
FROM AN EPORTFOLIO MODEL TO EPORTFOLIO PRACTICES. SOME GUIDELINES

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Abstract: Eportfolio is being considered a useful tool to increase reflection and to foster awareness in teachers and students both in initial training and in on-service training. Recent researches show that ePortfolios use benefits are weakened by difficulties due to the lack of motivation in teachers and students, the heavy weight of creation and revise the ePortfolios, the tool rigid structure. This kind of problems are hardly perceived if the authors of the portfolios are adults, workers, people employed and running a professional course. To answer these emerging issues, the paper shows how to cope with the above mentioned questions, by modelling the structure and the use of ePortfolios, proposing an ePortfolio able to fulfil the users needs and to be perceived as an extremely usable and motivating tool. Motivation is a core question, but, at the same time, a learning path is needed for reflection. It requires both individual and collective times and spaces, different actors and learning activities. After five years of experimentation and over 200 ePortfolios analyzed, the paper describes lessons learned and suggest some guidelines that could be useful to plan the introduction and the implementation of an ePortfolio in post degree courses and for adult and on service learning.

Keywords: models, on-service training, lifelong learning

Introduction

A portfolio is a meaningful documentation of a learning path, either for assessment or for formative purposes (Ravet, 2007; Barret, 2005). The assessment portfolio would include all the results and credits obtained during a course or in a formal education process. It would present the formal and informal learning path and the working achievements with the related acquired competences. A portfolio with a stronger formative orientation, instead, would allow the individual to reflect on the ongoing learning process, on the learning styles, on the competences he/she is acquiring so that it will improve the planning of his/her learning path.

In the following research, we will identify some guidelines for designing formative portfolios. In our research, the ePortfolio was inserted in the learning process. The international theoretical researches set the standards (Barret, 2004; Danielson & Abrutyn, 1998; Ravet, 2007). Also in Italy, many are the authors who underlined the formative value of portfolios and its importance for the learning awareness (Varisco, 2004; Pellerey, 2004; Comoglio, 2003; Castoldi, 2005; Rossi, 2005; Rossi & Giannandrea, 2006).

A formative portfolio documents the learning path and activates reflective processes on it. Different reflection levels (Donnay, Charlier, 2001), times (Schon, 1983) and objects (Perrenoud, 1998) exist. The objectives to be reached through the reflective practice can be summarized as follows:

- reflection in/ on action, where theories and experience-based practices interact,
- critical awareness and comparison with previous knowledge before entering a new context,
- transfer of competences and analysis of the meaning of your personal skills,
- identification of improvement areas and of possible development actions.

Even if the learning path develops through formal steps, they are continuously elaborated from the individual according to his/her own world, his/her own perspectives as a result of learning also in informal and not formal contexts. Every learner builds personal perspectives and personal meaning perspectives (Mezirow, 1991) that are put under discussion when they meet other action proposals and different points of view. To recognize changes in the personal way of thinking and acting in relation to a task, two paths are activated which are strictly interconnected:

- the review of narrations or descriptions created by the subject;
- the validation of the change from the community of speech (Pontecorvo et al., 1995) or of practice (Wenger, 1998).

Therefore, a learning path is needed for reflection. It requires both individual and collective times and spaces (Rossi et al., 2007), different actors (tutor, teacher, peers, the subject) and different multiperspective learning activities (Rossi, 2006). Such paths are highly recommended for adult and on service learning.

In the last five years, also in the wake of web 2.0, different personal learning environments (PLE) developed (Tosh, 2004; Actwell, 2006). We consider such tools useful for communication, for community building, for production of free writings (diaries, blogs) while it has not been proved yet the effectiveness of such tools to support reflection and thus the auto-direction in the learning path. We have to underline that most of the times the individuals decide themselves to use such tools. These types of “voluntary”, “free” actions represent an added value to the objectives and to the learning process taking place in the ePortfolio.

Guidelines

From our initial experiences the following guidelines emerged. Some refer to the structure of the portfolio and to the related activities, others refer to the context and to the general learning process which includes the building of the ePortfolio. The structure of the portfolio suggested by Danielson & Abrutyn (1998) and reviewed by Barret (2005) largely satisfies the above mentioned premises¹; such a structure provides a scaffolding to the creation of the ePortfolio and encourages the reflection processes.

