

KEYS TO PROMOTE GOOD PRACTICES IN ODL
BY A TECCC APPROACH
(TRAINING EMBEDDED COACHED COURSE CONSTRUCTION)

- illustrations through a postgraduate degree
and an annual competitive call -

POUMAY Marianne, University of Liège, Director of LabSET

Abstract: In Europe, one of the current challenges is to reach a critical mass of quality Open and Distance Learning (ODL) courses, in order to allow for dissemination of best practices in local languages. After having proposed a definition of what we mean by quality in ODL, this article presents two parallel initiatives contributing to such an ODL deployment. It then presents the LabSET "Keys" to implement a TECCC approach (Training Embedded Coached Course Construction). It underlines the commonalities between the two initiatives presented, deepening and illustrating each pedagogical principle (the "Keys"). Building on more than 30 courses recently developed following that TECCC approach, the article tackles some of the challenges faced by the support to trainers aiming at using the Web as an instructional tool to facilitate learner centred practices.

Abstract: En Europe, l'un des défis actuels est le développement d'une masse critique de cours à distance de qualité qui permette la dissémination de bonnes pratiques en langues locales. Après avoir proposé une définition de ce que nous entendons par « cours à distance de qualité », cet article présente deux initiatives parallèles qui contribuent à un tel déploiement d'enseignement à distance. Il présente ensuite les « Clés » LabSET pour la mise en place d'une approche TECCC (enseignement inclus dans une construction de cours étroitement accompagnée). Il souligne les points communs entre les initiatives décrites en détaillant et illustrant chacun des principes pédagogiques sous-jacents (les « Clés »). S'appuyant sur plus de 30 cours développés jusqu'ici par cette approche TECCC, l'article tente de cerner quelques-uns des défis que représente le support aux enseignants qui souhaitent utiliser le Web comme un outil qui facilite un enseignement centré sur l'apprenant.

Acknowledgement: We are grateful to Chantal Dupont who has directed two FORMADIS sessions and to Dieudonné Leclercq, co-ordinator with us of the FORMASUP curriculum, who has helped considerably in reviewing this article.

1. THE CONTEXT

Wallonia is a French speaking region of 3.5 million inhabitants located in the south of Belgium. It has invested in a wide fibre optic infrastructure along the highways with local loops dedicated to private organizations and public institutions, to favour e-commerce, tele-business and distance learning.

In this context, in 1998, the University of Liège launched the LabSET, Support Lab for Telematic Learning, a 27-person Research and Development unit constituted by a majority of educational scientists who have teaching experience, and by specialists in multimedia production, graphical design, organisation, and office work. The LabSET works towards the deployment of ODL inside the University of Liège (by co-ordinating its Virtual Campus) and with many external partners. Since Europe is only in a first stage of ODL development in comparison with the USA, the challenge faced

is to reach a critical mass of quality courses, in order to allow for dissemination of best practices in local languages (French in our case).

2. TOWARDS A CRITICAL MASS OF QUALITY COURSES

Following Bates (2000, 66), we consider the current approach in ODL design and production as "too hit-and-miss. It wastes resources, ignores the experience and many lessons that have been learned (...) and above all fails to ensure high-quality technology-based teaching in any consistent or widespread form." Since too few teachers are competent in ODL development and too few quality courses are available in our Walloon region and French Speaking Community of Belgium, we have decided to address those two parallel problems by an integrated approach that we have called TECCC (see title). This approach is characterised by a set of organisational and pedagogical principles, or "Keys", that we consider as crucial. We then have applied those TECCC Keys to our specific context of training in ODL design and development

After having defined what we mean by "quality courses", our paper presents two initiatives that apply this TECCC methodology, aiming at producing a critical mass of quality courses that participate in the dissemination of good practices in ODL, avoiding the "Lone Ranger" approach described by Bates.

Our definition of "quality courses" is the following:

"Quality Courses ground their objectives on learners' well analysed needs ; they include motivational (affective) components as well as cognitive ones, they use methods chosen on the basis of sound and explicit theories, they assess learning achievements and processes by relevant and ecologically valid processes and tools giving rise to meaningful and diagnostic indices ...and they enable a large majority of the learners to fulfil the learning goals at a high level of mastery."

