

On-line experiences at the University of Coimbra: contexts and pretexts

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Abstract

In this paper we report the importance of a reflexive and flexible approach, that makes evident the increase of the ability to think, which must be practised in order to establish a suitable direction of thinking, that is to say, “to learn how to think well”.

Within this theoretical framework are described and justified different pedagogic sceneries which combine the various technologies of information and communication, namely the utilization of forum, e-mail and messenger.

Keywords

Reflexive and flexible approach; learn to think; technologies of information; email; forum; messenger

1. Introduction

The complexities and uncertainties that characterize our modern society attach a high degree of worth to the construction or re-construction of knowledges within the range of a learning community. The development of a learning culture as the main aim of a city of knowledge will be established “by curiosity, study, personal searching in the sense of a risk and care for grasping what is new” (Carneiro, 2001, 297) and, we would say farther, will be based on the reflexive and conscious confluence of each person with himself and with the others, whether these ones be the texts we read or the contexts we live in.

And it is precisely within the context of this modern or post-modern society – complexity being its main characteristic – that reflection has a sense or reason for what it implies in searching and emotion or as an engagement with practice, personal experiences, indispensable for the building of an identity and humankind split up by social as cultural convulsions. As Carneiro says, in a learning society which “chooses education as the main aim of development” (2001, 183) contrarily to its manipulation, educators must not only solve the problems or offer “pre-forged solutions” but, above all, audacity in helping to rise up the more uncomfortable questions” (2001, 183). The educational problem today appears not as a mere technical question, but as an ethic or aesthetic problem, or as that of the required thought indispensable to the development of uncertainties, and to the building of interrogations. In this context reflexivity will be the important condition for to the quantic spring of quality in social systems (Carneiro, 2001).

It’s also important to emphasize the reflexive construction of knowledges, knowledge to do and to be in a process in which the development of the capacity of looking and creating problems will be put in relief, in which the educator is so considered more like an architect of human development , or like an artisan – an artisan of affections.

The idea of a reflexive practice aims to the inevitable link between theories and practices because “the useful and relevant learning being adequate to this idea of teaching practice inevitably bind the two sides of the dilemma: sensibility and skilled competence and theoretic research” (Gómez, 2001, 190) or, as Altet says “it involves collaboration between investigators, practitioner and teachers, who must rebuild, reframe the questions they find in a given theoretic scheme as well as analyse processes, identify working mechanisms so that they may be able to produce together in a shared research learnings framed on pedagogic skills and situations.” (2000, 74)

2. Learning how to think

As far as training is concerned the aim will then not be just how to get or memorize a few pedagogic concepts or procedures typical on a technicist way of education, which emphasizes the tutor as “transmitter or translator of knowledgements” (Merseeth & Lacey, 1993, 285). It is important not *only* the task of instruction or modelling behaviours in an objectivist perspective that makes no effect in a society where there are other sources of information, but also to create conditions so that one may learn in a constructive perspective.

The valuation of the voice of things and of one’s self has been giving us the idea that voice involves, on one hand a subject that knows and, on the other, that this same knowledge has no sense beyond this very subject. This has been the argument shared by

several constructivist epistemologies. They think that perception of reality is made by the subject from his own experience of that given reality. On the other hand the amplitude of this learning process or construction depends on the availability or possibility of the subject to listen to the voices, his and the other's, or that of things, which is indispensable to the valuation of that experiment. The more experience is valued the more knowledge happens and makes itself approachable to the subject, who knows through a process of building several representations upon that same in which the subject is so implicated. It is in this close relation (*inséparable*) between cognition, or intentional experience of the subject who knows (*l'expérience intentionnelle du sujet connaissant*), and his representation or the faltering construction by the subject (*la construction tâtonnant du sujet représentant la connaissance*), that are based or defined today the learnings that may be communicated or taught in the frame of a constructivist epistemology (Le Moigne, 1999, 70).

That voices must be listened to, becomes then important, so that, from them, possibilities may be developed in order to listen to the voice of the other ones or the possibilities of knowledge construction reflection and learning.

2.1. The reflexive dimension of learning

To bring up is then to rise in the pupils a way of thinking more close to that of a good professionals. The matter is not merely communicate facts or principles related to pedagogy but rather teach how to think like pedagogues. In this sense it is important learning how to think, that is to say, analyse and reflect on teaching-learning situations and increase by a flexible way how to find one's self out, as well as the others' while living subjects in a given context.

To learn in a reflexive way requests dialogues or consecutive talkings with practice or several educational situations building senses and meanings and so learning with the purpose of a adequate action.

Consequently you must insist in a kind of learning in which talkings with practice, being these ones thorough a reflection in or on the action, will be the context to the development of the process of *naming e framing* (Hillocks, 1999; Laboskey, 1994, 12; Merseth & Lacey, 1993; Schön, 1987; Shulman, J., 1996) underlying to the complex task of problem-setting implicated in the several teaching situations, which will have as main goal how to open ways of solving those problems.

