Personalized Learning in Formal Environment: Learners' Perceptions in a Master Degree

Program at University of Padua

Ettore Felisatti

University of Padua

Mario Giampaolo

University of Padua

Abstract

Since 2012 the authors of this study are trying to improve their work as faculty members offering strategies to personalize learning. In our experience, the learners' response to these proposal is not always positive. The analysis of student's opinions may help in understanding the reasons of their participation or rejection and may improve the quality of the proposal. Participants, in this study, were 39 enrolled in the Master Degree Program "Management of Educational Services" at University of Padua. Authors used a learning needs self-evaluation instrument to know the learner, realized a personalized learning plans through learning contracts, and administered two questionnaires, with open and closed questions, to collect learners' perceptions. The analysis of the answers from learners who decided to accept the proposal to create a personalized learning plan suggest feelings of curiosity, excitement and interest but denote an initial difficulties and disorientation due to the need to define more in detail some of the components of the personalized learning process. The analysis of responses to the questionnaire, administered to rejecting students, allows the individuation of four basic themes: knowledge and skills as inadequate, lack of time, lack of a work context, negative feelings in response to the change.

Keywords: personalized learning, personalized learning plan, self directed learning, learning contract, formal context

The work reported here describes a possible strategy to personalize learning in a course entitled "Leadership, Communication and Teamwork" in the Master Degree Program "Management of Educational Services" at University of Padua. Two theoretical approach are the frame of this empirical work. The first, personalized learning (PL), is a vision of learning that aims to provide high quality and engaging learning opportunities that meet the diverse needs of all learners, flexible timing and pacing, through a range of learning environments with learning supports and services (Alberta Education, 2012). The second, self-directed learning (SDL), focuses on the process by which the learner takes responsibility for his learning and develops personal characteristics as the desire to take on this responsibility (Brockett & Hiemstra, 1991). Before describing these frameworks is important to explain the formal environment in which this work takes place. The Master Degree Program in "Management of Educational Services" at University of Padua aims to prepare professionals in the management and evaluation of educational services. It establishes a (a) *performance-based* model to set knowledge and skills of a manager in educational services, (b) different stakeholders, outside the university, participate in the design process (c) dialogue, participation, knowledge sharing and negotiation characterize the relationship among faculty members in designing lesson (Zaggia, 2007). The organization of courses and learning environments follow a constructivist theoretical framework to stimulate and give value to past experience, autonomy, critical thinking, and responsibility in learners. Each course provide strategies and methods such as laboratories, simulations, case studies, field visits, presentations by experts and the support of an online Learning Content Management System. The Master Degree Program have a strong desire to involve learners in personalization (Leadbeater, 2004) through activities as the learners' evaluation of the program, the learners' participation in conferences, and specific activities of orientation. These characteristics make the Master Degree Program the ideal place to realize a

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practice that aim for personalized learning, increasing learners' satisfaction and enabling the development of real skills to spend in the labor market. The course "Leadership, communication and teamwork", in which we propose this PL strategy, develops knowledge and skills to organize and conduct group works among learners or employees.

Personalized learning (PL) origins as a special instance of a more generalized response to the problem of the reorganization of Public Services provided by the State in response to globalization (Peters, 2009) and as economic approach that propose flexible processes for the production of goods and services. The General Directorate for Education and Culture of European Union defines personalized learning how "Personalised 'tailor-made' courses provide the ultimate in flexibility. The learning may be self-directed or may be facilitated by a tutor on a one-to-one basis and/or within a group setting." (Eurydice, 2007 p.31). The Department of Education of United States of America, defines the term "personalization" as an "instruction that is paced to learning needs, tailored to learning preferences, and tailored to the specific interests of different learners. In an environment that is fully personalized, the learning objectives and content as well as the method and pace may all vary". Following two models of PL in formal context, the first one initially conceived in the field of adult education and the second developed on the basis of learners' perceptions in the U.S.A. colleges. The first model called "@", developed in Italy by Guspini and his collaborators (2008), has the following characteristics:

- The self-assessment is a group reflection and a self-description of behavior and attitudes
- The model supports a progressive acquisition of awareness, knowledge, and skill to enhance performance

• The model is suitable in large classes

- The model supports to the individual or to the group encouraging peer tutoring
- The model supports a collaborative approach
- The model is an integration of different theoretical and methodological elements

In the context of U.S. College a research asks learners what they perceive as personalized learning (Waldeck, 2007). Their answer led to the individuation of a model, which focus on some principles of the teacher-learner relationship:

- To know the learners through his learning style and their experiences
- Flexibility of learning plans
- Classroom interaction among learners
- The role of the teacher as a mentor, coach and advisor

Personalized learning (PL), however, remains an ambiguous or a misunderstood concept. As states Hartley there is a "considerable lack of clarity in the definition and application of personalization" and a "vagueness about the implications for the pedagogical relationship between teacher and pupil" (2007, pp.635-636). Investigating PL in the context of the American College, Waldeck states that "appears to be little empirical work defining the concept or validating strategies" (2006, p. 346). The international literature provides articles and reports related to PL in the school system (Hargreaves, 2006; Bray & McClaskey, 2013), and to PL in adulthood. Few researches involve PL strategies in the context of higher education, especially in the Bachelor and Master Degree Programs in Italy.

Self-directed learning (SDL), the second theoretical framework of this work, has a remote origin in the classical antiquity. "Self-study" played an important role in the education of the Greek philosophers, of important personalities during the Roman Empire, among

philosophers in the 18th century, and in the American colonies. In the twentieth century the work of important scholars such as Thorndike, Houle, Tough, Knowles and Mezirow legitimate the importance of this approach. In this theoretical framework the most important assumptions are: (a) the learners' ability to take responsibility for the planning and conduction of learning activities, (b) the need to transform the teacher in a facilitator, who knows how to bring out the right questions in learners rather than dispensing the truth (Brockett & Hiemstra, 1991). Writing an exhaustive literature review on SDL, Merriam and Caffarella (2004) define three main groups of studies each one highlights a facet of this approach. A first group of studies explores the main goals of Self-Directed Learning. These are (a) to improve personal growth and the ability of the learner to be self-directed, (b) to promote transformative learning as central in SDL, and (c) the inclusion of the examination of sociopolitical assumptions and of collective action in the SDL approach. A second group of studies examines SDL as a learning process, these studies underlines three types of models (a) the linear models in which learners reach their goals through a series of linear steps, (b) the interactive models that outline the importance of environment and of personal and cognitive characteristics, and (c) the instructional models to use the SDL approach in formal context. A last defined group (Merriam and Caffarella, 2004) collects studies that describe SDL as a personal attribute giving attention to the nature of self-directed learner, studying attitudes as readiness to learn and autonomy. This theoretical approach develops guidelines for conducting self-directed learning paths called learning contracts (LC). A LC is an agreement between the teacher and learner that structure the learning process. Through the LC learners can analyze their learning needs and define their learning objectives, resources and strategies to learn, evidences testifying learning and the type of assessment. LC has a flexible meaning and exists in different forms and classifications, in literature, several are its benefits and limitations (Knowles, 1986). The LC gives learning a structure within which

learners learn to be responsible, put the emphasis on reflection and action as well as develop personal transferable skills within the context of their study (Stephenson & Laycock, 1993). Boaks' idea describe LC as a "method for developing flexible individualized program of learning" (as cited in Berger Caffarella & O'Donnell, 2004). It is a formal agreements that detail what will be learned, how the learning will be accomplished, when the learning will occur, and what criteria will be used to to evaluate the results of the learning (Berger, Caffarella &O'Donnell, 2004).

Since 2012, the authors of this paper are trying to improve learners' authonomy and responsibility in the university environment, through PL. In particular, the use of self-diagnostic instruments, which help to know the learners, and the realization of PLPs is the focus of the strategy. In addition to the description of the strategy elaborated this work try to answer to the following research questions:

• Which are learners' perceptions in relation to the proposal of a PLP in a Master of Science Degree Program at University of Padua?

• Which are learners' perceptions in implementing a PLP in a Master of Science Degree Program at University of Padua?

Method

Learners enrolled in the course of "Leadership, communication and team work" in the Master Degree Program "Management of Educational Services " were 59 (58 F and 1 M). Participants to the lesson in which we explained the PLP were 39 female. They had a range of ages from 22 to 52 years with a mean of 30 years. The 76% (29) of them attended classes regularly while the 24% (9) did not. Participants worked as teachers or social worker, the 14% (5) of them was unemployed or worked in others fields. Only 8 women accepted our proposal to structure their own learning with a personalized plan. All of them were teachers

except one who worked as social worker, the group had an higher average of age, respect to the whole class.

