Higher education students' perspectives on the use of ePortfolios.

An exploratory study in the context of the Degree in Basic Education

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Abstract— **This article is part of a study conducted within the scope of an ERASMUS+ KA2 project titled *Empowering ePortfolio Process*. The goal of the project is to study the practices employed in the use of ePortfolios as learning and assessment tools in higher education in the five partner-countries involved in the project. Aiming to understand the students' views on the use of ePortfolios, interviews were carried out with Portuguese students with previous experience in the use of ePortfolios in the Curricular Unit (CU) "Portuguese Language and Information and Communication Technologies", which is part of the curriculum of the Degree in Basic Education. According to data analysis, the students highlight, in reference to this CU, the collaborative learning and the discovery of new work-methods, more focused on the students, recognizing them as a significant context for learning.**

Keywords— ePortfolios; learning; peer interaction; tutoring; feedback.

I. Introduction

The Erasmus+ KA2 project - Empowering Eportfolio Process (EEP) - started in 2016, will run until 2018, and integrates teachers and researchers from five European countries: Finland, Portugal, Belgium, Ireland and Denmark. The project is focused in the use of ePortfolios as learning and assessment tools in Higher Education, and the aim is to study several aspects which can contribute to making students more involved in their learning process and take responsibility for it (Kunnari & Laurikainne, 2017).

During the stage of the project dealing with understanding students' views regarding the use of ePortfolios, we conducted interviews with students with prior experience in the use of these instruments. In these interviews, multiple references were made to the Portuguese Language and Information and Communication Technologies (PLICT) Curricular Unit (CU). This made us curious about this CU, so we chose to study in greater detail its organization, operation and administered teachings, from the students' perspectives.

II. Theorical Context

The definition of ePortfolio depends, fundamentally, on the purpose for which it is developed and on whether using it is optional or compulsory (Beckers, Dolmans, Merriënboer, 2016). However, we agree with Barrett (2006) when she considers it a collection of materials which are gathered, selected and reflected upon, through which it is possible to evaluate the evolution in competencies. The use of portfolios in education has been recognized as a methodology that promotes learning and new roles for the teacher. Being centered on activities that involve authorship and reflection, portfolios provide constructivist contexts for learning, promote student responsibility, and place them at the center of the learning context (Sá-Chaves, 2005; Veiga Simão, 2005; Morgado, Pinto, Montes & Vieira, 2009; Gomes & Alves, 2010).

According to Sá-Chaves (2005), a portfolio can be seen as a dialogue between students and themselves, as a vehicle for organizing their thinking and learning, increasing their involvement in the learning process, and giving meaning to the acquired knowledge and skills in a context of self-regulation. Morgado et al (2009) also suggest that the pedagogical principles of a learning portfolio are: reflexivity, democracy, creativity and innovation, which can contribute to the development of more conscientious and active citizens.

The inclusion of the digital in the use of portfolios presents several advantages: they are ubiquitously available, they allow for the inclusion of multimedia elements, and they facilitate a transparency of personal development (Beckers, Dolmans, Merriënboer, 2016). Furthermore, ePortfolios can also motivate students more than paper-based ones (Driessen, Muijtjens, Van Tartwijk, & Van der Vleuten, 2007).

EPortfolios have the potential to contribute to the learning process, they can be built in a way that facilitates feedback and that allows students to tailor them according to their preferences. However, they may also pose challenges, since they are often supported by complex software, meaning that students need to be comfortable in using them in order to be able to focus on the learning advantages that ePortfolios can provide (Oakley, Pegrum, Johnston, 2014).

The adoption of an online platform that allows the collaboration between peers in the construction of portfolios also presents advantages to learning (Rodrigues, Pires, Pessoa,

2017). One of the factors pointed out by those authors is the positive influence that collaboration between peers has on learning. Corno & Mandinach (2004), Barbera (2009) and Wang (2010) share this point of view and state that students involved in collaborative learning review their work a significantly greater number of times than those who are not involved in these practices.

Barbera (2009) and Wang (2010) also analyzed the messages that the students exchanged between themselves and concluded that students involved in collaborative contexts exchange messages of a higher degree, containing summaries, assessments and analyses, leading those authors to end by suggesting that ePortfolios be used in contexts that promote collaboration. This point of view is shared by other authors (Ramísio, 2012, Rodrigues, Pires and Pessoa, 2017).