Thinking in a reflexive way is to be able of stating affection or perplexity in face of unpredicted situations as well as looking at situations considering different perspectives, and also be able to put in perspective, situate or frame the complex situation in a problem, considering, not in a rigid straight, but flexible way, learnings and past experiences related to an ideal or idea of teaching, learning and student.

Thinking in a *flexible* way is to deal with a variety and plurality of perspectives, is thinking in a contextualized way which is based in an educative practice, uncertain, ambiguous and complex by its self nature.

Learning how to think in a *flexible* way or, as Lundeberg & Fawver says "*become more flexible in their thinking*" (1994, 8). Cognitive flexibility is then one of the critical aspects of teaching and so learning how to think in a *flexible* way is one of the principal aims of professional development. As Spiro *et al.* notice, the best way how to teach and learn in a flexible way "*is by a method of case-based presentations*" which presents a

certain matter as a landscape that is criss-crossed and explored by the subject in many directions “*by examining each case ‘site’ in the varying contexts of different neighboring cases, and by using a variety of abstract dimensions for comparing cases*” (1987, 178). For example a scene from a film, a text, a chapter from a book.

Learning how to think such a complex and less-structured field, implicates teaching-learning ways which sometimes are in contradiction with others used in some easier or well-structured fields (Spiro et al., 1988), as for example the putting in context of learnings, multiple representations of knowledges, non linear presentation of information in a not hierarchical, but not frame.

2.2. Writing and Learning how to think

Writing will lead students think in their own learning experience (Kleinfeld, 1996) and, in case this process is supported, it will be an opportunity to help them overtaking or experiment with success the difficult task of learning their own way of thinking as pupils they have been till then, and learning how to think in a flexible and reflexible way, like educators they want to become (Kleinfeld, 1996; Laboskey, 1992). On the other hand, the very circumstance or demand of writing is by itself a challenge because it doesn't only oblige them to write, which requires time to reflect and a subject about which they must write – and here self experience or the others' will be important (Richert, 1992) and will allow these pupils to understand practice's wisdom “*from the insider's perspective*” (Shulman, J., 1991;1992, 132 and 139), as well as it requires and develops “*a way of thinking that is not part of the professional training*” (Richert, 1992, 156).

Reflection requires a pause (*the suspense of uncertainty*), or just some time to consider, in a flexible way, other important aspects in understanding the situation (Dewey, 1910, p.11). In reflexive thought this pause has special importance for it creates the possibility of searching other points of view essential to problem building. In this case, writing becomes of deep pedagogic value.

Due to the fact of including a search of several talkings in various contexts which emphasize different perspectives, as well as include premeditated and directed observations and conscientious records, and so the development of ability for clear writing on real and concrete educational experiences, writing will turn a special instrument in the development of reflexivity and flexibility required by the development of a professional way of thinking. As Laboskey underlines, through a determined process of investigation not only futures trainers “*are encouraged to place the particular into a larger framework*” they also can get answers to “*the kinds of questions teachers most often puzzle over- the ‘how’ and ‘why’ questions*” or will have a special opportunity to combine theory and skills and so “*grapple overtly with the relationship of theory to practice*” (1992, 177).

2.3 Collaborative dimension of learning

Collaborative skills are crucial on any 21st century learning organization based upon management by values. Therefore there are several misconceptions and different visions about collaboration and cooperation. The first thing to do is to have a correct and concise definition of these terms. Usually it distinguishes “*co-operative learning*” and “*collaborative learning*” based on the amount of pre-imposed structure, task-type, learning objective and group size

By cooperation or cooperative work, we mean any teacher centred activity where each member of a group is responsible for a portion of the problem solving task. Tasks, resources and roles are clearly assigned by the teacher and the final work mainly results by the sum of all individual contributes.

Collaboration can be defined as a personal philosophy of intra-group performance, a philosophy of interaction and personal lifestyle, or an aggregate of methods and techniques of learning used in structured groups, where each member of the group is responsible not only for its learning but also for that of the group. Collaboration mean the mutual engagement of the participants in a coordinate effort to solve together the problem. Collaboration empowers the learner and is more learners centred. Several times both approaches can be mixed and overlapped.

We can distinguish different kinds of collaboration:

- a) Peer to peer collaboration in different networked computers in the same room;
- b) Peer to peer collaboration in different networked computers in different places (rooms, schools or countries);
- c) Group or class collaboration, while discussing ideas and giving its own contribution to solve a problem. This means trying to understand other points of view and reconstructing knowledge by interaction to each other.