Before the beginning of the course it was necessary to prepare instruments and adapt the program of the course to a possible proposal for personalization. We defined and explicated the learning outcomes for the course. We made a list of essential knowledge and skills that will be developed during the course. This list of knowledge and skills had different purposes (a) to orient the learner to the achievable learning results, (b) to allow the construction of an instrument for self-evaluation of the initial learning knowledge and ability, to diagnose the gap between the knowledge and skills owned by the learners in their past experience and the maximum level possible, (c) to have, at the end of the course, a new selfevaluation instrument to obtain a perceptive measure of expertise acquired. Trying to give learner a measure of their progress in learning, moving beyond the final grade, have the meaning to involve learners in a constant monitoring even after the end of the course (Fig. 1).

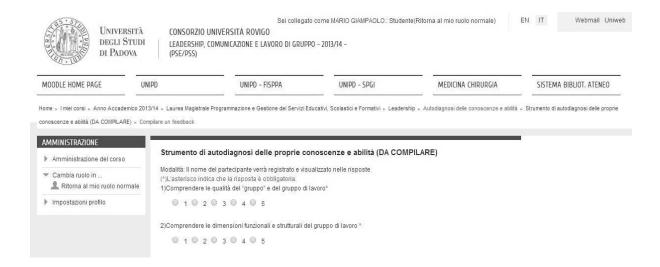


Figure 1 The self-evaluation activity realized in the LCMS.

Each learning outcome have a scale from one to five (1 = lowest level possessed 5 = highest level reached) through which each learner can self-evaluate their own level of perceived Knowledge or mastery of skills. Each learning outcome is the starting point to define learning

objectives and negotiate these with the faculty member. The learner after completing the evaluation has a clear idea of its strengths and weaknesses and can transform the detected needs into learning objectives.

We developed, in addition, the structure of a LC and the evaluation model of PLP. The structure of the LC (Fig. 2), translated and adapted starting from the Knowles' model (1975, 1986) consists in a first part which collects socio-demographic information

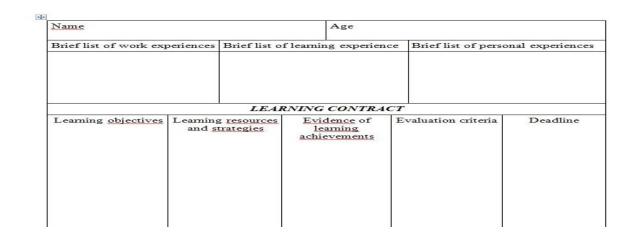


Figure 2 An example of a learning contract form.

such as age, work, learning, and personal experiences related to the course. The second part of the contract consists in five columns that ask to list:

1. The learning objectives. These describe the behaviors and attitudes of knowledge, understanding, and skill development and represent the "what" of the learning.

2. The learning resources. Learning material and human resources that learners will use to learn. These are books, articles downloaded from the University database or from the web, online experts and from the communities around the University.

3. The learning evidences. Products made by the learners to show their

commitment and involvement in learning. These are written papers, research projects,

presentations, everything that testify the acquisition of theory and practice.

4. The criteria and the meanings to evaluate the evidences. To match institutional request and to give grades at the end of the PLP we determined an evaluation model (Table 1). Learners know criteria from the beginning of the course, these are negotiable in relation to the specific learners' experience, and articulated in "quality of the contents learned", "quality of the learning process" and "quality of personalization".

Evaluation Criteria	Faculty member: 50% Student: 30% Tutor: 20%
Criteria:	1. Quality of the contents learned- Level of theorical knowledge - Level of elaboration - Level of reflection
	 2. Quality of the learning process 2. Quality of the - Ability in the resource research 2. Ability in the resource research 2. Ability in the resource research 3. Ability in the resource research 3. Ability in the resource research 4. Ability in sharing the knowledge 4. Quality of participation 4. Level of engagement
	3. Quality of personalized learning- Quality of personalized learning plan - Ability in trasfer knowledge and skills acquired in other environment - Quality of evidences

Table 1 The evaluation model developed by the faculty member.

5. The deadlines to deliver the evidences. These dates will help learner in

organizing his work to respect the time limit and favor self-regulation.

The presentation lesson to propose learners a personalized learning experience lasted about an hour. We explained the reason why, our mission and vision, we present and believe in this method to learn, the components of the LC with a particular focus on how to formulate learning objectives, and criteria of evaluation. We finally proposed examples of possible personalized learning plans.

