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**DEVELOPING ASSESSMENT PRACTICES THROUGH THE USE OF BLOGS IN
HIGHER EDUCATION: AN INNOVATIVE EXPERIENCE IN THE OPEN
UNIVERSITY OF CATALONIA**

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Abstract: *Blogs have lately become one of the most known Web 2.0 tools and a common form of expression for the users of the Internet. Conscious of this fact, teachers are currently using blogs as learning and teaching tools. The Bologna process has signified an important change in the education paradigm. Competency-based design and assessment is just one of the aspects that has changed and is perhaps one of the most critical ones. However, are our students aware of its competencies acquisition? Do it actually have a bearing on their own learning process? For all these reasons, a research group led by the University of Barcelona proposes to carry out a project called “Formative competency-based assessment through blogs”. This project consists in the design, implementation and evaluation of a blog-based model for student assessment based on competencies. We have implemented the model in six universities and in different faculty degrees: pedagogy, social education, engineering, communication and Catalan literature. We will study one of these experiences in-depth and which was carried out in the “ICT Competences” course of the Catalan literature program degree at the Open University of Catalonia (UOC). In this course, the blog is used as a platform to reflect about the learning process and about competencies’ acquisition. This paper presents the results based on students’ questionnaires.*

Keywords: *Formative assessment, Blogs, competencies, ICT*

I. INTRODUCTION

Assessment is not only a system to measure outcomes, but also a process to gather useful information to evaluate results and, what is more important, to take decisions aimed at improving these results [1].

The assessment process is useful for students to detect their mistakes, learning difficulties and to overcome their limitations. It will also allow teachers to identify which of their actions are more significant in order to redirect their teaching processes and to optimize educational management.

And going one step further, learning-oriented assessment has to foster learning through assessment activities and strategies especially developed for this purpose, redirecting students’ and teachers’ actions and processes as often as required. This is the reason why the meta-cognition process is so crucial to make students reflect about what they have learned, how, when and why, and to make

them conscious about their own learning. Only then, would they be able to take the right decisions to improve their learning.

We could assume that online assessment or e-assessment is the end-to-end electronic assessment process, where ICT is used for the presentation of assessment activities, and the recording of responses. But, we also think that we are in the age of networked communities [2], and that this fact involves overcoming our own limitations when we assess our students. Information technologies can provide an efficient and effective means of assessing learning effectiveness by supporting traditional, authentic, and alternative assessment processes [3].

We think that a competence could be described as complex knowledge [4]. It is not possible to divide it into different parts, nor is it capable of being worked separately. In this context, assessment could become a key strategy for promoting student competence development, as well as its accreditation. However, not any kind of assessment is helpful for this purpose; it must be *formative-competency-based* assessment [5], [6], [7].

II. RESEARCH

Our research project starts as a continuation of a previous research study carried out by a group of professors of the pre-service teacher education program at the University of Barcelona (UB). The project sought to assess student competencies during their teaching practice period through a Web 2.0-based environment. During the research process, students developed a blog in order to express their learning process weekly and to reflect about it. Each blog contribution was tagged basing it on the competences that students reflected about. The tutors assessed the contents of the blogs weekly using ad-hoc software in order to give feedback to their students and orientate their future actions in the teaching practices' scenario.

Taking into account the previous project, a research group led by the UB proposes another project called *Formative competency-based assessment through blogs*, in order to transfer the proposition to other Catalan universities, scenarios and courses, and so extending the research team to seven other universities.

This new project consists in the design, implementation and evaluation of a blog-based model for student competency-based assessment. As the project is not yet complete, this paper can only address a part of the results obtained so far. Hence, this paper will be based on the following and concrete research objectives:

- To find out students' opinion on the use of blog tools in their meta-cognition process during the experience.
- To find out and assess students' perception about the relevance of teacher feedback during this process.
- To identify student satisfaction with the methodology and tools proposed during the process.

We will analyse the experience of the UOC's ICT competences course using the survey created for the project that our students completed just once, during the last days of the first semester of the course 2011-12. The survey was based on a scale from 1 to 10 in order to rate 16 statements, and was designed to gather students' demographical data and students' perception about their metacognitive process during this experience. In order to validate the survey's content, it was revised by 4 students from the University of Barcelona. Once our students completed the survey, the Cronbach's Alpha test [8] was used to demonstrate its statistical reliability; the results of this test indicate that it has a high internal consistence (0.9 out of a maximum of 1).