One of the options for employing this type ePortfolio which involves interaction is the use of blogs, seeing as they are easy to use as tools and allow for interaction through comments. Open learning supported by blogs allows for individuality of authorship, promotes active participation and enhances individual learning (Poldoja, Duval, Leinonen, 2016).

Besides collaboration between peers, the support that the teacher can provide in assisting the student's learning process is also very important and involves trying to identify learning problems as they emerge, interacting to reorient the students' work or to allow them to achieve a higher level of knowledge (Brockbank, McGill (2012), (Hadwin, Wozney, Pontin (2005)). Feedback given to the student must not be limited to a comment by the teacher, it should be a conversation aimed at understanding the student's difficulties, contributing to their understanding of these difficulties and helping them discover ways of overcoming them (Orsmond, Maw, Park, Gomez, Crook, 2013; Beaumont, Moscrop, Canning, 2016).

III. Adopted Methodology

The research methodology is of a qualitative nature (Azevedo, et al., 2010; Coutinho, 2011; Amado, Crusoe & Vaz-Rebelo, 2014) and can be classified as an exploratory study.

One of the dimensions of the ongoing research has to do with identifying students' perspectives on their own learning process, particularly regarding the use of ePortfolios in Higher Education. At this stage of the EEP project, we sought to understand the students' experiences and their perceptions of their involvement in learning / assessment processes based on ePortfolios.

The procedures used to collect data were group interviews (Amado & Ferreira, 2014) and reflective reports written by students. These data collection techniques were chosen because they were considered to be those best suited for collecting students' perspectives. During group interviews, the students were able to interact and explain their opinions very freely. Three collective interviews were conducted, involving a total of thirteen students.

Participants were selected according to the following criteria: they would have to have been in contact with learning / assessment strategies that employed the use of digital media in prior academic years and they had to be enrolled in different courses at ESE-IPS, in order to guarantee some profile diversity.

In choosing to interview students who had had experience in using ePortfolios in the preceding years, we sought to allow for some temporal detachment from the experiences in order to foment a less passionate and deeper reflection.

Three groups of students were interviewed, two of which had lived the experience of building a blog-based ePortfolio for PLICT (Group 2 and Group 3). Group 2 is composed of six students attending the 2nd year of the Master's Degree in Pre-School Education and Group 3 is composed of four students from the Master's in Pre-School Education and Teaching in the 1st Cycle of Basic Education.

During these interviews, the PLICT CU was mentioned several times by the students in connection with various matters related to their experience with ePortfolios, so we decided to expand our knowledge of that CU by asking three students to produce a written reflection about this experience. Two written narratives emerged, one of them composed by a student from the Master's Degree in Pre-School Education, and the other one written by two students from the Master's Degree in Pre-School Education and Teaching in the 1st Cycle of Basic Education.

Data collection was carried-out in January 2017, with recourse to video recording for the interviews, with the students having previously consented, recordings which were later transcribed. The data analysis can be considered thematic and cross-sectional (Bardin, 2004), and the analysis categories were created based on the students' statements and split into three groups: 1) involvement in the learning; 2) interaction and sharing; and 3) feedback from the teacher.

Throughout this article, the students participating in the interviews are identified by a letter and a number, where the letter represents the student and the number indicates the interview. The narratives are referred to as Narrative 1 and Narrative 2.

IV. Characterization of the Curricular Unit

The PLICT curricular unit is part of the 3rd-year curriculum of the Degree in Basic Education. The CU has the particularity of being shared between two distinct scientific fields, Portuguese Language (PL) and Information and Communication Technologies (ICT). Harmonization between these two components isn't always simple because it is administered by two teachers with different professional backgrounds and cultures, one from each of the two fields. Throughout the CU, the aim is to articulate the views of both teachers, so that the students have contact with a set of theoretical and practical orientations that allow them to realize that ICT aren't exclusively for one's entertainment and can promote interesting results when employed in the learning of the Portuguese language.

The privileged methodology adopted in the CU's pedagogical work is centered on the construction of a blog, one of the numerous forms that an ePortfolio may assume. The blog is progressively put together by the students, in groups of two. This blog is a learning tool, reflecting the students' progress, but it is also used for assessment. Throughout the CU, the students are assigned several tasks, some carried out as a group, others individually, which they then publish on the pair's blog.

