EVALUATION OF INFORMAL LEARNING PROCESS THROUGH AN E-PORTFOLIO

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Abstract: Although informal learning has not a unique definition in literature, it is usually defined as a learning activity made by the learner beyond formal institutions, which can be intentional or spontaneous, without a pre-structured path. Some scholars also think that informal learning can happen within formal places, provided that it maintains a natural, intentional or unintentional, approach to the environment. The advantage of promoting informal learning through a process of inclusion within formal learning paths, is strong: the relationship between formal and informal learning can be activated by the use of e-portfolios, which are virtual environments lacking in structures, imposed tools and external tasks. Learners, according to Wenger's community of practice theory can negotiate and make reifications of common built knowledge. This paper deals with the problem of evaluation in e-portfolios about reification and participation processes, highlighting possible evaluation practices for both aspects of informal learning and a consequent possible importation of significant knowledge artifacts into the traditional classroom.

Keywords: informal learning, e-portfolio, assessment.

I. THE QUESTION OF EVALUATING INFORMAL LEARNING PROCESSES

The Lifelong learning policy announced and promoted by European Union takes into account of the deep changes that have happened in our contemporary society, where information has an essential role so that it assumes the value of a “good” (Castells, 1996). It is also a strategic factor for people and firms that want to win the challenges of knowledge society (Tapscott & Williams, 2007). Actual educative systems appear obsolete and unable to acquire new instances deriving from ICT innovation and new people's needs, because they were organised and developed for a different kind of society, that of industrial production, for which it was necessary to assure a common background of knowledge and competence rather standardized.

Industrial society laid its foundations on formal education, made up of frontal lessons, textbooks and a kind of relationship between the teacher and the student typically unidirectional; knowledge was transmitted, as a good that has to be moved from one place to another. Scarce were the occasions of effective interaction in the classroom and the educational State program represented the border within which all the actors of educational context should operate. Informal learning exists since human beings appeared in the world, but its importance, for industrial society, was minimal and for this reason all informal learning processes were accurately kept out of institutional settings. But formal and informal learning always coexist and can be mixed opportunely in a way to exalt the reciprocal advantages: to do this, however, it is necessary to give credit to informal learning and acknowledge it within formal contexts.

Current educative systems are orienting to the philosophy of embracing informal learning into formal activities, trying to speak, with the help of technology, the same language of young learners and overwhelm the gap between digital natives and digital immigrants (Prensky, 2001). Educators
want now to adequate contents towards web 2.0 logics and pick the practical aspects of everyday life of young learners, through network technologies: so the consequence is the necessity to have a toolset that is adequate to value informal learning processes and products. It is widely known in literature the debate regarding the effective evaluation of learning, between who embraces a behaviourist approach to evaluation, based on testing, questionnaires and measurement of what we want to see in the learners' behaviour after the training, and who, instead, asents to a less quantitative approach retaining that not all viewable behaviours respond perfectly to what effectively individuals could do in a real situation. The second approach privileges the context and it is more qualitative and it is oriented to evaluate competencies, understood as something that "is shown in action in a situation in a context that might be different the next time you have to act. In emergency contexts, competent people will react to the situation following behaviours they have previously found to succeed, hopefully to good effect. To be competent you need to be able to interpret the situation in the context and to have a repertoire of possible actions to take and have trained in the possible actions in the repertoire, if this is relevant. Regardless of training, competence grows through experience and the extent of an individual to learn and adapt. However, there has been much discussion among academics about the issue of definitions" (http://en.wikipedia.org/wiki/Competence_(human_resources))

Evaluating competence is more than measuring learning. According to the above competence's definition, competence has a lot in common with informal learning, because it deals with concrete and real situations (outside classical schoolrooms) and regards a complex set of abilities, knowledge, actions which belong to a personal repertoire that an individual could have created also in real life and not only through schooling. Valuing competence means measuring a complex collection of elements which refer both to the formal and informal education of an individual, in his globality.

This approach has great limitations dictated by its own aims because the evaluator cannot know anything about individual he must evaluate neither he can he predict the individual's behaviour without specific indicators and parameters and, theoretically, given that all the results depend on the interaction between the individual and the context, it is impossible to evaluate objectively and exactly people's learning because reality is often unpredictable and does not respond to determined and repeatable schemes.

In an assessment activity, it is useful to be aware that the word "quantitative" does not mean "objective" (Lichtner, in Bisio, ed, 2002: 97; see also: Piave e Iadecola, 2006: 124-138; Piave et al., 2005). The behaviourist approach to measure learning is based on the modalities of collecting data that implies well-made tests, interviews and questionnaires and assumes that every individual can understand all the questions in the same manner. The reliability of a quantitative approach depends on the adherence to contents, that is the educator has to be sure to measure effectively a specific behaviour, a circumsated phenomenon. Content validity of quantitative evaluation regards also intrinsic limitations of tests in being able to separate concepts from abilities of higher order, leading to the risk of measuring the possession of elementary notions rather than principles and the ability of applying them in a concrete situation. The significance of quantitative measurement is related to the assessment of higher order abilities, because elementary aspects do not regard what the evaluator wants to measure (or more precisely, are only a minimal part of it). Patton (1980: 95) evidenced this problem dividing results, retrieved from an hypothetical objective measurement, into four aspects:

- measurable results, i.e. results that can be represented by quantitative elements;
- immeasurable results, i.e. results related to qualitative aspects that are impossible to translate into numeric quantities;
- significant results, i.e. results related to the effective aims of assessment;
- insignificant results, i.e. results which do not deal with the aims of assessment.