3. THE LABSET'S KEYS TO IMPLEMENT TRAINING EMBEDDED INTO COACHED COURSE CONSTRUCTION (TECCC)

Key 1: Candidates are selected through **competitive calls**. The number of trainees is limited and selection is based on the answers to an application questionnaire, followed by interviews.

Key 2: Isomorphic training. It consists in having our group of trainees experience with us what we recommend them to offer their own students. For instance having them live new methods of animating a group, of testing, of interacting on web, etc. We group them in a community of learners who will live (and criticise) common experiences and, hopefully, transfer some of them to their own practice.

Key 3: Curriculum is inspired by the "**Project Based Approach**" (PBA), adopted from the start (the selection phase). This is based on Kolb's (1984) theory of experiential learning: adults learn by observations from their experiences, then abstracting or theorising, then experimenting, observing the results...and the cycle goes on. Information (theoretical inputs, examples, witnesses, etc.) and activities are proposed "just in time" so that they could be immediately exploited in the trainees' own ODL course development. This strategy takes into account the fact that adults are highly concerned with the usefulness of theories, with their applicability (Knowles, 1990).

Key 4: Close coaching by "Sherpas". These *Sherpas*, instructional design specialists, accompany the projects, support the participants in the development of their own project, conduct individual meetings and help them meet the time constraints of the program, assist them in the deep transformation of their course and rid them of the most repetitive tasks (such as html encoding, subcontracted to a technical team). We call these coaches *Sherpas*, in parallel with those Nepalese professionals who guide mountain climbers and share some of their burdens and loads.

The professors, by working on their own course with the help of *Sherpas*, move from a traditional way of considering their course to a more open view of what it could be. They consider more possible options and are influenced by this deep involvement of a *Sherpa* into their project.

Key 5: Activities (and not contents) are central. This option acknowledges the importance of the "learning by doing" and the "by life for life" principles of Dewey (1900) and Piaget (1974). To promote situated learning, these activities are as far as possible nested into problem solving contexts, especially using Case Based Learning Methods (Poumay, 2002). The underpinning theory of this orientation lies in Tulving's (1983) concept of episodic memory (mental storage from real or virtual lived sequences) that strengthens memory mechanisms. Since situations can always be analysed from different angles and since various solutions may often be suggested to solve a problem, dialectical debates between trainees are often organised. Those forums take advantage of the group training approach, since interpersonal enlightenings favour personal mental restructurations of conceptual networks, as well as metacognitive and affective sides of learning (Doise et al., 1978).

Key 6. Varying methods and resources enables mathematical ambivalence and learning autonomy. Inspired by Gilbert (1962), Leclercq (1998, 101) suggests to use this term, coming from the ancient Greek verb *manthano* (I learn), to designate "what relates to learning", just as "didactical" designates "what relates to teaching". For the same author, mathematical ambivalence is the learner's tendency (when possible) to vary his/her methods of learning during a learning sequence: wanting to read or to be told, then to try or experiment, then to be shown, then to explore, etc.

We adopt Leclercq's assumption that in general, learners appreciate and take advantage of varying the approaches. More specifically, students have initial capacities and have to be trained in recognizing their learning needs and the strategies, activities and methods that will help them address these needs. A second source of variety, of a more organisational nature, is the mixing of face-to-face sessions and web based activities, which is often called the "blended" approach. A third source of variety is the media used, from videotaped lectures to graphically displayed simulations or from html texts to vocal explanations, depending on the needs.

Key 7. Evaluation is adapted to adults. It is based on self-evaluation, on critical thinking and on negotiation. It is inspired by Knowles (1990) for its negotiated contract with each participant, both centred on the product (the developed course) and on the process.

Two parallel and convergent TECCC initiatives are described hereafter: FORMADIS and FORMASUP. Their commonalities will be illustrated by extracting examples from one of them or from both, Key by Key.

