The Competencies Management Tool to Favour Autonomous Learning and Formative Assessment

Georges F. & Dupont, C.
LabSET-IFRES, University of Liège, Belgium
fr.georges@ulg.ac.be
chantal.dupont@ulg.ac.be
http://www.formasup.eu

1. OVERVIEW

The Formasup curriculum1 aims at stimulating professional development by combining reflection and action: questioning oneself as a teacher, designing and implementing a classroom research/intervention, evaluating that action and taking a step back to analyse it critically.

To help participants design their action (e.g. put their course online) and evaluate its quality, we are using an online "competencies management tool" (CMT).

For a given list of competencies to acquire, this tool allows participants to interact with their tutor and get formative as well as certifying feedback.

CMT is based on their capacity to self-assess themselves and manage their own learning.

Description of themes
- Great designs for assessment

2. INFORMATION ABOUT THE CLASS, MODULE OR PROGRAMME

In September 2002, the University of Liège (Belgium) launched a postgraduate degree (called Formasup) in Higher Education Professional Development. This degree is coordinated by LabSET (Support Lab for Telematic Learning). Formasup is a 1 or 2 years programme (60 credits) targeted at professors, teaching assistants, trainers or educational supervisors in any institution of higher education. Most of the participants are working full time. Although it is possible to achieve Formasup in one academic year, we advise to split the degree over two academic years.

42 teachers have completed the programme and are holders of the diploma since 2003.
17 participants are registered for this academic year.

2.1. The programme's objective is to help those involved in higher education to become teaching professionals, by combining classroom research and communication about it:

- use resources and refer to specific and scientific literature about Higher Education;
- lead a pedagogical action and regulate this action on the basis of objective and subjective gathered data;
- identify a research-intervention question from their reflections (it has to be linked to their pedagogical action) and answer that question;
- analyse their vision of teaching and establish a connection to existing scientific trends;
- communicate about their work at a local and/or international conference.

2.2. The programme's components:

1 Postgraduate degree in Higher Education Professional Development, that will be transformed into a Complementary Master in 2007-2008, following the "Bologna" agreement. A first Master title is mandatory in order to register for this type of continuing Master.

- **The "Action" module (20 credits),** where participants design and develop a **project in their classroom, in relation** with one of the three offered options (see below). They regulate their actions, on the basis of objective and subjective data. The 3 options are :
  - **Problem Based Learning**
  - **eLearning**
  - **Reflection-Intervention** (wider option, more divergent, for those teachers who don't fit to the two first ones)
- **The "Research" module (20 credits),** where the participants will answer a research question related to their pedagogical action, including gathering and analysing objective and subjective data.
- **The "Critical Analysis" module (20 credits),** where the participants, in their teaching portfolio, will state and explain their vision of teaching, reflect and analyse critically their previous and current experiences, explain their foreseen actions and plan their further professional development.

2.3. The programme methodology:

2.3.1. Project driven curriculum

In Formasup, the participants' personal projects supply:

- points of anchorage for a theoretical construction;
- a basis for reflective activities;
- avenues of realization for individual efforts.

2.3.2. Blended learning

The curriculum is organised partly at a distance for local participants and fully at a distance for international participants. They have access to the course contents on the WebCT platform, fulfil activities and have interactions with tutors in real or virtual face-to-face sessions.

During their self-managed working time, participants benefit from different resources:

- online course (theory and illustrations)
- online activities
- lectures via videoconferences
- video recordings, archived on VIPS (interactive system developed by the University of Kaunas, Lithuania)
- tutorship via forum - e-mail
- a Competencies Management Tool (CMT)

2.3.3. Community of practice

Face-to-face sessions are limited to a maximum of 3 times 1 week over the year, to allow participants, who all have a full-time professional activity, to fit them into their usually very tight schedule.

During these sessions, emphasis is put on presenting work progress, exchanging best practices or reflecting together on the questions raised (exchange seminars) as well as discussing aspects of higher education and debating these together with invited speakers.

2.3.4. Close coaching

Each participant is in close contact with a tutor: the *sherpa* (Poumay 2003, Poumay 2007). On regular base, they meet (physically or online) and work together on the project/research development, step by step. The courses develop through an iterative process closely followed by the *sherpa*, 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 participants, the LabSET technical team and the graphic designers. 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 *sherpa* is mentioned by the participants as one of the best points of this (although very demanding) experience.

3. DESCRIPTION OF THE CASE

Three productions will be assessed and will be taken into account for the final grade:

- Submissions to the Competencies Management Tool (CMT), where quality of personal project can be assessed. This evaluation consists of the validation of the competencies acquired regarding the implementation of 21 selected items into their project and their pedagogical justification.
- Teaching portfolio, where participants take a step back and analyse their professional identity and development, give critical account of their action, answer their research question and describe the possible regulation and perspectives.
- Oral defence, where each participant will have an hour to defend his/her teaching portfolio in front of a jury of 3 people.

In this case study, we will only focus on the CMT. The teaching portfolio will be described in a separate case study.

