions to a well-thought-out mouse-click can be *the interpretative function* (constructing information/knowledge), *the explorative function* (constructing a text through choices), *the configurative function* (limited

adaptation of the material) and *the textonic function* (production/writing) (Aarseth according to Tella & Ruokamo 2005, 24–26).

The learners are encouraged to be aware of the kind of cognitive path they have taken before acting on the mouse and to take full credit for their success in solving a task or completing an exercise.

5.4 Personal Syllabus

Exercises on the platform resemble authentic situations and activities. The concept behind authentic simulations is to design an environment in which learners use their minds as if they were acting in real situations (Honebein 1996, 20). Thus, while completing the exercises, the learner has to adapt to different roles, undertake social interactions in their roles as practitioners: teamwork, leadership, negotiation, and cooperation (Honebein 1996, 21).

The whole concept of *Learning on Demand* is based on the idea of meaningful and purposive learning, which, as one of many factors, should trigger a positive motivation, thus promoting learning.

Learners co-define, with the teacher-tutor, their own aims, i.e. their personal syllabus. The teacher's role consists mainly of assisting the learners in the definition of their learning needs. The teachers support is based on their own knowledge of pedagogy and the subject-matter.

The syllabus is partially “given”, for example through the content of the exercises, although in some learning objects the content is customized. The syllabus can be updated and focused throughout the course of studying. The framework of the syllabus is the learner's own occupational as well as personal, biographically-unique identity, the individual goals and resources including the available time. It is a good idea to put the goals down in writing, because an insufficient definition of learning objectives and goals may, according to some research, have a negative impact on the participation in collaborative exercises on the one hand, and knowledge construction on the other (cf. Tissari et al. 2005, 77–78).

Time is a central and critical factor with approaches like *Learning on the Job* and *Learning on Demand*. They bear the risk of trying to save time at the cost of studying. One of the aims of this project is to develop and seek effective and efficient ways of learning. But the inherent lack of time in

Learning on Demand can cause anxiety and stress; it can disrupt a confident emotional state, which in turn could interfere with a potentially successful learning experience.

In the *Learning on the Job* mode learners bear the responsibility for their individual learning process by managing their own learning activities and maintaining an environment that supports adequate studying. As regards time, it is necessary for the learner to comprehend how much of it needs to be invested in studying so that understanding, processing and internalizing the substance becomes possible, thus promoting the transfer of the learnt substance and competence to the long-term memory.

5.5 Self-Directiveness and Self-Assessment

It is very useful for a learner to be aware of the outcomes of different studying styles, factors such as emotional state (anxiety, stress, fatigue), the self-image as a learner, the meaning perspective in which the learning is embedded, and the external circumstances within which one interprets and remembers substance (Mezirow 1991, 13).

One part of the self-guided learner's role is to negotiate between the self, the learning process and the object of learning. As research has shown: learner activity and commitment are crucial factors for success in web-mediated learning (Tissari et al. 2005, 83). This should be kept in mind while discussing learner autonomy and freedom.

As already stated, learners themselves emphasize the support needed from teachers and mentors (Tissari et al. 2005, 83). Self awareness means becoming aware of the conditions of experiencing: *how* do I perceive, think, judge, feel, act, and *why* (Mezirow 1991, 197). As a self-directive learner I have to gain expertise on my own learning process, detect gaps in my knowledge, and be willing to fill in those gaps. I must also learn to notice when I need help or tutoring.

Assessment in web-mediated learning typically involves learner's self-assessment. The assessment should focus on the progress of the learner and on evaluating the success in knowledge construction (cf. constructivist theory, Jonassen et al. 1993, 243). Hence, the target of the assessment is the process, not the output, especially since some of the tasks do not require correction of output in the form right/wrong; the feedback may be formulated in a more general way as "Message understood / not understood". Naturally the exercises that need correcting will be treated respectively. But learning about learning (Perkins 1996, *viii*) is equally important, especially when seeking learner autonomy.

The advantages of autonomy have been widely discussed, and they include independence of time and space (although time actually has to be invested just as in any learning), the possibility of receiving individual tutoring, the possibility to affect the selection of learning materials and assignments as well as the possibility to choose the order of procedure.