But, to reach the mentioned objectives and, at the same time, to plan a portfolio that has to be “sustainable and effective”, not only the suggested structure, but also the following guidelines should be kept in mind:

- **the ePortfolio contains structured (compulsory) activities and non compulsory activities.** The construction of the ePortfolio expects structured activities (and relative spaces) and other activities that the student can decide to fulfil with no obligation; there are free writings, blog-diaries and narrations both in writing and audio,
- **the ePortfolio has redundant and flexible tools.** The ePortfolio gives access to the users to different tools allowing them to follow different processes or similar functions with different media and languages; the user chooses the tool according to the personal needs and styles and, thanks to the tool’s flexibility, it can be used in customized modalities,
- **the learning path is coherent with the reflection objectives.** The learning path, in which the ePortfolio is included, is coherent with the objectives of the ePortfolio itself; for example it establishes reflective processes, adds value to the professional skills, it suggests cyclical paths between theory and practice; moreover it foresees an osmosis between the collaborative activities and the individual reflection,
- **the experts provide scaffolding.** The experts (teachers, tutors, experts) provide scaffolding with two modalities: they suggest studying materials to clarify modalities and functionalities of the reflection and of the ePortfolio and they encourage, at least during the initial phase, the acquisition of auto-evaluation and reflective competences.

Therefore, in the ePortfolio, you will find spaces to add value to the subjectivity (free spontaneous writing, representations, significant choices and documents), that stimulate the collaborative activities, requiring an interaction between theory (knowledge acquired during the formal path), practice (interpretation of the theoretical knowledge in the daily practice) and the theory born from

¹ In the environment we propose every student has a link in his/her own personal page to access directly to the ePortfolio. The portfolio is structured in three main sections, according to the structure proposed by Helen Barret (Selection, Reflection and Projection). There is also a blog-diary and a rubric. The **selection** consist of a tool to upload documents of every kind. It is possible to associate a comment to each document selected explaining the motivation of the choice. The **reflection** requires the creation of a map while in the **projection** the student needs to fill in a form with three fields, explaining the objectives, the level reached and the level to reach. The **blog-diary** allows to insert messages in diachronical order while the **rubric**, inserted by the teacher, put in evidence the competences addressed by the learning path: such a rubric can be customized by each student choosing the competences in which he/she wants to be knowledgeable.

the practice. There will also be structured spaces with compulsory tasks, where the filling out of a questionnaire guides the reflection.

The hypothesis to provide and separate the spaces for a “guided” and formalised reflection (present in the projection and in the reflection) from those created for a free and off-the-top-of-the-head reflection (blog-diary) finds its roots in a previous research (Giannandrea, 2006) in which we stated the different connotations of the structured ePortfolios compared to the “free” ones. The first ones facilitate and guide the reflection during the path, while the portfolio-diary seems to facilitate a deeper investigation and a complete personal reflection, not only related to a specific professional field or a specific content. The reflective practice develops in two different modalities: a reflection aimed to an improvement of the practice and to the building of a shared knowledge and a reflectivity connected to a personal project (Donnay, Charlier, 2001; Magnoler, 2006).

Research Path at the University of Macerata

Our first experiences, already documented in the previous congresses on ePortfolios, have taken place at the Department of Education of the University of Udine. The ePortfolio used in 2002 was simply composed of a narration and of a selection of significant artifacts (Rossi, 2003). The following year we modified the project but the format we created was too complex and too structured. In fact, the students had sometimes used the ePortfolio not in the way proposed by the structure due to the amount of work requested, the difficulties in understanding the meaning of the activities related to their professional objectives and due to the lack of usability of the tools.

Later on, at the University of Macerata, we experimented with portfolios in the post degree programmes (2004, 2005) and from such experiences are born the guidelines previously described that we tested in the academic year of 2006/2007. The reading of the produced ePortfolios (over 200) confirms the effectiveness of the guidelines described above for the following reasons:

- the reflective processes has been activated and the awareness of the students is growing regarding the benefits of making explicit their personal learning path,
- the non-compulsory activities in the programme has been widely completed from a number of individuals.

The experiences that we are going to describe are referred to “training courses” (learning paths during the working life of an individual) aimed to acquire professional competences and involved teachers, free lancers, graduates looking for a job and State employees. The learning paths where it was requested to complete the ePortfolio were offering not only studying activities but also simulations, project work, case studies, collaborative activities in which it was possible to experiment with key elements of the professional skills.