4. TWO PARALLEL TECCC INITIATIVES

4.1 An annual competitive call: the FORMADIS initiative (Supported by the European Social Fund and the Belgian Ministries of Education and Professional Training)

In 1998-99, the Walloon Region of Belgium asked the LabSET to conduct a study advising the stakeholders on the choices and steps to be made towards a Walloon Virtual Campus. Following this study, a competitive call was launched in 2001 to select 13 projects to be closely coached and to be turned into on-line active courses. The selection criteria of ODL projects guaranteed diversity

- (a) of the target publics (age, socio-economic origin),
 - (b) of the types, status and activity sectors of organizations,
 - (c) of the types of objectives, of sizes, of main focus and of contents of the foreseen services.
- Examples: a postgraduate course in bovine echography, a course in risk prevention for trade unions representatives, a course in double accounting for SMEs, etc.

It requested that two persons of the same institution, committed to the same project, enroll simultaneously (a teacher and a "technician").

In addition, our selection criteria also largely focussed

- (a) on the quality of the proposed methodology, namely the importance given to varied activities (problem solving , case studies , dialectical debates,...)
- (b) on the "demultiplicative" aspects of the new services,
- (c) on the quality and originality of the contents
- (d) on the candidates' motivation.

Training is provided half at a distance, both in technology and in pedagogy (minimum of 160 course hours). The new distributed learning services produced through this program will be linked to the Region's new Gateway.

Building on the success of this first call, a second one was launched in March 2002 (still running). It selected 10 new projects that are closely coached on the same model, and consequently produce a second set of quality courses.

After each TECC, dissemination seminars contribute to the dissemination of "best practices" in ODL through open demonstrations of the achieved products, through discussions on their uses and on the added value perceived by their actors (trainers as well as users) and through critical thinking in order to continuously improve the process.

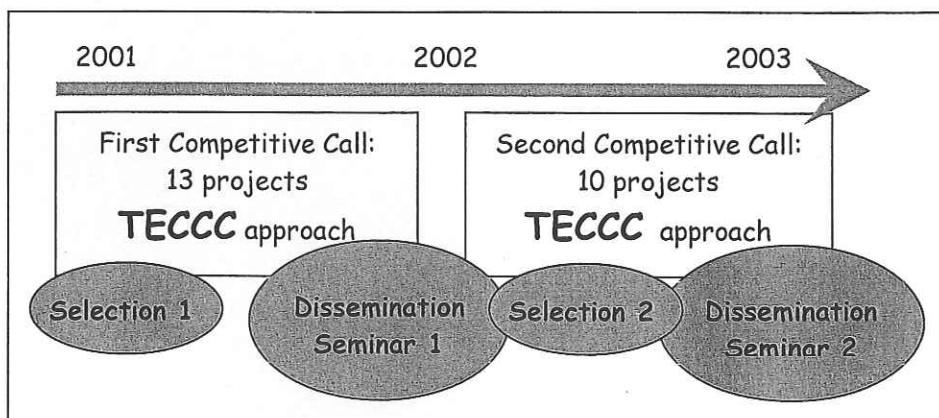


Figure 1: FORMADIS annual competitive calls, for a massive production of quality ODL

4.2. A degree in ODL design and development: the FORM@SUP initiative



form@sup

Educational Media International, 40(3), 233-241.

In parallel to that FORMADIS initiative, the University of Liège launched in September 2002 a postgraduate degree (called

romote Good Practices in ODL by a TECC Approach (Training Embedded Coached strations through a postgraduate degree and an annual competitive call, in

FORM@SUP) in Higher Education Staff Development. This degree is coordinated by the LabSET. One of its three orientations is dedicated to ODL design, production and delivery. It aims at the same objectives as the above-mentioned annual competitive call and processes in largely common ways: the production of quality courses in local languages over the Internet and through the TECCC approach. The main difference between the two initiatives is that the postgraduate degree provides less individual support and more on-line courses to the participants than the FORMADIS initiative. The degree is therefore better suited to those professionals who are already familiar with self-learning and more autonomous in project management. This degree also acts as an incentive (due to formal accreditation) as well as recognition for the involvement of the faculty members and external trainers in the continuing improvement of their courses.

As in FORMADIS, the 10 selected projects cover a wide content diversity, the courses concerning different domains.