2.1. The research context at the UOC: ICT competences' course of the Catalan Literature program.

The UOC is a fully online university, with a Virtual Campus where all learning activities and communication take place. Its aim is to facilitate the community with lifelong learning. The UOC student does not attend university classes, therefore they learn in a fully online process [9].

Our study is carried out within the “ICT competences” course of the Catalan Literature undergraduate program. In this course, students work in groups in order to develop a Virtual Project. During the course they reflect about the teamwork process and the competences developed through a blog.

The course’s main objective is to initiate students’ learning and to integrate them gradually into the acquisition of a specific competence defined by the UOC: *Use and application of ICT in academic and professional development*. The course is taken in the first semester of the online program, at the first contact that students have with the learning environment. The “ICT competences” course allows the student to develop knowledge and skills for a responsible, efficient, informed and productive use of digital technologies.

The students in this course form small groups made up of 3 to 4 participants. The methodological approach of the course is project-based learning [10]. According to this methodology, each group chooses a topic related to the Catalan Literature program at the starting point of the course. As a result of this process, each group develops its own Virtual Project.

Students carry out their project in groups within a wiki and they reflect about the process and the competences acquired through a group blog. Groups are asked to add a post in the blog at least once for each one of the phases and each post has to contain the contribution of all of the members (they are allowed to discuss the post’s content through the virtual campus communication tools).

In order to make our students more aware of competencies’ acquisition, they were asked to tag their contributions with the label of the competences analysed. This activity facilitated formative assessment developed by the teacher.

III. RESULTS

48 students (from a total of 79) of the ICT competences’ course completed the project’s survey, showing an equitable distribution of gender (52% women and 52% men). Taking into account the age distribution of the sample, most of the students are older than 40, but the mode is situated in 26 and 35 years old.

3.1. Technical knowledge about the use of the blogging tool

As can be seen in table 1, the majority of our students had little previous technical knowledge (P.T.K.) about the tool before this experience. The P.T.K. item was rated with 1 (in a scale of 1-10) by 29% of the students.

Considering their lack of P.T.K., students rated highly the adequacy of technical information (A.T.I. in table 1), so they felt that their lack of knowledge was covered, as can be seen in the ratings of the item regarding the technical support received during the course (T.P. in table 1), and as such was the better rated item of this section of the survey.

Table 1. Technical knowledge about the blog tool

Survey item (abbreviation)	Mean (from 1-10 scale)	Standard Deviation
P.T.K.	4.04	2.63
A.T.I.	7.23	1.56
T.P.	7.98	1.42
E.U.T.	7.31	1.72

It is important to keep in mind that the results in the previous items were not strange in that most students (68.8%) think that the tool is easy to use (E.U.T. item in table 1).

3.2. Metacognitive process

Regarding students’ consciousness about their own metacognitive process during the experience, they believe, in general terms, that the use of blogs has enhanced their consciousness about their own learning process.

As can be seen in table 2, the majority of students think that the competencies acquired during the course are important for the development of the rest of their university program (C.I.P.). They also agree that the experience of using blogs has been useful for their learning process (U.E.L.P. in table 2) being one of the better-rated items of the survey.

Taking into account that most of the assignments of the ICT competences' course are developed in small groups, students think that the project's experience has been useful for the development of collaborative activities (U.E.C. in table 2).

Almost all students agree that their contribution to blogs has enhanced their consciousness about the competences acquired during the course (B.W.C.C.), as can be seen in table 2. This item is the best rated one in this section.

Table 2. Metacognitive process during the experience

Survey item (abbreviation)	Mean	Standard Deviation
C.I.P.	7.12	2.14
U.E.L.P.	8.02	1.91
U.E.C.	8.36	2.25
B.W.C.C.	7.42	1.96
B.C.L.A.	8.27	1.54

Most students think that the activity carried out through the blog is fully coherent with the other learning/assessment activities of the course (B.C.L.A.). This result could be explained because the design of all the assessment activities had been made at the same time and considering that all of them were to be conducted through the UOC's virtual campus.

3.3. Teacher-peer feedback influence on students' metacognitive process

Taking into account the teacher's role in students' meta-cognitive process, participants highly rate teacher's feedback influence in their improvement of competences. They consider that teacher's feedback frequency (T.F.F. in table 3) has been adequate for their competences' acquisition. Basing on this data, we can affirm that our students appreciate the teacher's presence during their learning process.