We may talk of collaborative learning situation when:

- a) there is the same level of knowledges and proportion
- b) there is a common aim – we wish the several elements of the community have the same objectives. Through arrangements of aims individuals not only develop shared targets but also have better awareness of them;
- c) low level in work division – in collaborative learning pupils execute the work together and we notice a low hiearachization of work. When this happens, often expontaneously, partial tasks must be highly connected.

Collaborative learning reveals still more important aspects:

- interactivity – demands a high interactive degree among the various members which will be present when two elements intervene with opinions, points of view. We learn through reflexion, sharing ideas; by analysing with the others cases, themes, chapters of books;
- synchronic and assynchronic interaction - synchronic interaction (messenger), dialogues in real time or special moments of learning which happen with questions and immediate answers, without which desmotivation may come; assynchronic interaction (email, forum) that are important to development or reflexive construction of knowledge;
- negotiation – process in which various elements try to get an agreement about ideas, themes, tasks and problems. This is a process that distinguishes collaborative interactions and is specially important in the building of meaning or of knowledge.

3. Learning how to think and ICT's– pedagogic sceneries

Distance learning can be quality learning. The opportunities for learning and growth online are virtually limitless. Internet-based education transcends typical time and space barriers, giving students the ability to access learning opportunities day and night from every corner of the globe. Coursework can now provide material in highly interactive audio, video, and textual formats at a space set by the students.

If we consider the main challenge of a society of information and communication the development of capacities of building knowledge it then will be important as Dias says the development of a “technology based pedagogy based upon interaction of collaborative processes, innovation and promotion of student’s autonomy in learning and thinking process” (2004,21).

We need alternative learning circumstances and ICTs represent able instruments to implement strategies of training through which the subject may build and contextualize, in a collaborative way, his learnings. In fact the new media became the privileged tools in knowledge buildings and/or share of experiences ready to be considered from different points of view including several readings/ languages reality demands: sound, image even writing. In real world learning doesn’t happen in a straight pre-organized way and the use of different languages is important for just in one document it is possible to illustrate the text and/or contextualize the concept, that is, to give widened examples in the use of knowledges (Merseth & Lacey, 1993).

The greatest challenge of new media will then be, as Dias Figueiredo says, “that of building communities rich in context where individual and collective learning is built and where pupils take responsibility not only in building self learning but also in building occasions of identity where collective learning takes place” (2001, 74).

In and with this sense are the following pedagogic sceneries as they occur in Degree in Sciences of Education at the University of Coimbra.