5. A CLOSER VIEW ON THE 7 KEYS, SHOWING THE COMMONALITIES BETWEEN THOSE TWO INITIATIVES

Key 1. (Selection through competitive call)

Both in FORMADIS and FORMASUP, candidates have to submit a written application (mainly the description of the project, but also needs analysis, candidate's time available, constituted team, institutional support,...). After a first selection, they are invited to an interview. In FORMADIS, international referees are also involved, to ensure objectivity. After the selection phase, a convention is signed between the LabSET and each institution, specifying the project and clarifying each other's responsibilities and roles.

Key 2. (Isomorphism)

Modelling of the participants is permanent. Approximately 150 course hours, related to five steps of course design, are planned over a 10-month period of time. For each of the activities, the professors themselves (target public of the course) are exposed to a variety of teaching and learning approaches: they create, explore, practice, experiment, imitate, receive and debate (teaching/learning paradigms).

Still for isomorphism reasons (our participants might "teach as taught"), a wide use is made of educational technologies. The WebCT platform facilities are exploited to make the professors familiar with (a) the usual communication tools (e-mail, bulletin board, calendar), (b) a detailed planning of the distance and face-to-face activities, (c) precise descriptions of the objectives and sequence of each activity, (d) multiple links to deepen pedagogical and technical resources, (e) practical tools corresponding to the ODL design steps, (f) slides and videos presenting some theoretical points or examples of good practice, (g) tests allowing for feed-back loops and regulation of the course, etc.

Videoconference is also used, to have international partners participate as invited experts to some debates and case analyses.

We illustrate our web resources through a few screen captures hereafter.