We will present, in chronological order, according to their realisation, the description and the analysis of the three different courses:

- Master in *Open Distance Learning* with 24 students with different jobs and cultural backgrounds;
- Master in *Model and didactical strategies* for 116 teachers of different school levels (from kindergarten to high school),
- Specialisation course to acquire competences in *On line tutoring* with 70 students.

The ePortfolios used have the same structure, while the instructions to complete the portfolio were different.

A very structured ePortfolio (February 2006-February 2007)

Target and learning path

The learning path of the **Master Open Distance Learning**, run by the Universities of Macerata, Camerino and Udine in Italy, was composed of 11 modules totally online. The objective of the Master was to build competences in the planning of learning environments and e-learning paths. We worked on three different competences: technological, educational and communication that could be acquired in two different levels (base or expert level) according to the interests and motivation of each individual participant. We asked the students to monitor their learning path and we gave them a rubric with the details of the indicators referring to each knowledge/ability/competence. There were 24 students in the Master's programme, all employed in different fields (8 teachers, 5 in adult education and the remaining employed in private companies operating in the economic field).

Instructions for the creation of the ePortfolio

The tasks were defined as the following:

- to write up a project at the end of each module to monitor the personal learning,
- to fill out two "reflections" during the period of the master,
- to implement the "selection",
- to use the blog-diary for personal notes and for the dialogue with the tutor.

Productions

Reading the writings in the ePortfolio allowed us to identify different and interesting aspects regarding the adult education.

Examining in detail the materials stored in the **Selection**, with an average of 25 materials for each student, we found:

- materials selected by the students between their personal productions in the requested activities,
- materials selected between those suggested by the teachers or found in the net and considered meaningful for their own learning,
- materials produced by the student on the master's themes to facilitate his/her own studying (summaries, maps),
- materials produced by the student to reflect on his/her own learning path to tell about his/her experiences (both in writing or in audio recordings).

The **Reflections** were considered too difficult and only 10 students tried to build them and they considered them too time consuming.

The **Projections** (requested 10, produced 7 average for each student) have been reported in different styles and levels of depth. They can be summarized in different types:

- the projections do not clearly refer to the rubric and do not allow to track the path because the elements taken into consideration are always the same or rarely change (2 students),
- the projections report only some of the indicators of the rubric and give a discontinuous and fragmentary picture of the competences' building (2 students),
- the projections totally follow the structure of the rubric and explicit the level reached; two different modalities emerge:
 - one modality expresses the level reached for each competence and indicator; the student, compare him/herself with the indicators to define his/her level of learning and commitment discovering limitations and potentials (initially 6 students, of which 4 of them continued to use the integral rubric for all the projections),

- in the other the student selects the most representative competences and indicators for his/her own learning project and according to such choice he/she describes the reached level (14 students to which 2 more joined later and they were the ones that initially were using all the indicators of the rubric).

The **blog** have been used only by 5 students. They produced free writing to build a personal model of the concepts, to insert personal comments on the path and on their expectations.

Comments

According to the evaluations in the final questionnaires, all of them defined the ePortfolio “demanding”, full of requests but also useful to monitor and to customize the learning. The rubric has been considered important, and for many students helped a lot in the orientation, while for others was only a starting point to monitor their learning.

Some students produced “narrative communication” inserted sometimes in the selection, sometimes in the projection (instead of the selection) to connect the knowledge they were building and to give to it a context in their daily job; it is the basic need to integrate the knowledge acquired in formal contexts with the knowledge acquired in non formal or informal contexts.

In the “selection” it is the need to communicate in a narrative form, in some cases in oral form, inserting an audio file, expressing their point of view on the situation. The materials, the written and the audio files with the recording of their reflections was representing almost the bridge, a reconstruction of meaning between the elements that apparently seem fragmentary and not homogenous. It was almost showing a constant and necessary interaction between the “external” materials and the personal ones. We are finding ourselves therefore in front of an improper use of the selection. The reason was the difficulty met in using the reflection tool but it also highlights an element already mentioned in the introduction: if, on one hand, the spaces are often used in a personal way, on the other hand there is a need to rebuild the personal learning path with the narration; using audio recordings instead of texts for the narration highlights a personalisation of the language and it brings us to the same conclusion.