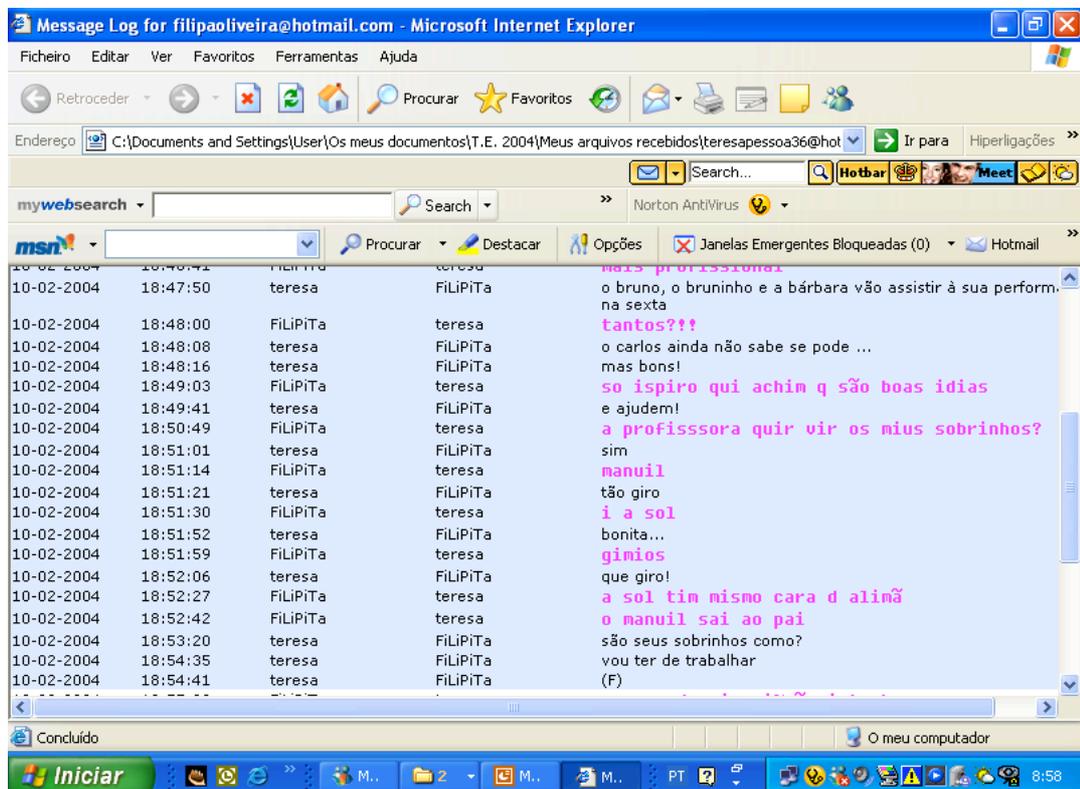
3.1.Pedagogic scenery 1 –Messenger

In synchronic communication as for example MSN, the student is in touch in real time with his tutor or teacher. This tools enables talking, the formulation of immediate questions and answers between students and teachers. You can integrate voice, image, which lends more realism to this pedagogic situation. Although it is not usually considered a good pedagogic tool. We think it is due to the almost exclusive importance given to cognitive dimension by the educative system, but for us it is a fundamental tool in order to build nets of affections or the needed valuation of affective dimension as far as the development of pedagogic relation is concerned: the teacher as the artisan of affects or the building of knowledge based on the importance given to experience, to one’s own voice or to the other’s, be this one the teacher we have or the text we read. As we said above, it is important voices be listened to, so that from them on may be developed the capacity of listening to the voices of the other ones, as well as the possibility of building knowledge, reflection and learning. It happens, too, that the affect value messenger means in students life, in their own friends’ net promotes the inclusion of that dimension in pedagogical relations, as we shall see next:

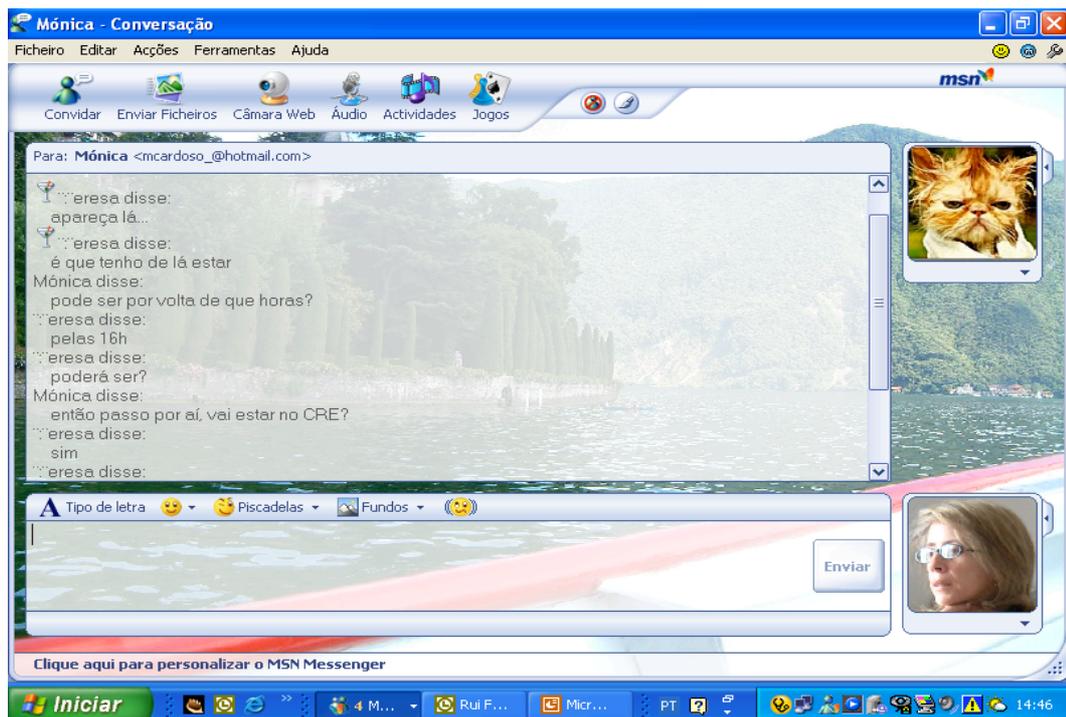
3.1.1. MSN: when the teacher is also a pupil

- 10-02-2004 Bruno **O Book Crossing...**
- 10-02-2004 Bruno **There are many places in the world where we can get books left by other people...**
- 10-02-2004 teresa those places are not to left there books but opinions ...
- 10-02-2004 Bruno **please check the site www.bookcrossing.com and make sure of it**
- 10-02-2004 teresa **yes, teacher..."**