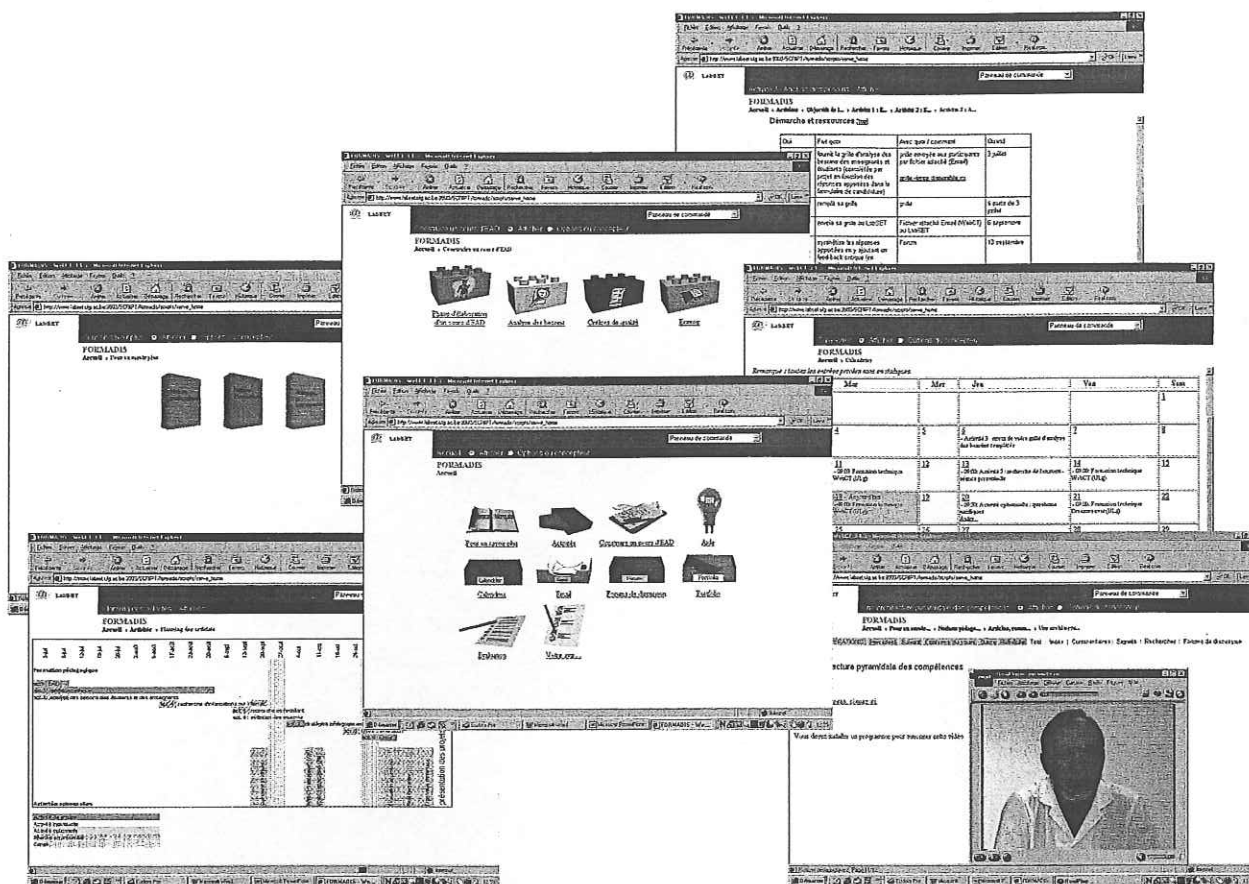


Figure 2: Some screen captures of the "Training in ODL Pedagogical Design" curriculum

Key 3 (project based approach)

Common steps

To deeply transform the existing conventional courses into active ODL courses, we engage with each selected organisation / trainer into **5 steps**, illustrated by the FORMADIS and FORMASUP homepages (in French in the icons hereafter):

- (1) A Needs analysis is performed to clarify constraints and available resources for each course
- (2) **Conception:** The objectives of the course are defined, as well as the Methods and Means; this often requires a new definition of the instructional design of the course
- (3) **Realisation:** The methods and the means (resources) available to the learners are developed. It also requires considerable help to the trainees in graphical and technical developments
- (4) **Experimentation:** Clinical Testing of prototype is performed on limited groups (small-scale - Learner Verification & Revision). This continuous evaluation of the innovation process

allows for short regulation loops and facilitates communication between the *Sherpas* and the trainers / professors involved.

- (5) A more summative **Evaluation** of the developed course and of its use is conducted, when relevant and possible, with the help of pre- and post-tests, attitude scales, interviews etc. This process results in large loop regulations.

These 5 steps, corresponding to the classical phases of project management, are not followed strictly linearly, but with permanent feedback loops in an iterative process. The project-based approach, really motivating for the participants, is the basis for the other 6 Keys as it provides a permanent impulse to the actions.

