

E-PORTFOLIO TO ASSESS PROFESSIONAL COMPETENCES IN UNIVERSITY VIRTUAL CLASSROOMS

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ABSTRACT

On line student assessment is one of the least known and most problematic issues of virtual learning. This is so because of its general organization and format in relation to specific contents, mainly in applied subjects because of their epistemological approaches. In this context, the renewal of assessment processes promoting new practices according to the competence-based trend is needed.

In this proposal we present the development and implementation of an e-portfolio system in a university virtual classroom that represents several assessment methods of learning in virtual learning contexts taking into account their cognitive consequences for learning. Although the e-portfolio includes different types of assessment methods including those of automated correction, special emphasis is made on processes that assess positive progress of learning.

E-portfolio helps and assesses learning quality according to their use in four different types of learning assessment: 1) initial assessment, 2) constructive and formative assessment, 3) final and summative assessment and 4) self-assessment. The organizational format of these types of assessment is represented in the student e-portfolio platform we built to demonstrate evolution and accomplishment on learning. Also its suitability is discussed as well as their advantages and disadvantages on a psycho-pedagogical level.

KEY WORDS

Student e-portfolio, on line learning, distance assessment, metacognition, assessment of competences.

1. Introduction

For two years, EDUS research group from the Open University of Catalonia (www.uoc.edu, situated in Barcelona/Spain and that started their virtual teaching activity from scratch twelve years ago) worked on research that develops a competence-based learning and assessment tool using e-portfolio. Efforts have been made from the theoretical and practical point of view to design and implement an e-portfolio within the context of

university virtual education [1]. Concretely this work aims to present the platform structure developed to assess professional competences in the context of a last year work in the framework of the Educational Psychology degree.

2. E-portfolio: learning and assessment system

In the educational environment emerges a proposal that is being considered more each day among student and faculty members: the e-portfolio as a competences consolidation and complex abilities assessment tool. The use of the e-portfolio as an instrument of learning and assessment is much extended within the framework of some disciplines, considering that its inclusion is progressive and with diverse purposes [2].

In a more essential definition, the educational e-portfolio is the collection of works and evidences chosen, reflected upon and presented by the students to support and show their progress in their learning process [3]. Based on this premise the critical component of the educational e-portfolio is the students reflections facing the tasks that have been proposed to show their degree of achievement and determine their learning [4].

If assessment is a process that selects, collects, analyzes, interprets and uses information that fosters educational decision making, we know that inside a vocational training these decisions must be focused on learning and the development of competences in the students [5]. The relation among competence, learning and evaluation is at the very center of the possible scenario making it indispensable that the experiences of evaluation complement, in our best understanding, two necessary requirements: to evaluate competences and to be beneficial on the learning process.

3. Design and implementation of an e-portfolio in a virtual classroom

A platform structure was designed as a competence-based learning and assessment instrument within a virtual university setting.

To design the instrument, an exhaustive literature analysis was carried out, as well as an analysis of experiences, in order to design an e-portfolio specifically for a virtual classroom.

3.1. Components of the e-portfolio

The essential components of the e-portfolio that was developed are competences, evidences, monitoring system, and educational helps.

- The *competences* are those capacities in terms of objectives to be achieved on the part of the students. In our case we selected five professional competences - related to education and psychology- to be worked and evaluated through the e-portfolio and they have been described in different levels of achievement in a rubric.

- We will consider as *evidence* a document that the student selects, reflects upon and presents in the e-portfolio, keeping in mind some established and explicit criteria, that shows progress in the learning process, or the acquirement of a competence. It is important to mention that evidences may include different formats (written, audio, video...)

- A monitoring system was incorporated to regulate and inform students and teacher about the state of task accomplishment. An automatic rubric-based *feedback* was the principal element on this system. The rubric can be described as a matrix of the different levels of development which enables the monitoring and evaluation of the student.

- The educational helps/supports are mechanisms designed to aid the student in the construction of knowledge. A set of helps was designed that are to be provided to the student by the professor before and during the development of the e-portfolio, in order that he/she may successfully proceed. These helps must allow for dynamic and contextual adaptation and be situated between the content to be learned and what the student, at all times, can contribute and add to the learning process.

Given that we are speaking about an electronic portfolio, and therefore one that is both written and used in an asynchronous way, the helps were designed in accordance with these characteristics.

The educational helps were organized on different levels: 1) in function of the type of information they provide: a) conceptual, or b) procedural-strategic, and 2) their content may be related to the conception of the portfolio and/or also to technological aspects.

These helps, at the same time, could be of different types depending on how they appear or are visualized in the e-portfolio: a) contextual helps, b) tutorials and c) guides, which may have different formats: a) web, b) printable documents (of different formats), or c) in videos.