3.1.2. MSN: weave affects widening the net, the family. The student presents her family to the teacher

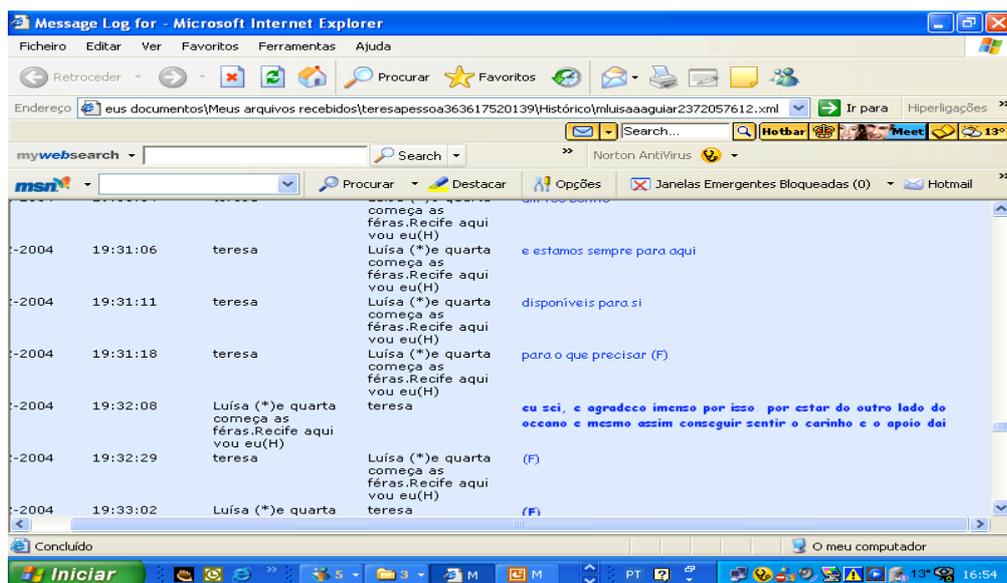


3.1.3. MSN: tastes images of absences



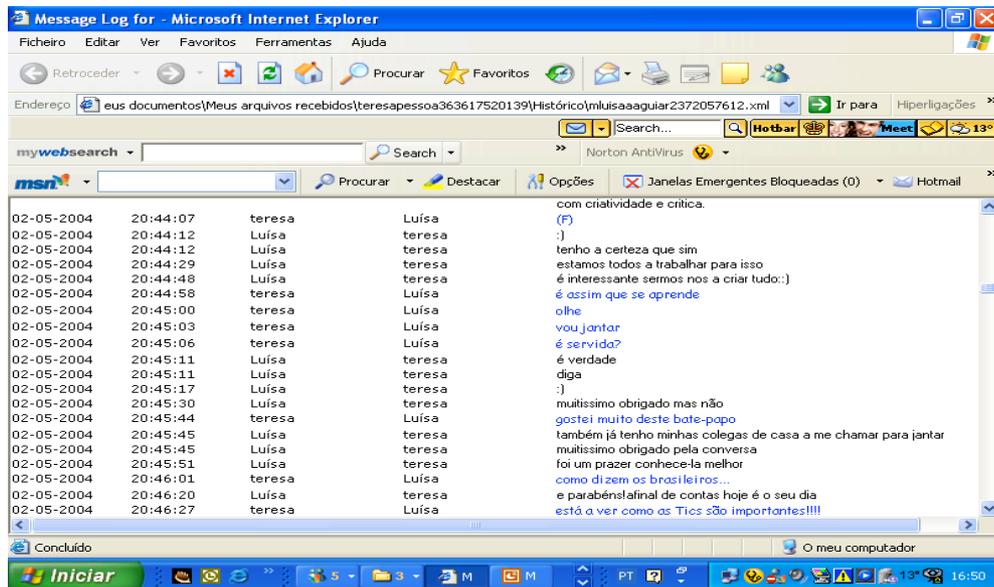
Whenever you stopped being able to explain in words what you feel, due to personal reasons or in great despair there is the possibility of using the image: in this case the wet cat!

3.1.4. Love and support from the other side of the ocean – a student ask for support from Brazil



To weave affects, indispensable affective implication or contexts that leads to reflection or knowledge building. One day the net will widened to others ...

3.1.5. *Better knowing* A student saying that is very pleasant this way of knowing her teacher