However, students that completed the survey have given a slightly higher rating to the usefulness of teacher feedback (T.F.U.) than frequency, so students rate teacher feedback in terms of the quality for their competences improvement too.

Table 3. Teacher and peer feedback valuation

Survey item (abbreviation)	Mean	Standard Deviation
T.F.F.	8.19	1.46
T.F.U.	8.82	1.23
P.F.U.	7.79	1.7

Our students found peer feedback useful as well (P.F.U.), but to a lesser scale than teacher feedback; otherwise, some of them consider that it would be more useful if peers inserted comments on their blogs more often, as we saw through a first analysis of the open question of the survey.

3.4. Student satisfaction with the experience

In general terms, our students were quite satisfied with the experience; most of them would recommend using blogs for similar activities (R.B.S.A. in table 4). Taking into account the data analyzed, they would recommend that this methodology be applied to other areas of knowledge (R.M.A.K.). Most students (19%) rated that item with a 9.

Table 4. Student satisfaction with the experience

Survey item (abbreviation)	Mean	Standard Deviation
R.B.S.A.	7.35	2.6
R.M.A.K.	6.48	2.72
B.W.A.	6.77	2.37
G.S.E.	7.52	2

Participants agree on the adequacy of blog workload activity (B.W.A.), but they think that it requires more dedication at the beginning of the activity, as can be seen in the final open question, that was answered by a small number of students: ... *it was difficult to write about how we were acquiring the competences at the beginning; we had to get used to write about something we didn't know much about.*

General satisfaction with the experience (G.S.E.) is the best-rated item in this section of the survey. Most of them valued, in the open question of the survey, how this experience helped them to be more conscious about their learning process and how it enhanced their collaborative work skills. On the other hand, a few of them think that blog tasks were repetitive: *we always ended up writing the same for each activity.*

IV. CONCLUSIONS

Considering metacognition as a *learners' automatic awareness of their own knowledge and their ability to understand, control, and manipulate their own cognitive processes* [11], the model proposed in this paper tried to make our students assess their own learning process in the framework of a virtual group. As can be seen in the results section, the majority of our students think that the experience of using blogs for competences' assessment has been useful for its acquisition, so we can affirm that (in general) the principal aim of our research has been achieved.

The ICT competences course has been, as regards its characteristics, an ideal framework to foster reflection about the competences in each class-group involved in all the collaborative process. Furthermore, the blog writing activity during the whole group process, responds to two component processes involved in metacognition [12]: (Tan, Gautam & Schwartz, 2001):

- The ability to monitor one's own cognitive activities: the fact of making our students write about their own learning process has made them monitor the activities developed by each group, allowing them to identify competences achieved and problems that have cropped up during the process.
- And the ability to take appropriate regulatory steps when a problem has been detected and that includes individual and group regulation and action.

The teacher's role is essential for all of these processes to take place, providing them with the opportunities to propel metacognitive development and improve subsequent learning and its intervention has to go beyond summative assessment. Bearing that in mind, the teacher involved in this experience has monitored each student and group's process in their campus communication tools during the process. This fact could be a deciding factor in increasing our students' perception about the importance of teacher feedback during their own learning process. Therefore, it is not surprising that one of the main results of our research is that feedback is essential to foster our students' metacognitive process.

Taking into account our students' intellectual effort when they reflected upon their own competences' acquisition, motivation becomes a fundamental element during the learning process: the teacher has to motivate students' metacognitive process by explaining the purpose of the assignments for their own learning process. If our students are aware of the advantages of analyzing their acquisition of competences, they will have more auto-regulation of resources and they will develop the activities in an easier way.

Basing our experience on this research project, we have proposed some improvements that could be applied in our course for the next semester:

- ICT competences course is more orientated to the work of small groups than the interaction among all group classes. Bearing that in mind, students will be asked to share their blogs with classmates through a "class wiki" from the beginning of the activity of the groups and one of the assignments will be to insert a comment to another blog at least monthly.
- Teacher will foster the awareness of students' competences from the beginning of the course, insisting on the levels of acquisition during the different phases of the virtual

project. We believe that this will give them more strategies and perspectives to improve their blog posts, avoiding repetition from those that contribute.

Further steps in our research will be to develop a cross-over analysis of the 7 cases included in the “Formative competency-based assessment through blogs” research project and to repeat the experience, thereby solving problems detected in applying the improvements mentioned above.

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