3.2. Stages

Among the different stages that should be contemplated in the developing of an e-portfolio is possible to identify the following:

- Collection of evidence
- Selection of the most suitable evidence to the competences worked.
- Reflection on the evidences chosen and the degree of relation to the acquisition of the competence
- Publication of the products in the individual e-portfolio, accompanied by the elements that support the process.

3.3. The e-portfolio structure

The students and teachers of the course (“Educational Psychology Practices”) have access to the different parts of the tool from the campus platform. Among the divisions we have in the main menu:

3.3.1 Presentation

In this section the student, as first step, must include a recent *photograph* related to the content of the course to allow him or her to be identified by a specific content interest or approach. Then publish a *slogan* to express his or her philosophy, whether it is from a professional or more personal point of view, this part includes a presentation of the more essential personal characteristics to foster a more personal approach to the peers and faculty (see figure 1). To conclude this section, two more aspects should be completed: the *outstanding works* to be exposed before the rest of the group and evidence of relevant *work experience*.

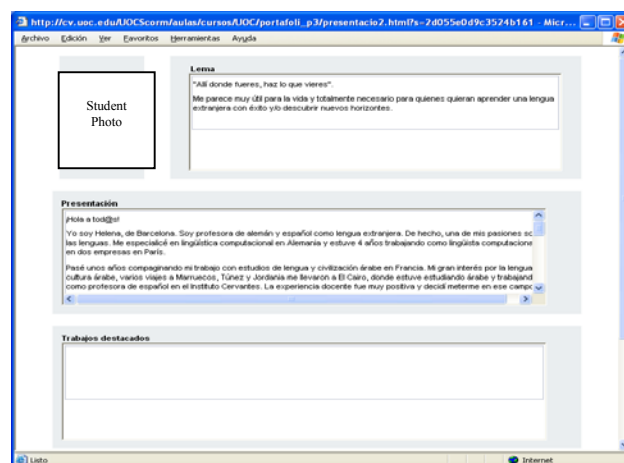


Figure 1: Example of the presentation (slogan, presentation and outstanding works).

3.3.2. Professional competences

The competences worked with the course previously mentioned were well detailed in the classroom. The competences are all linked to the process of the knowledge of the profession. In the same section a definition of each one of the competences, the models or examples of evidence proposed to orient the personal work, and the specific rubric for the assessment of the evidence have been provided. It fits to mention that a

detailed rubric is included for each competence in an attempt to familiarize the students with the assessment criteria (see figure 2). This aspect is a fundamental reference for facilitating four different types of learning assessment: 1) initial assessment, 2) constructive and formative assessment, 3) final and summative assessment and 4) self-assessment.

Competència	5 Expert	4 Avançat	3 En desenvolupament	2 Emergent	1 Pendent
Competència 1
Competència 2
Competència 3

Figure 2. Example of the presentation of the competence and its rubric.

3.3.3 Monitoring

In this section of the e-portfolio it is possible to identify the availability of the monitoring process of the professors that has taken place during the development of the course. In this space the e-portfolios of all the students are included, providing access to the professor to see their publications of evidences on the competences worked along the semester and to assess opportunely the level of progress shown.

A complex mechanism of the state of evidences were developed indicating students the present situation of each evidence (not started, in progress, in revision, being modified, closed) (see Figure 3).

Competència	Evidència 1	Evidència 2
Competència 1	Visualitzar Evidència	Visualitzar Evidència
Competència 2	Visualitzar Evidència	Visualitzar Evidència
Competència 3	Visualitzar Evidència	Visualitzar Evidència

Figure 3. Example of the state of an evidence for each student.

4. Conclusion

First of all, the virtual student should have an adequate compression of the task, what is expected in assessment, the formal aspect of its delivery and have the opportunity to propose it to the group of classmates to exchange experiences and build knowledge. This has implied having a clear definition of the professional competence that was assessed and what was included in a part of the e-portfolio. Also it has implied announcing with opportunity and relevance to the students the types of possible evidence to be presented and the formality in the publication inside the portfolio.

Second, metacognitive reflection about the learning process related with each professional competence is essential and needs to be supported. It is also recommended to develop a process of mutual compression and deep reflection, on the part of the students and the teacher. So all the actions and metacognitive reflections that are included in the e-portfolio have to support and consolidate the evidence presented. We recommend that the student in order to show the level of achievement in a specific competence should contribute with a comprehensive and extensive product of the whole experience with the competence worked that is supported by their learning.

Third, a virtual workshop is fundamental to the students and to the teachers were prepared and familiarized with the approach and the procedure to work with the e-portfolio. To provide examples of the type of products expected as samples of progress in the mastering of the competences involved are required.

A last conclusion is that feedback is the core of improvement and learning and for that reason the procedure to comment on the progress, provide some examples to foster new challenges and the way to talk about those adjustment aspects still in process should be very clear so that the student understand what teachers have intended to communicate. In this context, students must have the possibility for improvement and the opportunity to find new ways of optimizing their learning experience in an immediate future.

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