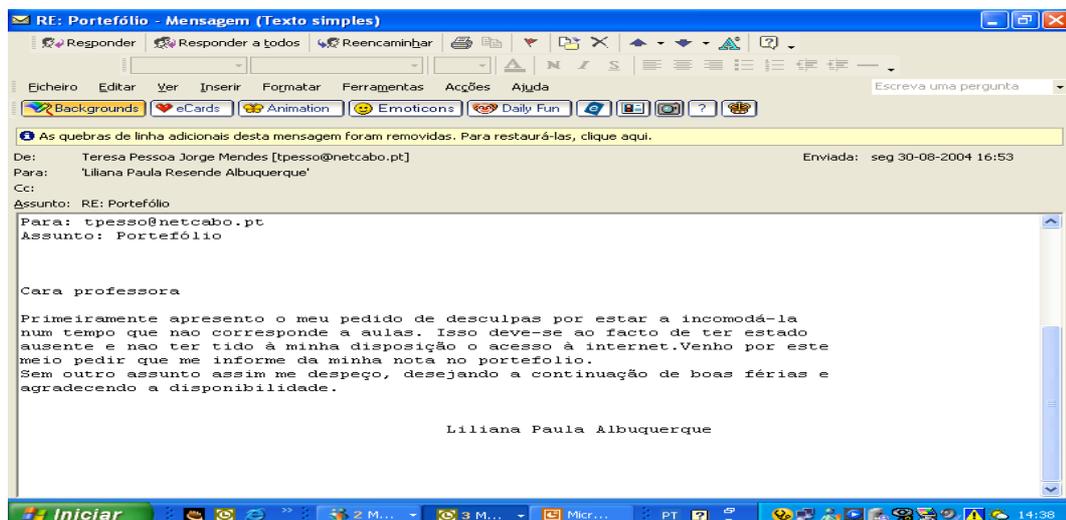


Because MSN is a tool used to talk with friends or wooing, it becomes a useful in the development of this kind of meetings with one's self and with the other ones ...

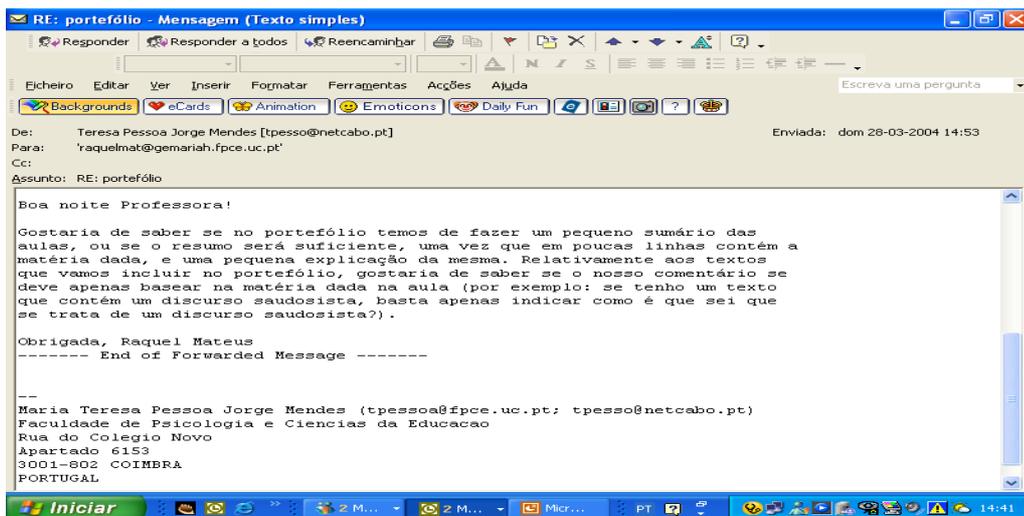
3.2. Pedagogic scenery 2 –email

In assynchronous communication as for example email, the student is not in touch with his tutor or teacher in real time. Any way this program of sending and reception of private messages with possibilities of add files, sound or image has the possibility of “virtual attendance”. Students usually use this tool for:

3.2.1. Ask for information on evaluation



3.2.2. Ask for doubt explanation



3.2.3. send attached files: the home works

This tool has this advantage but presents some difficulties/ inconveniences to the tutor: increasing number of messages, with its printing or difficult reading of about 500 home works each year.

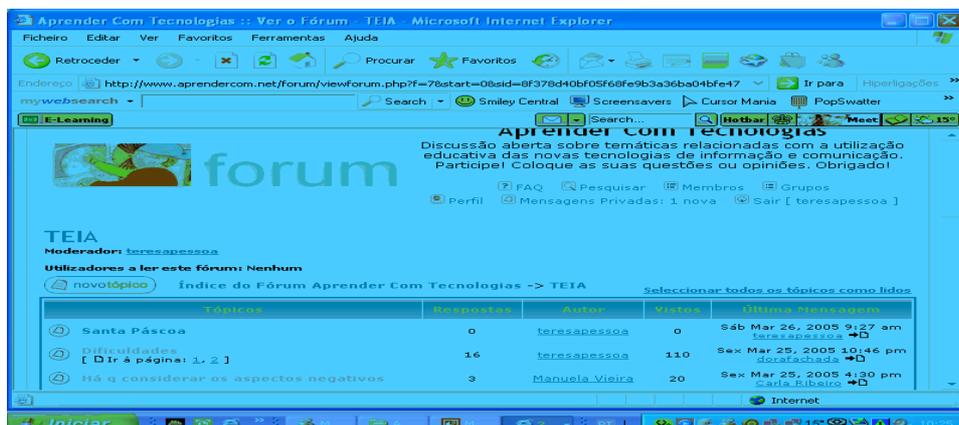
3.3. Pedagogic scenery 3 –fórum

Forum is an assynchronic communication tool in which all may accede at any time and from anywhere to information: read messages in forum , let their own there, share opinions, build solutions.