At the end of each lessons the faculty member had special group meetings with learners who decided to personalize their learning process to give regular feedback on their work. The meetings covered in particular the negotiation and definition of objectives, resources, evidence, and delivery dates. The negotiation of the PLP with the faculty member, lead learners to the deepest meaning of personalization that allows to become active organizer and co-designer of the learning (Leadbeater, 2004). The process of negotiation with the faculty member continues online, thanks to the support of a tutor who monitors constantly the learners' activity. The learning content management system (LCMS) through which faculty member, tutor and learners can communicate (fig. 3) allowed the design of the selfevaluation activity



Figure 3 The learning content management system.

we discussed above and the creation of a learner personal forum, where to post documents, to comment and to discuss with the faculty member, the tutor and other learners on the topics of the subject and on the process of learning. Finally, learners who decided to personalize their own plan received the faculty member and the tutor personal telephone numbers to have a direct line with them.

The data analyzed in the results paragraph origins from learners' perceptions collected through two questionnaires with open and closed questions. The first questionnaire administered to all learners at the end of the PLP presentation presents thirteen closed questions and one open question. It aims to clarify the perceptions and the understanding of the learners on the presentation proposed. The questionnaire collects demographic variables like age, gender, previous educational experiences, past or present employment, and other variables related to the course like the number of lessons attended. Following learners express their opinion on the presentation topic judging the clarity of the explanation. The questionnaire tries to determine whether the meaning of the different components in the LC were understandable. The questionnaire ask learners to judge the clarity of the selfevaluation. Two other closed questions evaluate satisfaction and motivation for the PLP presented. Finally, the last open-ended question asks learners to motivate their rejection to this proposal. A second questionnaire administered to learners who implemented their personalized experience consists of two open questions and five closed questions. The openended questions ask students their impressions during the presentation of the PLP and during the creation and negotiation steps. The closed-ended questions ask for an evaluation of important features of the LC like the ability of this instrument in helping students reflect and organize their learning, like the possibility to interact more with the faculty, the tutor and other students. The analysis of the open-ended questions in the questionnaires was carried out by assigning codes emerging from the text (Haney, Russell, Gulek, & Fierros, 1998) and the unit of analysis chosen was defined physically as the entire paragraph written (Stemler, 2001). An additional source of data is the LCMS that allows to quantitatively and qualitatively analyzing learner interaction in the discussion forums.

Results

The answers to the first questionnaire allow us to analyze learners' perceptions, their level of understanding and the reason for which they have rejected this type of proposal. The presentation is sufficiently clear as evidenced by the responses to the first three closed questions in which the 76% (30) of learners states that "the explanation of what is personalization is clear", the 64% (25) of learners states that "the explanation of how to realize the personalization is clear," and the 67% (26) of the learners states that "the explanation of why it is important to personalize the learning is clear. Learners perceive the proposed explanation as satisfactory for the 64% (25) and motivating for the 57% (22) of them. Then the questionnaire focuses on the LC and its components. The explanation of how to complete the LC is clear for the 59% (23) of learners, the explanation of what "learning needs" and "learning objectives" are, is clear for the 74% (29) of learners, while the explanation of what "learning resources and strategies" and "learning evidences" mean is more difficult to understand and is clear to respectively for the 64% (25) and the 47% (19) of learners. The criteria and meanings to validate the evidence are clear for the 77% (30) of learners who responded to the questionnaire. The textual analysis of the open answers allows us to understand the reasons that lead learners carrying out the course in a traditional way. We analyzed and classified into four broad themes the answers to the last open question "why you decide to reject a PLP in favor of a traditional way to learn?" (Table 2).

At the end of the personalized experience, learners who decided to personalize their learning answered a final questionnaire to express their opinions on the implemented

Themes identified	Examples of learners' answers
Unappropriated and insufficient knowledge and skills	 Because after the self-evaluation I could verify that my knowledge was not sufficient. I did not consider myself sufficiently prepared to realize this experience.
Lack of Time	• I think I'm not able to combine a personalized learning plan with the requests of my work and other

	courses.
	• Due to my work the traditional course allows me to invest less time.
Lack of a work environment	• I do not have a work experience on which to apply the design of a personalized learning plan
	• I do not have a work experience by which starting to in deep elaborate some topic of the course
Negative feelings	• These personalized learning plan seems like a "leap in the unknown"
	• I had fear in engage myself in this method of learning

Table 2 Examples of learners' responses to the questionnaire.

PLP. The analysis of learners' answers to closed questions highlights the strong agreement in the ability of the LC to make the learning results and learning objectives understandable 70% (five) of the female learners is strongly in agreement and 28% (two) is in agreement. Even in the second question concerning the ability of the LC in helping learners to reflect may be detected a substantial agreement because also in this case the 70% (five) of learners is strongly in agreement and the 28% (two) is in agreement. Questions on the learners' perception of the LC as an instrument that helps to organize knowledge and helps to match the program of the course with the learners' desired, received, from the 100% of the learners (seven), a strong agreement. The last question relates to the ability of the LC to encourage interaction. While the 56% (five) and the 28% (two) of learners are respectively strongly in agreement and in agreement saying that the LC facilitates interaction with the teacher. Answers are not as unique in relation to the ability of LC in facilitating interaction between learners.