The assignments always have a reflexive component and are outlined in a way that grants the students several degrees of freedom. As an example, one of the assignments involves a reflection on online games, where students can choose the game they want to analyze, and their reflection on their chosen object is based on texts suggested by the lecturer. The focus of the activity is on the discovery of online games but also on the development of critical competence regarding the quality of their findings. We admit that the freedom to choose a game which had captivated the student facilitates the discovery of its quality, and that the sharing of the findings in class or online is richer due to the diversity of the situations created.

The authors of the messages published in the blog are identified by labels. Some of the assignments that comprise the assessment of the CU are theoretical, others more practical, but all of them have a reflexive component.

Several strategies are employed to promote collaboration between students and with the teachers. All blogs are publicly accessible, and their addresses are distributed to the students so that they can see, at any moment, what their colleagues have already done. Some of the assigned tasks involve commenting on the work of colleagues, with the aim of suggesting changes that might improve the work, in a perspective of cooperation between peers.

As far as the learning context is concerned, students are expected to read the resources provided by teachers outside the classroom and use them to develop their work. The teacher's role is fundamentally that of a tutor, following the work's progress closely, clearing up any questions that arise, and reorienting paths, whenever doubts arise concerning the options picked by the students.

V.   ANALYSIS OF THE COLLECTED DATA

The involvement of students in their own learning process is valued by them, particularly when they consider what they learn to be meaningful. Students find that the process becomes engaging because they can choose the materials on which they work but also because "they are materials built by us with a very particular and personal meaning" (Narrative 2). This sense of belonging / ownership, of some pride in having produced that work, is evident when the students state: "the construction of the blog awoke in us greater interest and curiosity, which stimulated a stronger attitude of inquiry and research" (Narrative 1).

The creativity that this working context engenders constitutes an important factor:

[...] it had a lot of our own personal stamp, our creativity, our involvement, our own ideas... and we had the freedom to explore. I think it is very important to have these tools, which allow for working in a more playful manner [Student 2C].

Students who have already been in professional contexts [in schools] also identify the advantages that this type of work may have in their future profession:

It is also very important that, before we put it into practice, we explore first… and later know how to apply it with the children (Student 2C).

The critical and reflexive dimension of learning is present in the students' discourse, as they mentioned in the following excerpts: "In publishing our work in the digital portfolio, we are, once again, in contact with the activity, and we once more reflect upon it" (Student 2A) and "We develop other competencies, such as a more developed logical thought [student gives a concrete example] in this last curricular unit, we developed our logical thinking, a more complex reasoning, it was a competency that we had to acquire" (Student 2B); "Reflection is also important. Thinking for ourselves and presenting and defending our own opinions regarding what we are writing. Otherwise, it would be Copy / Paste, which is not our objective" (Student 2E).

As for the aspects of sharing and interaction, students produced statements that relate to both. Concerning the fact that the platform used for the ePortfolio is a blog, the students mentioned its ease of use: "it is an activity that any person can carry out autonomously, since there are several sites in which this process is described." (Narrative 2). Similarly to what Barbera (2009) and Wang (2010) argue, the students consider that the public availability of their work gives them increased responsibility and that they take greater care when proofreading:

Knowing that it can be read by anyone, that it is available online, maybe even employ [...] a different kind of care. Because there are many things that we rush, going [makes a gesture of going fast], and, there, we take different care with the language we use, with who is reading. If the person who is reading does not know the context we are in, doesn't know me, what we're doing needs to be much clearer (Student 3A).

Since the blogs are publicly available, the work carried out by the various groups can become known by everyone, and the suggestion of activities involving sharing can lead to a greater appreciation of the work carried out by colleagues, also a way of learning.

The observation of the various blogs put together by our colleagues and the sharing of information and knowledge were also an important aspect for our project. These were regular practices that allowed our blogs to become richer, week by week. On the other hand, by doing it ourselves, we were aware of the difficulties each of us was facing. The spirit of cooperation was a constant, because the colleagues

that were more knowledgeable in this domain were readily available to assist the others (Narrative 1).

Or:

One of the things we did was visit our colleagues' blogs... we can access our colleagues' work. This ends up being positive; we aren't focused only on our own individual work... you end up having a different perspective of the projects... so it ends up being its own learning process (Student 2F).

In addition to this spirit of cooperation, the need for prior individual work was also mentioned, in order to have a richer discussion. However, sharing among peers is recurrently referred to by the students as a determining factor for success. "It being a group assignment, opinions can differ greatly, but, by listening to them, we can always improve" (Student 3B), and also "Cooperation with others, I believe, is fundamental" (Student 2E).