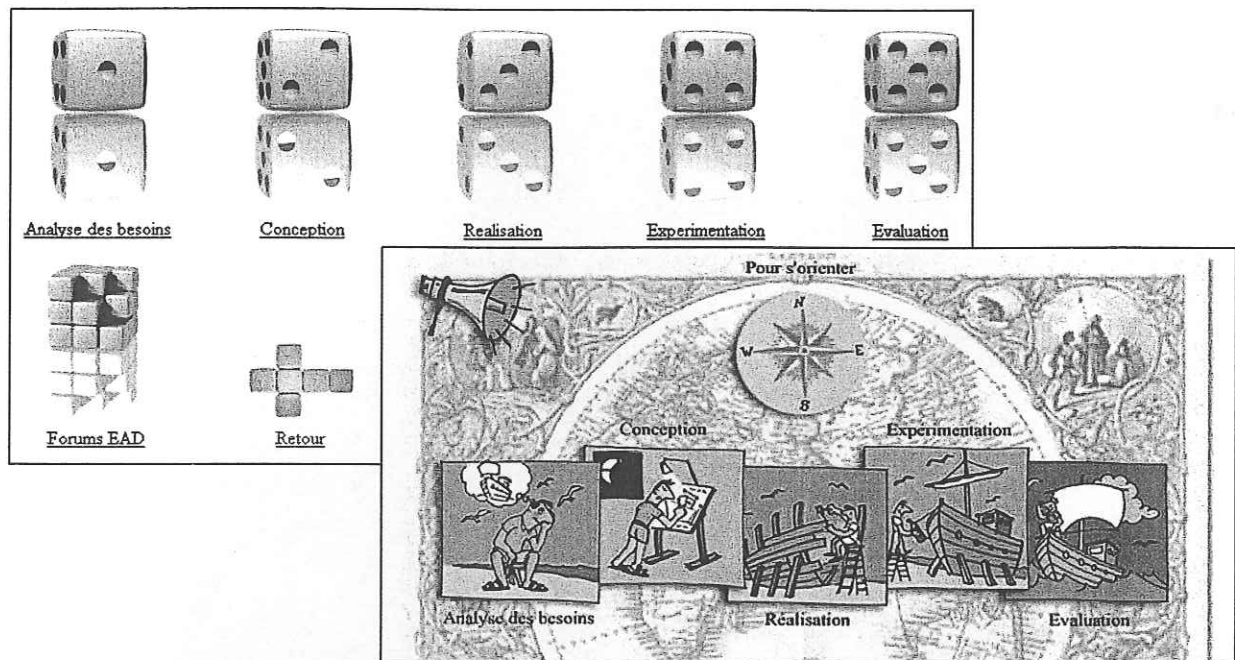


Figure 3: the 5 steps of ODL design and development ;
Screen shots from FORMASUP (upper) and FORMADIS (below)

Common contents

Common theoretical content is provided for each of the five steps. For instance, a model of learning / teaching paradigms is suggested to help professors conceive strategies as well to analyse existing ones. A second model suggests a classification of transversal objectives, to draw the attention to their importance. A third one models the project management, helping the parallel teams understand the process and plan their actions.

The technical content is provided in order that all the trainers/professors be able, once their online course is developed, to give access to a new student, to add a page or review part of the course, to enrich the glossary, to add a bulletin board discussion topic, to add a quiz or some questions in an existing pool, to display and analyse a quiz results distribution, to post a message to all their students or to some in particular, to scan a newspaper article and integrate it right away, to integrate a new activity, to modify the calendar, ... all sorts of actions that maintain the course and keep it alive.

Key 4. (Close coaching by Sherpas)

In the two initiatives, each trainee is in close contact with one or two *Sherpas*. About once a week (sometimes less, depending on the project pace), the small project teams meet and work together on the project development, step by step (cfr Key 3 upper). The courses develop through an iterative process closely followed by the *Sherpas*, allowing for confidence to grow between those actors who know and appreciate each other as they become close partners, sharing common goals. The *Sherpa* coaching also facilitates the respect of intermediate deadlines and the communication between the trainees, the LabSET technical team and the graphic designers. For example, when a project team invites a LabSET technician or a graphic designer to participate in a meeting (to decide on the interface of the course, the design of the icons, the navigation, the videos or other media to be produced), the *Sherpa* helps define the constraints and mediate the communication between the actors. We really consider this *Sherpa* coaching as one of the key success factors of this combination of training and course development. The close and personalised relation with the *Sherpas* is mentioned by the trainees as one of the best points of this (although very demanding) experience.

Key 5 (focus on activities)

Problem Based Approach and Case Based Learning Methods are widely used in FORMADIS as in FORMASUP. Crucial theoretical issues, initiated by case studies and by the analysis of success factors, are of the following type: how to foster participation at a distance, how to evaluate the success, how to define quality criteria, how to vary the methodologies, how to deal with legal issues, how to adapt to differences between undergraduate, graduate and postgraduate levels in terms of methods and evaluation, which technology is to be used to best serve the objectives of the course, how to bring a real added value to a distance course, etc. They build on running ODL Pedagogical Design courses and activities.

In the debates and experience sharing, participants are invited to open seminars (4 per year, on thematic issues). By "open", we here mean "where all the persons involved in teaching activities (professors, assistants, ..) are invited to join". Such one-day seminars often proceed as a succession of colleagues sharing their work and showing the innovations they have introduced in their courses, followed by a general debate on the basis of this presentation. For instance, a professor having introduced new evaluation principles explains his students' reactions, his difficulties in implementing the innovation, his experienced added values etc. The debate generates SWOTs analysis (Strengths, Weaknesses, Opportunities and Threads).