It is evident that the aim of every assessment is to obtain measurable and significant results; instead, not significant results do not have to be omitted. The question is to obtain also significant but immeasurable results, that is creating tests scores which explore qualitative areas of learning when the
quantitative approach fails. For this reason assessment can embrace both quantitative and qualitative tools. All these considerations are receipted also by Wiggins' authentic assessment (1998: 22-24) who, among the requested features, affirms that assessment must replicate or simulate typical environments in which people normally act and evaluate the ability of using efficiently a knowledge and skills' repertoire in order to react within context.

II. E-PORTFOLIO AS EDUCATIONAL TOOL TO ASSESS INFORMAL LEARNING DYNAMICS AMONG LEARNERS

Although informal learning can happen everywhere (even, but not exclusively in classrooms) teachers who want to obtain a better integration between formal and informal learning for their students, must choose specific environments which favor the contemporary presence of participation and reification, according to Wenger's (2006) theory of community of practice. Tacit knowledge development is due to meanings' negotiation, which resides in practice and it is activated by participation and reification processes. Since practice usually belongs to the workplace and in very free environments where there are few rules and bonds, network technologies could represent a virtual place in which young learners exchange and produce informal knowledge. The question is that all learning production outside the schoolrooms can be difficultly imported into traditional training programs: the Internet has a reticular structure and it is difficult to trace the learners' activity; besides, each learner can collaborate with users of all over the world and not only with his peers. So, participation parameters, that are commonly built for formal and limited environments such as VLE, appear as inappropriate to measure participation within the web. About reification, there is a similar problem regarding the methodology to apply for content productions made by young learners with the contribution of numerous people (theoretically even people who do not belong to a classroom); so, although products can be objectively valued, the teacher has to take into account of the blended nature of underlying collaboration processes of which he cannot know which part he can impute to each learner. It is the essential role of tracing without which also meanings’ negotiations cannot be valued.

It is now necessary to make some clarifications. Informal learning and tacit knowledge are fruits of participation and reification processes as necessary conditions for the consequent meaning's negotiation: it means that, in the presence of many people who collaborate, it could happen that it produces scarce or no tacit knowledge. In order to estimate the development of collaborative processes which could lead to informal learning, it is necessary to monitor and analyze students' informal behavior and, on the basis of partial evidences, evaluate the state of community of practice and its production.

These considerations imply an inevitable compromise between a certain degree of freedom to assure to young learners through the use of the Internet and the teachers' need of tracing students' activities in an informal environment.

The e-portfolio was born as a tool for the assessment of competence and has spread worldwide in the 90's: for certain aspects it responds also to new assessment approaches in terms of blended assessment in which are present both quantitative and qualitative methodologies. According to Varisco's definition of traditional portfolio, it is "a significant collection of students' works picked up for a particular purpose, which shows himself and others the engagement the progress or the success of a student in one or more application areas through time" (Varisco, 2004: 270, our translation). The classical portfolio has therefore the function of representing the learning path developed by the student through many years and stimulating the consciousness of his past and promoting in him the ability of describing and presenting the works and products he retains as a representation of his learning. Adding the "e-" prefix, we obtain the possibility of introducing all networking features into the portfolio, such as the possibility of sharing its contents, publishing it, collaborating among peers to promote contents and improve it, interacting with teachers and discussing about difficulties and results of progressive learning. The e-portfolio represents besides an important step towards more attractive and effective
educational tools, because on one hand it uses web 2.0's features (such as multimedia, and file sharing) and on the other hand it promotes a common debate about learning processes: while the portfolio is a sort of administrative task, the e-portfolio represents itself as educational tool to implement within the classroom, open to the Internet. The e-portfolio also accepts the constructivist perspective of identity building within community of practices because allowing meanings' negotiation it promotes the dualism between identity and diversity through time (Rossi, Giannadrea, 2006: 13): the continuous update of contents favors the acknowledgment of past and present products and links present activities to past promises and expectations of learning.

With the words of Rossi and Giannandrea, who cite Ricoeur (2004): "according to Ricoeur, in fact, the individual in own identity building, starting from the individuation of elements which characterize his path, from acquired competencies, projects towards future and engages, through an assumption of responsibility, in drawing also to personal resources available"(Rossi e Giannandrea, 2006: 13, our translation).