The fact that this is a blog built in pairs undeniably facilitated its development. In addition to the strong pre-existing familiarity and complicity, resulting from the innumerable moments of collaboration on work, this opportunity allowed us to exchange ideas, often divergent but which contributed greatly to the success of the blog (Narrative 1).

The teacher-student relationship was also an aspect which was highlighted in the collected data. On the one hand, students value the freedom given by the teacher. They consider it important that the teacher make open proposals that allow them to explore autonomously, but with assistance, if necessary. "When they explore with us, introducing us to the variety that exists. For instance: here, this exists, go explore it. When they explore with us, when they help us explore, that is great." (Student 2A).

Assistance with questions that arise is very important:

Basically, it's both that and when we run into some difficulty because we are not being able to... For example, my colleague and I weren't being able to get there and we asked for the teacher's help, and the teacher was there with us, during that time, trying to get there with us, and, then, it was more that we had to put ourselves in the role of the child and realize how they think, and then we quickly got there. [...] We need that support, in those cases, we need the teacher to think with us. That is very important. (Student 2C).

They conclude their reasoning by stating the contribution of this relationship to their learning: "It ends up motivating us, as well, because we know that we have their support, they listen to our problems and questions" (Student 2E).

The importance of feedback is mentioned several times, some of which expressing criticism for its absence. Students report a less positive experience that took place in another CU, which allows us to identify the relevance of having periodical guidance.

We have no guidance. For example, for the first reflection, we received feedback. Of course, we tried to change things for the second one, but we received no further feedback. We don't know if we are doing it right, or, at the end of it, they'll say "you didn't do this right", but we didn't receive the appropriate support in order to do better. In other words, they don't tell us how we should do it. (Student 3D).

Working closely with the students, understanding the student as a single individual, with their own particularities, is referred as an incentive to learning.

"Informing us, showing us different things" (Student 3D), "An active participation, knowing... not being on the outside, knowing what we are doing, knowing what contents we are dealing with" (Student 2A), "Sharing their ideas with us instead of merely observing, sitting down with us, exploring ways to do this better... as if they were our colleagues (Student 3A).

The assessment aspect is present in the students' statements, where not only is the pursuit of quality in a final product evident, but also is their involvement in the process.

The teacher sees our comments, what we think of our colleagues' work as well as our own; what they think of ours; [...] they can find out our impressions and our thoughts... we end up giving out [...] our own assessment... what our feelings are regarding what they shared, what we think; and we can also see what they think... what their opinion is, and we can improve and also reflect on what we have done (Student 2C).

With regard to disadvantages, we found some aspects related to the skills required for producing an ePrtfolio in the students' statements. They reveal some resistance to changes to working contexts, even when they recognize the advantages of those changes.

"Being open to leaving one's comfort zone is complicated, sometimes" (2D Student); "It requires effort and courage" (Student 2E) or "Being open to exploring this type of resource... If you are ready to learn, pay attention to this resource" (Student 2F).

Despite this reluctance in leaving their comfort zone, students state that, when they need to use a program they aren't familiar with, they know the Internet can facilitate their learning.

VI. FINAL CONSIDERATIONS

The data analysis allowed us to understand the importance that the students attribute to working in small groups, to peer interaction, to their work being made available to the entire class, and to the role of the teacher as tutor of their learning.

The methodology adopted in this CU, the use of ePortfolios, seems to have contributed to students' critical thinking and to their reflexivity. The cooperation and collaboration the students speak of is valued for allowing them

to be able to discuss the ideas prompted by pieces of work which, despite being on the same topic, may have very different characteristics.

Making the work publicly available foments an increased responsibility in its execution and, consequently, improved proofreading, with an added level of reflection for which there doesn't seem to be a need when working in private.

The degree of freedom given to students should also be highlighted because it made room for the development of the students' creativity, highly valued by them, as a stimulus for work and learning.

The way students perceive the role of the teacher, in a positive way, is greatly related to the feedback and their availability for working closely with the students. It is important to emphasize the value of tutoring, where the teacher, rather than just transmitting knowledge, takes on the role of learning advisor. Here, the teacher is valued because he becomes closer the students and seeks to understand their problem and direct them toward a solution.

At the end of this study, we believe that the use of ePortfolios can be conducive to a learning environment that is centered on the student and on their learning process. The combination of ePortfolios with collaborative student-student and student-teacher contexts provides relevant learning.

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