The purpose of the CMT is to provide participants with guidance as they design their project (e.g. an online course), put it online, use it, evaluate it and regulate it.
Designing an online course requires the mobilisation or acquisition of the competencies mentioned below. The CMT will help the systematic application of 21 elements (items) which we currently regard as essential for the proper functioning of an online course (Georges & Van de Poel, 2005):

1. Learning support
2. Technical support
3. Contact person
4. Advice to enter the course
5. Rights and duties
6. General objective
7. Vital factors or “must do”
8. Specific objectives
9. Choice of methods
10. Non formal interactions
11. Formal tutors/learners interactions
12. Formal peer-to-peer interactions
13. Triple consistency between learning objectives, methods and evaluation
14. Evaluation
15. Metacognition
16. Specific navigation
17. Graphic chart
18. Language quality
19. Calendar
20. Instructional multimedia
21. Webography-bibliography

Once participants feel they master selected competencies (self assessment), they can submit related item(s) for evaluation, illustrating where in their production (their online course) they have applied such and such element and justify it pedagogically.
Their tutor will then assess it and give them formative feedback. The interaction between participants and their tutor will go on until both parties agree on the mastering of the selected competency.

The following illustration captures the content of an interaction between a participant and his/her tutor. In this case, the participant submits the item 9 (justify the choice of methods implemented in his/her project), listing the activities present in his/her project (with more information on the activities and direct access to them in his/her online course) and justifying them with reference to several theoretical models (the pyramidal model of

competencies, Leclercq 1998 p. 72 and the 8 learning events model, Leclercq & Poumay, 2005).

Justify the choice of methods
Student 11 - Attempt 1 - 2/04/2006 0:29 *Activities:* • *1st Activity - an essay/case writing; • *2nd Activity - a Code of Conduct writing; • *3rd Activity - a collaborative project \"Good manners and values\"; • *4th Activity - a team project \"Dress Code\"; • *5th Activity - Reflective Report. Methods are chosen to develop specific, demultiplicative, strategic and dynamic competencies: • *Exploration: students explore resources in order to complete tasks and write case or essay - method mostly develops specific, demultiplicative and dynamic competencies (in 1-4 activities); • *Creation: students create something new by producing concrete works (essay, cases, Code of conduct, Dress code, etc.) and making solutions - method mostly develops strategic competencies (problem solving, decision making skills) and dynamic (interest in Business Ethics, motivation) competencies (in all the activities); • *Debate: students have social interaction which is recognised as catalysts in the construction of knowledge. Having to defend own solutions, students also have to criticise the solutions of the peers - method mostly develops demultiplicative and dynamic competencies, presentation and communication skills (in 3,4 activities); • *Experimentation: students are able to change the environment or modify it according to personal hypotheses. Students can experiment with their appearance changing image if they decide on it - method mostly develops strategic and dynamic competencies (in 4 activity); • *Metacognition: students reflect on their own knowledge, own thinking, and even own way of thinking, identifying strengths and weaknesses in their learning and improving and regulating the process - method mostly develop strategic and dynamic competencies (in 5 activity and partially – in 2, 3 activities).
Tutor D – answer 1 - 3/04/2006 15:01 *Your analysis is correct and relevant but if you are using the pyramidal model of competencies (and I agree totally with it, see also my comments on item 22!), it would be more than useful for us to have your objectives defined in terms of this pyramidal model so that you can make the parallel between the activity (the learning events) and precisely what competency it will develop (and not just vaguely \"it will develop strategic competencies\")*

Illustration 1: interaction between participant and tutor related to submission of item 9 (choice of methods)

Dialectic is the driving force behind this tool, which is intended to help participants make progress. They can use it from the very beginning to submit their work to their tutor and receive formative feedback.

In order to encourage to 'beat writer's block', we have set four deadlines. The first three are formative in scope, while the last is certifying. For each of these dates, participants are invited to submit a specific number of elements for evaluation:

- 5 items for month 4 (M4)
- 5 additional items for M5
- 5 additional items for M6
- All items for M7 or 9 (depending on the chosen date for oral defence)

Additional resources are made available to participants, linked with items in the tool. There are three types of resources:

- Descriptive: the design of the CMT is based on literature review (Meloche 2000). For most of the elements making up the grid, they are links to these resources, justifying why we have chosen these 21 items.
- Illustrative: an example can sometimes be more effective than a long discussion. We have included within our grid a number of illustrations for each item. These illustrations are taken from courses which have been put online by peers in previous years.
- Theoretical: our guidance is based on several theoretical models which are of use for elucidating, analysing and adjusting one's practice. These models are described in the online WebCT course.

The consultation of these resources is entirely optional.

4. RATIONALE IN TERMS OF EDUCATIONAL IDEAS

Two types of evaluation are conducted in connection with this activity: formative and certifying. Both are based on the same tool, only differing with respect to their purpose and the evaluators. The purpose of the formative evaluation is to enable participants to improve their work. It is therefore repeated as often as is necessary to address any shortcomings. They are supported in this by a tutor whose roles are to respond to their work and help them analyse and adjust it. The certifying evaluation is intended to assign a grade. It is conducted once at the end of the year by an external evaluator.