The downsides of self-directive learning concern those learners who (in their own opinion) fail to meet with the norm or ideal of a self-directive learner, the definition of which often resembles perfection. Self-directive learners also have to cope with the fact that despite their best aims and intentions they will sometimes act against their own principles. It is thereby useful to ponder upon the core of the (apparent) autonomy. “Freedom” often refers to the completion of exercises on any user interface, while the institutionalized and internalized framework of studying and education still remain unchangeable. The learners need be knowledgeable in planning and carrying out the studying activities, and equally knowledgeable in assessing that process. They have to reflect upon the criteria they use to measure their success, reflect upon the improvement of their competence in language on the one hand, and their competence in language learning on the other. If learners merely try to apply some internalized but outdated indicators they assume the teacher would use, they risk missing the benefits of the whole assessment process (Vuorikoski 2004, 19–20).

6 Teacher Roles in Mobile Learning

6.1 Paradigm

It often happens in higher education that the instructors note, upon reflection, that they have done most of the work: they set the goals, planned the objectives, selected the strategies, asked the questions and evaluated the work. In fact, these are high-level cognitive actions that teachers actually seek for learners to perform (Dunlap et al. 1996, 69).

In web-based learning and using an intelligent tutoring tool the whole concept of “tutoring on demand” is customized according to the actual needs of the learner, the goal being a new learning and tutoring environment which is open and flexible. Various technical solutions on virtual platforms have increasingly shifted the focus in the TSL process (teaching, studying, learning) from teachers to learners (cf. Tella 2005, 70), who through self-guiding and evaluating define their own needs and goals. What then is the role and place of the teacher-tutor in this environment? Is the teacher merely a

co-worker with the intelligent tutoring system, in which the system itself provides the learning opportunities?

The teacher is an expert in language learning. The importance of pedagogical expertise in learner support is not diminished by self-directive learning and assessment, intelligent tutoring system, changes in the teacher's role or a focus on adult education. In fact, the complexity only emphasizes the role of a trained, professional teacher and the need for pedagogical support.

The transformation in the teacher's role from class-room teaching into supporting learning in virtual and authentic environments is no longer a novelty. Traditionally, the teacher's role included, in addition to "teaching" (telling, showing), such tasks as correcting student output, giving feedback and being motivating. These still apply, apart from the motivating perhaps, which really should have an intrinsic foundation. But the need for tutoring in various forms has increased, especially in adult education, along with the striving for self-guided learning, self-assessment, and customized learning goals, just to name a few changes.

6.2 Teacher-tutors' roles and tasks in adult learning

One obvious teacher-tutors' task is to facilitate the communication process between all participants, including helping participants to communicate with various activities and texts. The role here is that of contact person but the total list of tasks is virtually infinite.

The teacher-tutors have to be (culturally) knowledgeable in the subject matter.

They still need to prepare tests for *Learners on the Job*.

The teachers must themselves be good language teachers in order to detect and offer solutions to possible learning problems, whether they are rooted in learning style, or adaptation to (a degree of uncertainty in) self-directive learning. This is the case even if the teachers lack specific competence in the authentic situation the learner is about to encounter.

Of course the teachers have to have knowledge of suitable materials and tips for further learning. Feedback has to be given, bearing in mind that the learning environment and learners' need for guidance have become more complex.

Many of the teachers' supporting tasks could be described with just two verbs: help and assist.

Mezirow (1991, 199) suggests that the teacher should

- assist the learners to define their learning needs and objectives both in the immediate and long-term perspective
- assist the learners to assume responsibility for planning their own learning programmes and evaluate their progress
- help learners reflect, not only on the outcome of the substance-learning, but also on the learning process, and thus evaluate it, considering simultaneously the learners' individual premises and learning environmental factors
- help learners, when they suffer from tunnel vision, encounter troublesome issues, have difficulty in learning or lack motivation, to become aware of the relationship between new data and what they already know, and to understand how they see the new data
- help the learner understand how to use learning resources, including the educator, and engage in reciprocal learning situations.

There are specific features that especially characterize adult learning. In adult learning the reinterpretation of previous experiences should always be emphasized, which is one of the fundamentals of transformative learning.

The reinterpretation of previous experiences can give new meaning and perspective to old experience in all learning (Mezirow 1991, 11). This is a significant perspective, since it has become a major imperative in modern adulthood to critically examine the justifications for interpretations and meaning schemes, and the perspectives that they express.

We can learn simply by adding knowledge to our meaning schemes, or we can learn by reflectively transforming our beliefs, attitudes, opinions and emotional reactions that derive from earlier, often unreflective interpretations, thus transforming our meaning schemes (or learning new), with which to make interpretations of our experience (Mezirow 1991, 35, 223).