The structure of the portfolio, according to Danielson and Abrutyn (1998) model is characterized by three distinct sections which are:

- selection section, consisting of the collection of works and products made by the learner through time that the student evaluates significant and representative of his path;
- connection section in which materials are grouped in a narrative way to illustrate the entire learning path;
- direction/projection section, represented by student's intentions and aspirations for the future, in connection with just acquired competencies.

Usually these fundamental features are also present in an e-portfolio, although there are several interpretations of e-portfolios which enrich and differ from the illustrated model.

III. E-PORTFOLIO AS DISTRIBUTED ENVIRONMENT AND TRACKING QUESTIONS FOR INFORMAL ASSESSMENT

Although informal learning is a process which can lead to a specific product (such as posts of forum or artifacts such as learning objects, documents downloaded by the Internet, content sharing and so on), it can however not produce anything tangible and it can remain within people's exchanges with no written forms (for example in a chat or videoconference). In our approach the e-portfolio represents a compromise to dispose of learners' activities tracking without the risk of removing a relevant degree of freedom to their collaboration. Participation values are essential to reconstruct all learners' roles within the social reticulum of the virtual community of practice and those data can be crossed with reifications through, for example, the analysis of posts present in the forum. Posts can represent a sort of semiformal knowledge, that is a partial encoded knowledge distributed within the forum, ready for a successive reconstruction in a more explicit form, possibly in the classroom. The e-portfolio shows the process in addition to products of meanings' negotiation and it represents an interesting modality of analyzing the way by which each learner relates with reality in a collaborative environment and attempts to solve problems using other people's knowledge and help. It happens that e-portfolio embraces an imprecise but acknowledgeable area of the Internet network, in which processes are more visible and where dialogues with nodes, link of to not stop world's reticulum without dispersing its contents and dynamics: external resources can be taken and brought into the e-portfolio but it can happen also that common or personal resources will be brought out of the e-portfolio (figure 1). These processes of osmotic nature, which assure updating and quality of underlying informal learning can be monitored by teachers, if they apply a sort of filter during the continuous flow of exchange between inside and outside of the e-portfolio. It is convenient not to stop the initial exchanges, but, when the
levels of participation and reification reach the right consistence, the teacher can promote the importation of something lying in the e-portfolio into the classroom and propose a sort of discussion about products and the processes that contributed to create it.

![Diagram of Osmotic dynamics between inside and outside of e-portfolio](image)

**Picture 1 - Osmotic dynamics between inside and outside of e-portfolio**

Through the use of the e-portfolio the teacher can evaluate, in a more attractive and stimulating way, students' competencies:

- analyzing with all learners the nature, the consistence, the opportunity and the structure of their products;
- analyzing with all learners the posts in the forum and trying to reconstruct the processes underlying their exchanges and creations;
- interconnecting products and processes made by learners to traditional themes of the State training programs;
- analyzing the successive answers of learners within the e-portfolio after an activity of common debate and analysis of the classroom's external activities.

The traditional quantitative approach must not be abandoned: it can be used in combination with the e-portfolio. The key to new assessment through web 2.0 technologies is remodeling and readapting test scores in a compatible way towards processes and products made up outside the schoolroom and in particular with tests related to practical experience and direct production in the classroom. Through e-portfolio and network technology it is possible to reach an important result: make a bidirectional dialogue between formal and informal education, through a partial monitoring of practical learners' experiences possible.

The degree of e-portfolio openness is related to the availability of several integrated software on the Web that educators must consider, although the content production and the exchanges happen outside the e-portfolio: for certain aspects, in fact, e-portfolio risks becoming a new kind of VLE, if we consider it as a partial limited environment within which the educator can observe all activities. Owing to the necessary state of freedom that learners must have, e-portfolio has to be open to the Internet, to assure the conditions for informal learning, and accepting the lack of information about
what happens outside it. The e-portfolio is thus a distributed environment which integrates some functions of VLE (principally the tracking features), but which belongs to the web itself, without presenting any kind of boundaries: some limitations can be overtaken by the use of "natural traces" every learner can leave outside the e-portfolio for example within blogs, wikis, sharable pages. As sustains Wild (Wild et al., 2008): "When interacting with various applications in a distributed learning environment, learners leave traces of their on-line presence[...] Such traces, for example, emerge explicitly from active participation such as writing a blog entry or contributing a text passage to a wiki, but also implicitly from usage data such as log-in or log-file data. These behavior traces do not necessarily lead to the formally expected outcomes. They can, however, contribute to learners' performance evolution [...] From the viewpoint of facilitators, acting in a heterogeneous environment is a challenge: teachers, coaches, and tutors have to track the activities distributed across systems and have to assess the outcomes stored in different applications [...]".

IV. CONCLUSION

The challenges of informal learning assessment are connected with the use of a more open virtual environment as e-portfolios which allow learners to take their actions in freedom and also allow the teachers to evaluate effective processes in addition to traditional updated tests. The e-portfolio implies some modifications in educative systems oriented to assess competencies instead of only knowledge and their use will determine a review of the evaluator's role in function of the reticular nature of informal learning and of the virtual context in which it is observed.

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