Key 6 (Variety)

In the two curricula (FORMADIS and FORMASUP), we try to impact the quality of the courses by introducing not repetitive activities, but varied contextualised activities, including, for example, problem solving, peer reviewing, role-playing and case based methodologies (see above). This modelling is intended to favour transfer to the individual contexts, fostering sustainable innovation and deep change.

Those activities are partly (about 70%) organised at a distance. Some include a face-to-face situation, for various reasons. It could be (a) because organising them at a distance would be too time and energy consuming regarding the expected added value, (b) for pedagogical reasons (added value due to intimacy or emotionality or synchronicity, etc....), or (c) for human or social reasons (such as group building).

More precisely, some examples of activities are:

- Simulated professional situations (on the Web site, requesting decisions and actions)
- "Dialectic-Cases" (arguing with theoretical arguments on practical issues in discussion forums - limited choice of roles to be chosen)

- "Reciprocal Multimedia Activities": one example (Leclercq and Georges, 2002) consists in (a) creating a challenging situation where the partner has to designate, among a dozen multimedia advertising, the forged one (that has been designed on purpose by a peer) and (b) answering a peer's similar challenge
- "Reading-Question-Answers-Tests" activities (Leclercq et al., 1998, 161-186), replacing traditional lectures
- Group work, often in combination with forums and debates, with precise instructions to guide the groups and insure exploitable results
- Individual portfolios, allowing for self-critical analysis of processes and products
- Sophisticated multiple choice testing (Leclercq et al., 1993, 210-232)

Those activities are also presented as central on the Web site of the course.

Key 7 (Evaluation is adapted to adults).

Critical analysis of each of those internal (organised by FORMADIS or FORMASUP) learning experiences is requested. The accompanied professors consider whether they could apply each experience to their own practice -how, when and why-. If appropriate, they immediately transfer the new experience to the development of their own ODL course (Critical thinking is requested, as it's the basis for the capacity to discriminate which of the lived activities would suit a different context, a different target public or a different domain. A negotiation takes place with each candidate at the beginning of his/her project development, allowing for differences in individual interests to be recognised in the program.

External experiences are also recognised as valuable and shared online. Readings, participations to conferences, round tables, contacts, visits, poster discussions or any activity that the participants see as bringing an added value to others is shared and valorised following specific criteria.

Finally, both the process and the product of the TECCC (the courses produced) are evaluated at the end of the year, in addition to the critical analysis provided by the participants.

6. TO CONCLUDE

The critical mass of ODL courses is not yet reached, but is really in progress. At the end of this year, 33 courses will have been generated by the two programs. In order to illustrate the diversity of the course contents, we list hereafter the course subjects of the 13 first FORMADIS courses: *Mathematics, Introduction to Typography, Creativity for SMEs, Tropical Bromatology, Environment, International Marketing, Simulation of product launching, Risk prevention, English, Spanish first level, Bovine Echography, Phytopatology, Accounting for SMEs.*

Apart from this basic diversity of contents, we have underlined the diversity in the methodologies as being one of the quality indicators for an online course. Amongst the 13 distance courses listed above, we observe a real diversity in the deployed methodologies, showing that the methods are really chosen for their coherence with each professor's objectives of and not with a universal model forced by our FORMADIS or FORMASUP programs, showing also that distance courses can be really active and foster learning in a constructivist sense (note that we measured the diversity of the methodologies used by the FORMADIS and FORMASUP participants in their own courses, using a teaching/learning paradigms model to characterize each of the activities and draw patterns).

ODL deployment is on its way, with quality as a main focus. The TECCC Keys help our *Sherpas* communicate with the professors they coach and with external partners, allowing to react and continuously improve those principles, as they are clearly announced.

However, even using quality Keys and communicating on our visions, we still find it challenging to try to enable the faculty teaching staff to use the web as an instructional tool and to use a platform for learner centred instruction. Some of the challenges faced are:

- What is the hidden agenda? What are the trainer's (or institution's) real motivations to complement a course with an online environment? Is this motivation always student centred? Can we move it slightly, have it evolve?
- How to strengthen faculty involvement? How should the institution as a whole be involved, in order to get a collaborative relationship between team members? Which institutional recognition can be foreseen as incentives (financial, human resources, time, etc.) and support to our actions?
- How to keep formalising good practices, since it takes time and energy? Examples of good practices are necessary to illustrate what we see as bringing a real added value to conventional teaching or how to maintain student motivation, their involvement and interest on a long period of time, how to rethink pedagogy.