In second language learning this means, for example, the correction of old misconceptions, oversimplifications or over-complexity about the nature of the target language. The “trained learner” (i.e., the teacher) must become the analyst of student needs (cf. CBI, Richards & Rodgers 2001, 214). The teacher's task lies in recognising whether possible learning difficulties are rooted in the learning environment or derive from learning methods, or if previously acquired substances or ideas interfere with the new, causing learner problems, the origin of which is unknown. With the teacher's help the

learners can learn to validate their (prior) knowledge, cognitive and learning styles, possible narrowness in the scope of awareness, inappropriate use of global/detail focus, and others (cf. Mezirow 1991, 144).

Basically the teachers act as like learners simulating studying. They evaluate the appropriateness of the materials and the learners' tasks. They prepare materials for various situations (learning tasks) and evaluate the whole studying process, offering support when needed (cf. Breen and Candlin in Richards & Rodgers 2001, 166). For a long time the most important tool has been perceived as the teacher's personality. This, to our understanding, hasn't changed, but it has found a counterpart, in the eyes of the learner, in learner personality.

7 Aiming at Reflective Teaching and Meaningful Learning

The use of information and communication technology (ICT) is constantly increasing, and forces educators to view online education as a normal activity in teaching. The role of the teacher is to link teaching and learning together with the latest research that deals with the content and methods of teaching. In planning and designing virtual teaching it is essential to focus on the students' own personal needs and the responsibility they have for their learning.

Students differ in their individual characteristics such as ambiguity, tolerance, anxiety, learning and cognitive styles, activity or passivity in learning, focus of control, self-efficiency beliefs, and self-regulation skills (Löfström et al. 2005, 12). From the student's perspective the experience of relevance and meaningfulness are central facilitators of learning. Meaningful learning is affected by the activity, intentionality and reflection of learners, the constructivity of teaching, the collaborative and interactive nature of learning methods, as well as the contextuality and transfer effect of the material learned (see Jonassen 1995, Nevgi & Tirri 2003).

Other factors which lead to meaningful learning are student-oriented materials, teacher feedback and support, contextuality, transfer and collaborative learning in technology-based environments (Nevgi & Tirri 2003, 36–37). Usually both the collective goals and the teacher's personal goals determine how the content is dealt with: "Ideally the goals regulate what items the teacher should deal with and how this should be done" (Uljen, 1997, 69).

So, how can meaningful learning be supported in a web-based learning environment? As already discussed in Chapter 3, the main components of the TSL process are teaching, studying and learning. Vahtivuori-Hänninen et al. (2004, 31) have broadened these factors and defined teaching as reflective teaching, studying as goal-oriented studying, and learning is seen as meaningful learning from the didactic point of view (see Figure 2). Furthermore when the TSL process is taken into web-based environments a new perspective has been brought into this world – that of information and communication technology (ICT) (Tella et al. 2001; Nevgi & Tirri 2003). Between these components there is synergy. The use of ICT in this process may increase interactivity or community between those who are involved in the TSL process.

In other words, when teaching is reflective the teacher uses problem-based learning methods and the teaching is research-based which supports goal-directed studying e.g. critical and communicative, which furthermore can lead to meaningful learning. The teacher plans and discusses with the students their own roles and how they should act in this process (Vahtivuori-Hänninen et al. 2004, 32).

Discussions in the virtual environment, for example, can promote collaboration, interaction and activity, while a learning diary or portfolio can be used to enhance reflection, activity and intentionality. Contextuality can be increased with video clips or DVDs or with the use of hyperlinks and stimulus material for problem-based learning (Nevgi & Tirri, 2003, 36–37).

Therefore it is ideal for the TSL process that both the teacher and the student acts are goal-oriented.