A first review for better flexibility (October 2006 - April 2007)

Target and learning path

The path of **Master in Model and Didactical Strategies** offered by the University of Macerata in collaboration with the Ifor of Matera is composed of three theme areas based on the professional skills of the teacher. The learning activities have been delivered according to a blended model, contemplating mainly online work and three face to face meetings.

116 graduated students enrolled for the Master and mostly were already working as teachers. Their objective was to study in depth and to improve the transversal competencies needed for their jobs as teachers. Between the motivations there was also the possibility to acquire extra credits for their teaching career.

Instructions for the creation of the ePortfolio

The use of the ePortfolio was suggested by the designers of the Master in a gradual and customized way:

- the space “selections” has been used as an ongoing repository to insert the reflections on the path of the project work,
- the “reflection” was optional and it was suggested to represent through a map the representative elements of the learning path and of the reached competences,
- for the “projection” it was requested a free text and a list of pretty detailed guideline questions was given as a scaffolding for the reflection path,

- it has been proposed to note up-the-top-of-your-head in the blog-diary sensations, emotions, foot notes of the ongoing experience. The completion of this section was absolutely free and not compulsory for the students.

To meet all the needs of the working students, we felt it necessary to “lighten up” the quantity of material requested for the completion of the ePortfolio, giving more flexibility to the whole structure and allowing the students to focus more on the reflection activity instead of filling out many forms. Instead of thinking to reduce the quantity of work to do, following the indications of a previous experience, we thought to not limit reflection to predefined structured moments, but to suggest a rethinking path according to the developed practice to carry along together with the learning path, in which the moments of selection/rethinking and reflection partially interconnect.

The compilation of the ePortfolio is moreover connected to the activity of project work. To support a transformative learning (Mezirow, 1991), there is the need for a continuous connection between the realisation of new experiences in the learning or working field and the effort to give them meaning through reflection, modifying the action schemes already consolidated.

Productions

At the end of the learning path 43 students on 116 (37% of the total number) decided to use the blog-diary for free reflection and for narration of the project work experience.

At a first reading of the texts inserted in the blog-diary, the categories containing the biggest number of messages are those related to the notes on the activities carried out, with a particular eye on the attention shown by the students, the monitoring of the personal project, their feelings and personal decisions to take regarding their future.

Past activities (also organization of the class)	19
Observations on how the students learn and behave	14
Interest shown by the students	10
Monitoring of their personal project	10
Personal feelings (satisfaction, frustrations...)	8
Results obtained with the students	5
Decisions on what to do in the near future	4
Observations on the effectiveness of the materials (maps, questionnaires..)	4
Reflections on strategies	4
Reflection on redesign	3
Selection of materials to use (texts, questionnaires, maps...)	3
Reflections on their own learning process	3
Relation with peers regarding activities and project	2
Final reflections on the project (problems, used resources, effective strategies)	2

Comments

From the reading of the most structured sections, the emerging notes are aimed to the description of the practice, to their explicitation and sharing, to the search of a group shared and formalized knowledge inside the course. In the texts inside the blog-diary we found on the other hand, between the others, elements with a more autoreflective and personal approach. The analysis of the activities highlights the need for narrations and for building a personal reinterpretation of the past learning path. From the final comments it emerges that teachers have been gradually acquiring the awareness of the importance of the ePortfolio for their personal and professional development. From further contacts with the students at the end of the Master we discovered that many of them chose to use the tool and to experiment it in their professional context.

EPortfolio in the specialisation course for on line tutors (January 2007 – June 2007)

Target and learning path

The specialisation course in *Online tutoring* has been designed later than the others and was keeping into account the previous experiences described. The course was attended by 70 students, all graduated and for the majority employed in the school system. The course was requesting a commitment of 600 hours (while the Master had 1500 hours) during 7 months, from December 2006 to June 2007. This meant a smaller commitment compared to the previous learning paths. Moreover, for many students was important the extrinsic motivation to acquire credits for their career.

The objective of the course was to become an online tutor but the path itself was requiring a reflection on the teacher's professional skills in their broadest sense.

The ePortfolio has been introduced since the beginning of the learning path in parallel with the other themes. In the welcoming phase a document was presented explaining the role and the objectives of the ePortfolio and the importance of the reflection in the learning process (Rossi et al., 2007).