CMT and autonomy

We distinguish between two approaches (Georges, 2006). The first can be classified as immersion: the ability to learn from the simple fact of being immersed in a context of autonomy (Leclercq, 1998). The second is based on the production of a concrete work and can be compared with project based learning (Vassileff, 1994). [...]

By using CMT, participants are immersed in a context of autonomy. Although the tool offers them a series of pointers and resources, the choice of course to put online (their project) is up to them, as is the manner of proceeding (Holec, 1979 cited by Demaizière, 2003). They are free to take as their starting-point their experience as a teacher, theories on designing an online course or illustrations drawn from supervised courses in previous years. The responsibility for managing their work and taking advantage of the human and material resources lies with them (Gilkman, 2002 cited by Demaizière, 2003; Barbot, 2002). At four points, they are required to submit the state of progress of their work for evaluation. In the intermediate phases, they are free to engage in exchanges with their peers and tutor either informally via the forum or formally via CMT. Making a request for validation necessitates the ability to evaluate oneself (Marbeau, 2001). Participants only request validation of a given ability when they believe they have mastered it. A tutor informs them of their state of progress, mentioning requests which are in progress or have been either validated or rejected. If validation is rejected, participants are invited to re-submit the request. During the year, the number of requests is unlimited, as the evaluation is formative. A renewed submission for validation presupposes that participants have remedied the defects highlighted by the tutor (Meirieu, n.d.), or simply that they are adhering to their original choices, bolstered by new arguments. This work requires them to demonstrate a critical

approach towards their own work and towards the comments made by their tutor. Learning is more than just the reception of knowledge. It is engagement in a process of questioning, critical thinking and problem-solving (Leclercq, 1998, p.75). It also means gaining an appreciation of the implications of one's own actions (Meirieu, n.d.). Requests for validation of the acquisition of abilities must not be prompted by a desire to meet the evaluator's expectations, but by the desire to contribute as much as possible to the educational project in terms of both its pedagogical and social dimensions.

The approach mediated by CMT is related to project based learning. For participants, it is a question of organising themselves in order to acquire the knowledge and competencies which will help them successfully complete their project -theirown online course- (Fournier, 1996 cited by Leclercq, 1998). Vassileff (1994) sees in this type of approach an effective environment for the development of autonomy, which he compares with the development of a sense of responsibility. The pedagogical side of the project gives participants the opportunity to actually go into action, to consolidate knowledge through practice, to make choices in terms of objectives, methodologies and evaluations. To quote his expression, it makes participants "*the owner of their space-time*". In this way, they acquire a growing sense of responsibility. Participants can be held responsible because they have the right to express themselves. This degree of freedom is not enough to give them autonomy, though. They also need to persevere with the mission which is entrusted to them. This perseverance is a function of the meaning that they will find in the mission, or impart to it. Within the context of our postgraduate degree, meaning is paramount. The selection of the participants is largely based on their commitment, their motivation to turn their course into a distance learning system and the meaning they attribute to this action.

5. EVALUATION

The CMT has been used with 11 participants during the 2005-2006 academic year and is still on this year (2006-2007) with 14 participants.
The use of such tool makes interactions between participants and tutors much more well-defined, regular and "deeper". Moreover, it allows for better filing and facilitates the analysis of data.
Participants find it sometimes laborious because it implies to systematically analyse and justify their actions. The use of CMT for certifying assessment seems to have a positive impact on the final marks, although no statistical analysis has been undertaken to confirm it.

Autonomy to design an online course requires the mobilization of:

- specific competencies (e.g. mobilization of contents)
- higher-order competencies (e.g. time management);
- auto-cognitive competencies (e.g. self-assessment and self-regulation);
- dynamic competencies (e.g. motivation to enter into action).

To estimate the capacity to mobilize specific competencies, we count the number of item submissions validated by the tutor.

To estimate the capacity to mobilize higher-order competencies, we count the number of met deadlines.

To estimate the competency of self-assessment, we count the number of requests validated after one attempt.

To estimate the competency self regulation, we count the number of requests validated after two attempts

To estimate the capacity to mobilize dynamic competencies, we count the number of accesses to the optional activities and resources.

Eleven students have been observed during one year. The data collected do not allow us to state whether participants have been autonomous or not. We can only describe what capacities inherent in autonomy have been mobilized in that particular learning context, such as consultation of resources, time management, etc. We still have to explore the relevance of these information by further analysis and in-depth interviews (i.e. is the capacity to mobilize specific competencies related to the respect of the deadlines? Does a student fulfilling the optional activities have a better capacity to self-assess the accuracy of his/her answers?).

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LabSET
Directrice et responsable académique : Marianne Poumay , Chargée de cours.

Co-responsable académique : Dieudonné Leclercq, Professeur ordinaire.
Boulevard de Colonster, 2 - B9 4000 LIEGE - Belgique E-mail : labset@ulg.ac.be -
http://www.ulg.ac.be/labset
Tél. +32 4 366 20 93 - fax +32 4 366 34 01

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