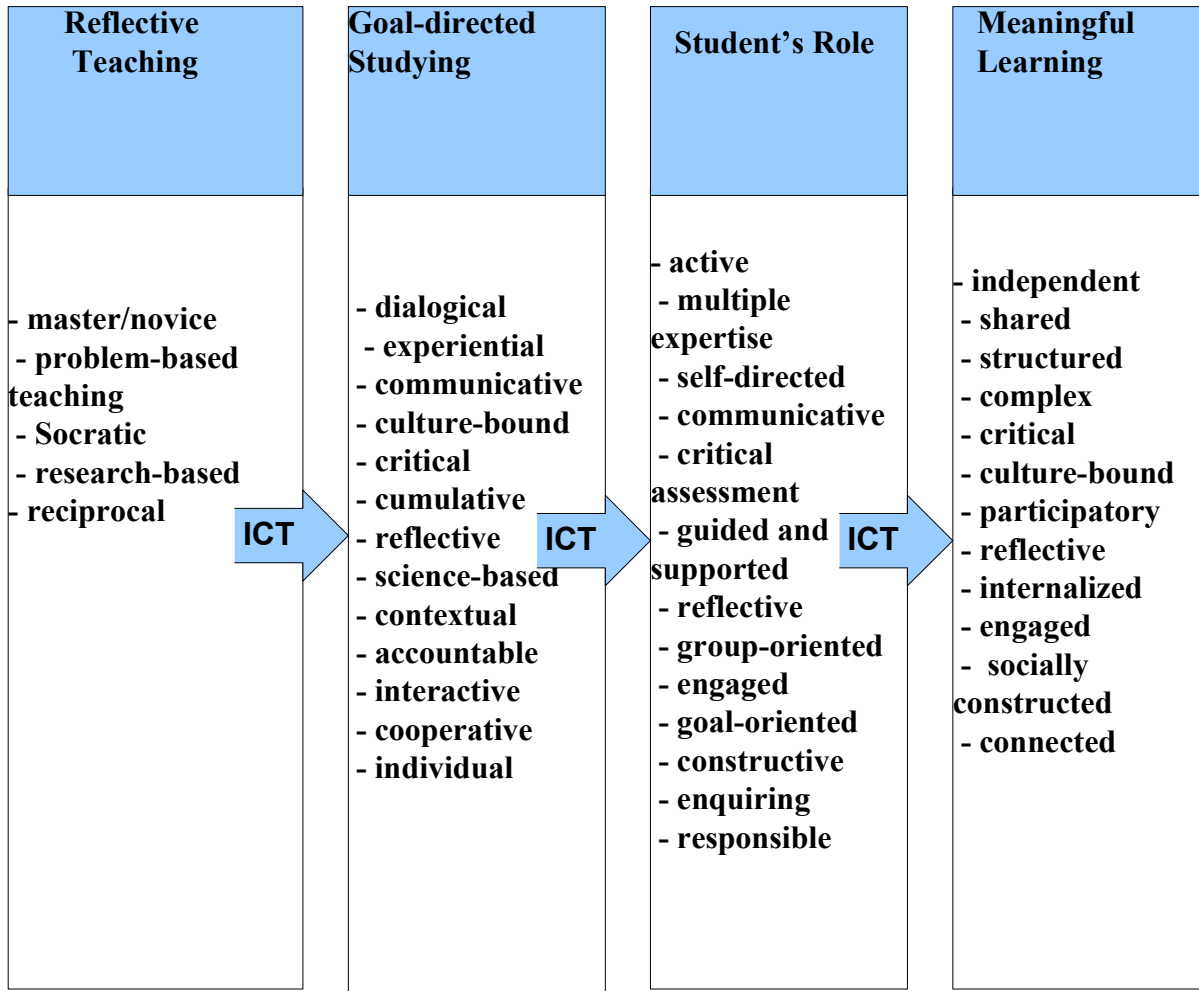


Figure 2: The main components of the TSL process in a didactic web-based environment (Vahtivuori-Hänninen et al. 2004, 30)

The information obtained by exploring the criteria of meaningful learning has been used widely within the planning and implementation as well as in the evaluation and methods of teaching. Teachers often point out that few of the conventional approaches in teacher development actually give practical help in solving problems (Richards & Lockhart, 1996, 2). Teaching is an ongoing process in which pedagogical decisions are made based on different viewpoints. A professional teacher should be aware of the various pedagogical models and act reflectively throughout the TSL process, for example, while planning the syllabus or teaching face-to-face (Vahtivuori-Hänninen, 2004, 50–51).

The learning environment and the students must be the focal points when considering alternative teaching or learning methods. A web-based environment may provide alternative approaches and

support to the TSL process (Richards & Lockhart 1996, 79; Tella et al. 2001, 101). According to a research of Vahtivuori-Hänninen (2004, 47–59) pedagogical designs such as collaborative learning methods, and problem-based teaching methods, can be considered functional in web-based environments.

Conclusion

Virtual environments have become important and natural learning environments. In the changing world the ability to learn resembles a survival strategy. Lifelong learners will have to learn at different stages of their lives, in various situations, with sometimes more, sometimes less time on their hands.

In the course of writing this review it became increasingly clear to us that learners in web-based environments need to be tutored. We also discovered just how skilled a tutor needs to be in order to support the various learners with their individual styles of learning.

We learn something every day. Participation in a language course on the internet is one particle in the flow of events in our lives. With this manual our aim has been to offer some theoretical background to language learning, as well as some practical advice for learners and teachers. We consider the development of studying skills to be an essential factor in the TSL process, thus making the most of the time we spend on learning new things.

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