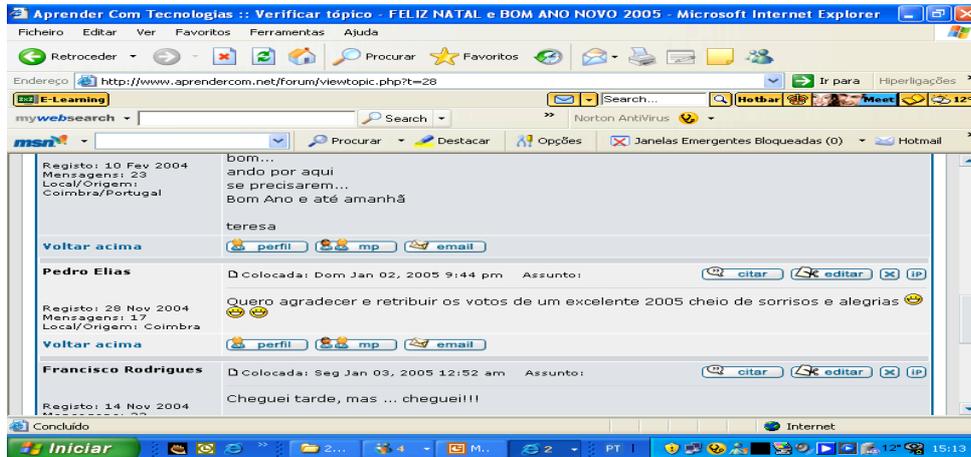
Forum is a place of confronting talkings organized by themes, shared lively and actively by all not limited to the classroom or the time teacher usually have to pupils reception. Furthermore there are the possibility of collaborative learning experiences and reflexive skills important to the building and thought development. Salmon (2001), points out the advantage of forum in the context of a reflexive learning.

Anyway the achievement of this learning depends much on the pedagogic dynamization, which, to Salmon (2001) has 5 main aspects:

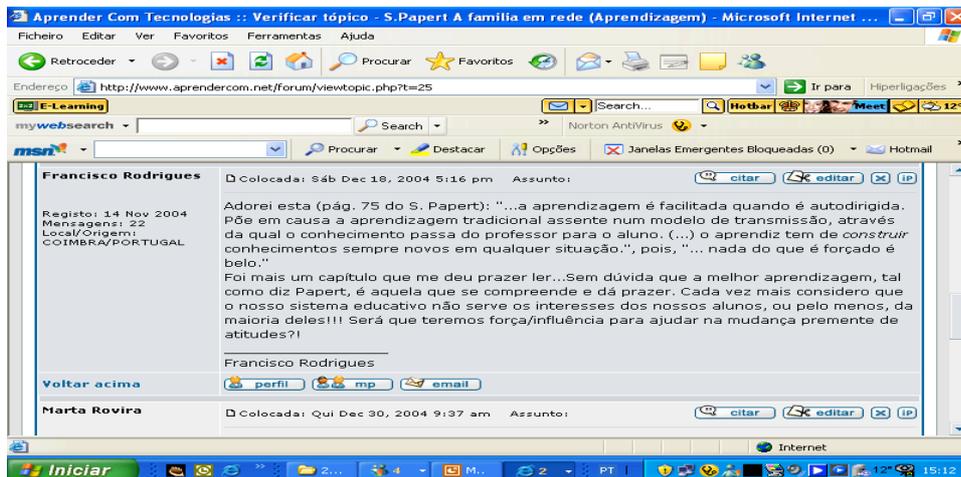
1. access and motivation – in this phase technical support and encouragement is important as well as the student feels motivated in participation;



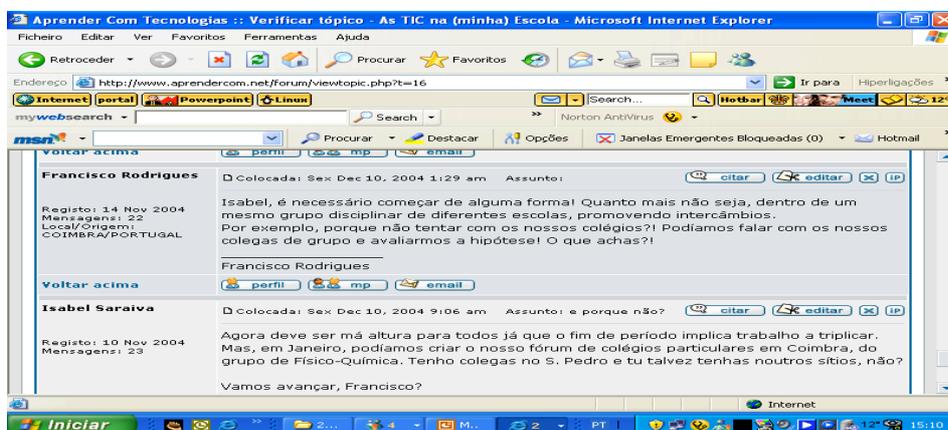
- socialization – technology creates the opportunity but it is the tutor’s task that it works by developing the social part; so the teacher must create the feeling of a community of persons who work together;