Instructions for the creation of the ePortfolio

For the population of the ePortfolio it was requested to carry out 4 projections, one for each module while it was suggested, but with no effect on the evaluation, to implement reflection and selection. Here are the required tasks:

Use the ePortfolio to document the evolution of your perceptions on the role of the tutor and to describe your path in acquiring the competences related to this role.

- Fill out the section **Projection**, structured in three fields:
 - **Objectives to reach:** in this phase of the course what are, according to you the objectives you would like to reach? Regarding the tutor role, which objectives do you have?
 - **At what level am I?** Always reflecting on your competences (the ones you think to have in this moment) and in relation to the online tutor's role, insert here the indications regarding your level of competences you think to have in this first phase of the course.
 - **Which will be my next level?** Insert here the level you would like to reach, that means the level immediately after the reached objective. Which are the competences I would like to acquire or that I think I will acquire in the near future?
- Beyond this compulsory activity you can collect your most significant productions in the section **Selection** or you can use the **Blog-diary** to note down your reflections, impressions or to put other materials in. The blog is totally private and personal. It can be visualised only by the teacher or the tutor.

There was therefore a compulsory but structured task (to complete a projection at the end of each module) while it was suggested (with no obligation and no effect on the evaluation) the filling in of the section selection and of the blog-diary. The student would have carried out the task if he/she thought this could be an advantage for his/her professional skills.

Production

Here below we provide a quantitative evaluation of the data to give later a qualitative evaluation of the materials produced.

	Total	Percentage
Number students	70	100%
Number projections	70	100%
Selections implemented	29	41%
Average number of documents per selection	4,4	
Students who filled out the blog-diary	33	47%
Average number of reflections per student	6	
Students performing both selection and reflection	18	26%

In relation to the reflections in the blog we have the following data:

A	Reflections	3,3
A1	Average number of posts in A	5,9
B	Reflections with more than 300 characters	15
B2	Average number of posts per student in B	7,4
B3	Average Number of characters in every blog	7036
B4	Max characters per post in B	15248
B6	Average number of characters per post in B	1112
B7	Max average characters per post in B	3638
B8	Min Average characters per post in B	396

The qualitative analysis resulted in:

- the content of the selections are of three kinds: materials produced by the student, materials produced by the group, materials proposed by the teachers and considered significant for the personal preparation of the student,
- 62% of the students who filled out the selection have also carried out the reflection and this testifies an awareness of the objectives and aims of the ePortfolio,
- the modalities used to fill out the reflections are very different such as the number of posts per student (from a minimum of 3 to a maximum of 15) and the length of the single posts (from an average minimum of 396 to an average maximum of 3638 characters, to an absolute maximum of 15248). Some students did small reflections in action, others long reflections on action.

The analysis focused on the reflections with more than 3000 characters (that means on 15 reflections equal to 22% of the total and to 47% of those who filled out the blog). In most cases the activity started one month after the beginning of the course and ended in April. Only two students did not post any message after February.

What did they talk about in the blog-diary? In essence, there were the following kinds of intervention:

- what is a tutor and what literature says about it,
- what kind of tutor I would like to be,
- what kind of problems I encountered at work,
- what am I learning,
- how this learning experience is modifying in general my way of looking at education.

The most relevant aspect has been however the relation between the different points: the effort in most cases in the blog-diaries was to connect what has been theoretically said about the tutor's role to the experiences they were having in the course and to their own competences. The attention was focused on testing if what experimented in the course could be read according to the theoretical in depth studying. Moreover, it was often highlighted a particular attention to understand how the personal perspectives and the personal way of being could change.

Comments

Also in this case we can notice a big number of actors feeling the need to perform a selection and a narrative reflection on the ongoing learning path even if those activities were not required by the path. Another element to notice, that we encountered also in the two previous experiences: at the end of the path many of the interested subjects found that the filling out of the ePortfolio was useful and that helped them to acquire a better awareness of the learning path.

Conclusions

The three programmes involved more than 200 students. The analysis of the produced materials suggested useful advices for the implementation of the ePortfolio in education programmes requiring a review of the practices in relationship to the associated theories, in the learning paths providing competences to improve the professional skills.

In common the three analysed programmes have the coexistence of formal and informal spaces, structured and unstructured spaces, the localisation of key questions in the projection and the role of the projection itself, like an axis on which the whole ePortfolio rotates.

We are reporting here the guidelines presented in the introduction to evaluate the effectiveness of them in the conscious and partly voluntary design of the ePortfolio.