We continuously analyse and discuss these challenges to better face them by offering a strong support to willing staff members, by evaluating the courses, by training in ODL pedagogical design as well as in technology, by opening up discussion spaces for faculty members and external trainers and, last but not least, by setting up new international collaborations.

We also noticed that the participation in FORMADIS or FORMASUP, even though considered as a real impulse to innovation, needs follow-up and the establishment of communities of practices in order for those changes to be sustained.

7. REFERENCES

- Bates, A.W. Tony (2000), *Managing Technological Change, Strategies for Colleges and University Leaders*. San Francisco: Jossey-Bass Publishers.
- Dewey; J. (1900). Psychology and social practice. *Psychological review*, 7, 105-124.
- Doise, W. et Muny, G. (1978). *Le développement social de l'intelligence*. Paris: Interéditions.
- Gilbert, J.F (1962). Mathetics : The Technology of Education, in *Journal of Mathetics*, 1962-1-7-74.
- Jans, V., Leclercq , D., Denis B. & Poumay, M., PARM: a project method based on reciprocal animations and multimédia, in J. Van Merrienboer & G. Moerkerke (Eds), *Instructional Design for Problem-Based Learning*, Maastricht: Marja Hortulanus, 1998, 171-180.
- Knowles, M., *Adult Learner*, 1978, 2nd edition, Houston, Texas.
- Kolb, D. (1984). *Experiential Learning: Experience as the source of Learning and Development*. Englewood Cliffs, Prentice Hall, Inc.
- Leclercq, D.(Ed.) (1998). *Pour une Pédagogie Universitaire de Qualité*, Sprimont: Mardaga.
- Leclercq D. & Bruno J. (1993). *Item banking, interactive testing and self assessment*, NATO ASI Series F112, Heidelberg: Springer Verlag.

- Leclercq D., Georges, F & Poumay M. (2002). Méthode basée sur des Cas (MDC) et Enseignement à distance (EAD) visant le transfert des apprentissages. Un exemple d'application, *AIPU International Conference*, Louvain-La-Neuve
- Leclercq, D, Georges, F., Gilles, J.-L., Reggers Th., Rommes, O. (1998) Interactive Multimedia Programmed Biographies (IMPB) : a new method for clinical training, *BITE (Bringing Information Technology for Education) Conference*, Maastricht, 406-417
- Leclercq, D. et al. (1993) The TASTE approach. In D. Leclercq & J. Bruno, Item Banking: *Interactive Testing and Self Assessment*, Berlin: Springer Verlag, NATO ASI Series F : vol. 112.
- Piaget, J. (1974). *La psychologie de l'intelligence*, Paris : Armand Collin, 1974.
- Poumay, M. & Leclercq, D. (2002). *Why and how using case based learning ?* - San Francisco: Hewlett Packard
- Poumay, M. & Leclercq, D. (2000). Support structure for the development of quality distance courses over the internet. In J. Connors & F. Dawes (Eds), *Towards the e-learning community: Challenges for Business and Education*. Bolton : CEM, 38-41.
- Poumay, M., Leclercq, D. & Demily, F. (2000). Quality in web activities through case studies over an integrated platform. In E. Wagner & A. Szucs (Eds), *Research and innovation in Open and Distance learning, EDEN Research Workshop*. Praga, 276-279.
- Poumay, M., Leclercq, F., Demily, F. & Georges, F. (2000). Apports Qualitatifs d'une structure de support aux enseignants à une méthodologie basée sur l'Etude de Cas en EAD. In Ianni, G. et al. (Ed.). *Identités multiples et pratiques interculturelles*. Firenze, 143-158.
- Poumay, M., (2001). *L'utilisation de cas concrets en pédagogie - Modèles pour décrire et analyser des cas et leurs usages didactiques*. Post Graduate Thesis in Educational Technology, Universities of Liège and Namur.
- Tulving, E. (1983). *The elements of episodic memory*. New York: Oxford University Press.