- change of information – forum enables getting contents for every participant



- building of knowledge – that happens when participants explore ideas, take positions, discuss their points of view, reflect on their own positions and readapt them if necessary



5. development - participants question and evaluate the program by itself demanding better Access, quicker answers or better software..

As they say: it was worth of!

Bibliography

Altet, M. (2000) Qual a formação profissionalizante?. In M. TARDIF, C. LESSARD & C. GAUTHIER, C. (Dir.) *Formação dos Professores e Contextos Sociais* (pp. 61-76). Porto: RÉS-Editora.

Carneiro, R. (2001) *Fundamentos da educação e da Aprendizagem- 21 ensaios para o século 21*. Vila Nova de Gaia: Fundação Manuel Leão.

Dewey, John (1910) *How we Think*. Boston: D.C. Heath & CO., Publishers

Dias Figueiredo, A. (2001) Novos Media e Nova aprendizagem. In Carvalho e al. (2001) *Novo Conhecimento Nova aprendizagem*. Lisboa: Fundação Calouste Gulbenkian (71-81).

Dias, P. (2004) Processos de aprendizagem colaborativa nas comunidades online. In Ana A. S. Dias & M. João Gomes (coord) *E-learning para e-formadores*. Universidade do Minho: TecMinho]

Gómez, A. Pérez. (2001) *A Cultura Escolar na Sociedade Neoliberal*. Porto Alegre: Artmed.

Hillocks, Jr., George (1999) *Ways of thinking, Ways of Teaching*. New York: Teachers College Press.

Kleinfeld, Judith (1996) Our Hero comes of age: what students learn from case writing in student teaching, In J. COLBERT, T. KIMBERLEY & P. DESBERG (1996) *The case for Education-contemporary approaches for using case methods* (pp. 79-97). Massachusetts: Allyn & Bacon.

LaBoskey, Vicki K. (1992) Cases Investigations - Preservice Teacher Research as an Aid to Reflection In J. SHULMAN (1992) *Case methods in Teacher Education* (pp. 175-193). New York: Teacher College Press.

Le Moigne, J. *Les épistémologies constructivistes*. 2. Ed.. Paris: P.U.F., 1999.

Lundeberg, M. A. & Fawver, Jean (1994) Thinking like a teacher: Encouraging cognitive growth in case analysis *Journal of Teacher Education* , Set/Oct, Vol. 45, n.º 4, 289-298

Merseth, Katherine, K. & Lacey, Catherine A. (1993) Weaving Stronger Fabric: The Pedagogical Promise of Hypermedia and Case Methods in Teacher Education, *Teachers and Teaching Education*, Vol. 9, n.º 3, 283-299.

- Richert, A. E. (1992) Written Cases – A Vehicle for Inquiry into the Teaching Process In J. SHULMAN (1992) *Case methods in Teacher Education* (pp. 155-173). New York: Teacher College Press. (Cap.III)
- Salmon, Gilly (2001) *E-moderating: the key to teaching and learning online* London: RoutledgeFalmer
- Schön, D. (1987) *Educating the reflective practitioner*. San Francisco: Jossey-Bass Publishers
- Shulman, Judith H. (1991) Revealing the mysteries of teacher-written cases: Opening the black box, *Journal of Teacher Education*, September-October, vol. 42. Issue 4.
- Shulman, Judith H. (1992) *Case methods in Teacher Education*_ New York, Teacher College Press.
- Spiro, R. J., Vispoel, W. P., Schmitz, J. G., Samarapungavan, A. & Boerger, A E. (1987) Knowledge Acquisition for Application: Cognitive Flexibility and Transfer in Complex Content Domains In B. C. BRITTON & S. M. GLYNN (Eds) *Executive Control in Processes in Reading* (pp. 177-199). New Jersey: Lawrence Erlbaum Associates.
- Spiro, R. J., Coulson, R. L., Feltovich, P. J. & Anderson, D. K. (1988) Cognitive Flexibility Theory: Advanced Knowledge Acquisition in Ill – Structured Domains In *Tenth Annual Conference of the Cognitive Science Society*. Hillsdale, NJ: Erlbaum, 375-383.