- **the portfolio has an organic structure providing scaffolding for its implementation; the model we are referring to is divided in three sections: selection, reflection and projection,**
- **the portfolio has compulsory, structured activities and voluntary activities,**
- **in the portfolio there are redundant and flexible tools,**
- **the learning path requires a reflective practice as added value,**
- **the experts provide a scaffolding and motivate the students to implement the portfolio.**

The effectiveness of the guidelines has been demonstrated by the fact that 100% of students delivered the compulsory tasks and about 50% of them implemented also the voluntary parts of the ePortfolio. This became an added value if we consider that many of the students were working full time and were very busy and they had sometimes a low intrinsic motivation at the beginning of the course. Moreover, none of them had ever used the ePortfolio before.

Another aspect validating the proposed model comes from the quantity of materials inserted by the students. From the materials we can deduct that the reflective practice has been encouraged and this is confirmed by the following elements encountered in the students' writings:

- awareness of the strategies put in place,
- critical discussion on the effectiveness of the strategies,

- analysis of the errors and problems encountered,
- connection between theoretical aspects and practice,
- availability to change opinion and to accept different points of view in the group confrontation,
- perception of their own professional identities and of the changes of positioning inside the group.

The portfolio we propose allows to work on the reflection and improves the existence of different levels of analysis in the learning paths (from the out-of-the-top-of-the head reflection on the action to the perspectives of personal meanings); and it allows also to build a framework for the professional skills.

The rubric, when present, added a meaningful contribution to the reflection. The questions placed in the projection have been very important, both when they were not strongly connected to the path (Tutor Course and Master ODL) and when the questions were connected to the specific learning path (Master in Model and Didactical Strategies).

The modalities used to implement the portfolio gave us advices on how to set up the ePortfolio and allowed to specify some of the aspects of the guidelines. The analysis of the portfolios highlighted a personalised use of the tools thanks to the possibility to have not very structured, flexible and redundant tools (for the same function different tools were available). For example the review of each individual's learning path and the connection between the different productions and the acquired competences could be done with narrations inserted in the selection (in text or audio format), in the diary format in the blog or using a series of projections to describe the experiences and the in-depth analysis performed. Sometimes, some students used the tools with different operational modalities from those foreseen in the project phase.

Some individuals modified their operational modality during the course. A student affirmed, in the middle of the course, after having decided to not use the blog anymore:

I downloaded the documents of the course in the selection like if it was my blog and I chose this method... I don't know why, maybe for not providing comments on the documents and on the productions defining the learning path. But I realised that the projection and the blog have two different functions: the projection is an auto evaluation document while the personal blog is more similar to a travel diary.

Another student which intensively used the blog for two months decided not to post anymore after that period because:

I realised that to elaborate in detail my projections allowed me to fully expose my reflections, so I decided to dedicate more time to them and I didn't put any more materials in the blogs.

Finally, the need for a strong balance between scaffolding of the teachers and free activities. Entering texts focused on the role, the function and the advantages in using the portfolio surely had an impact on motivation; on the other side, unstructured activities and the possibility to enter free writings allowed to include in the environment the reflections on the programme.

In this article we would like to focus on the guidelines. Choosing this focus we do not want to underestimate the importance of the ePortfolio model we are referring to in the initial phase but we would rather highlight that from the model we cannot extract a rigid and fixed structure, to apply both in different contexts and in the different phases of the learning path.

It is now left to decide the modalities to apply those guidelines to build a sustainable learning path. The education designer prepares the environment assembling the existing tools according to the context, to the available resources and to the target's needs. And he/she sets up a learning path in which enters the specific activities to implement the ePortfolio. In the design of the environment we have to take into consideration elements like: the background of the students, their motivation, the resources they have access to and in particular their available time. In relation to the learning path the designer should instead consider the importance of reflection in the path (how important is it for building that competence and how?), the importance of the meaning attribution given from the

students (do they consider useful to save writings?) and the need to build a different evaluation system.

The variables on which we could operate will define the tasks, the use of more or less structured phases, the use of more or less flexible tools, the choice of compulsory or voluntary activities and the choice of different learning paths according to the cognitive style of each individual.

In the next months the research group will verify the validation of the guidelines in different contexts, in relation to the initial background of the students and in the learning paths which last longer to verify in a more detailed way if the use of the ePortfolio can facilitate the transformative learning and the autonomous design of a more mature professional identity.

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