The textual analysis of the open-ended questions in the second questionnaire identifies representative categories of the learners' opinions. In the first question about impressions during the presentation of the PLP, three learners claim to have finally got the responsibility to decide for their own learning, two learners claim to have received a boost to their autonomy and the remaining two learners express a positive opinion about the quality of the presentation. In the second question related to the phase of creation and negotiation of the PLP, four learners perceive negotiation as the most important dynamic in their learning process; two learners identified as important the presence of the tutor, while one learner reports difficulty in communicate with tutor and Faculty member and asks for more clarity in the explanation of the task. The third question asks learners what, they think, create a better interaction between teachers, tutors and learners. The learners' answer can be grouped in categories which are the faculty members'availability at the end of each lesson, the possibility to negotiate learning, the presence of the tutor to ask questions, and the online platform for the interaction with peers, the tutor and as repository of their learning evidences. These results are in accordance with previous researches of Fedeli, Giampaolo & Coryell (2013a) and Fedeli, Felisatti & Giampaolo (2013b), in the Italian academic context.

A final source of data about the personalized learning experience is represented by personal forum on the learning content management system (LCMS). The forum is a virtual place to collect evidences but, also, a useful way to communicate with the faculty member, the tutor, and with other learners. Each forum has a number of posts that vary from a minimum of five to a maximum of 30. A qualitative analysis of the posts in the discussion forums, pointed out that only 2 out of 8 learners used it to discuss the course related content and the learning evidences. Only in 2 forum discussion out of 8, there is interaction between learners regarding the method to use in conducting an interview with an expert. In most

cases, the forum served to communicate with the teacher and the tutor to negotiate objectives, learning resources and strategies for achieving learning objectives.

Discussion

A first topic of discussion is the meaning of to negotiate the learning process with the learner. Negotiation allows reaching the deeper meaning of personalization that is to make the learner active co-designers of his own learning (Leadbeater, 2004) or, in other words, an active participant in the delivery of the service offered by the faculty member. LC is negotiable until learner understands his learning objectives, becomes independent and responsible, understands what are the more appropriate and available material and human resources, and which the evidences of his learning are. The negotiation is, therefore, a continuous process in which learners and teachers are engaged together. McCarthy (2002) describes some of the factors that influence the ability of the faculty members to negotiate the learning process: (a) educational vision established inside the institution, (b) established practices in the organization, (c) personal factors that influence the extent to which the teacher feels at ease in dealing with learners, (d) requests of the course that define the limits of what can be negotiated.

A second topic of discussion concerns the evaluation of a PLP that cannot be reduced to standardized test on knowledge written in the textbooks. Normally faculty members assign a grade to learners, often forgetting to check the real skills and satisfaction acquired. For this purpose the use of a self-evaluation instrument is important to provide an additional measure of the real performance making the learners aware of knowledge and skills improvement at the end of the course. Learners considering their level of education before and after the course can understand if their performance is at the highest level or needs to be improved. Doing so learners are in a cyclic process that no longer ends with the final exam. Methods of

evaluation should meet the purposes of the learners, for example, Jenkins and Keefe (2002) argue that authentic assessment is one element of personalization. Participant observation, portfolio, and learners' performance are methods that allow focusing on the evaluation of real skills and knowledge.

The first issue highlighted by the analysis of open-ended question in the first questionnaire administered to learners participating to presentation, relates to their concern in having inappropriate and insufficient knowledge and skills to change the traditional way to deal with the course, that identifies books and faculty member lessons as the unique road to develop knowledge and skills required. We noticed that it is important, in proposing a PLP, explain to learners that this is not just an alternative to deepen elaborate knowledge and skills already known. Learners have to study, also in a PLP, resources suggested by the faculty member but in this case they can adapt the content to the real-life situations in the working or personal environment. Doing so, they develop reflections on topics of interest, realize learning products, and actively search for new resources. We think that this is difficult to achieve in a traditional program with standardize topics, lessons and evaluation strategy.

The absence of a working environment, for some learners, constitutes a second issue in the learners' perception. The lack of the opportunity to apply acquired knowledge and skills in a work environment can discourage the choice of a PLP because the learner doesn't see a real scope to personalize the learning process. The personal working context, however, is not required to personalize learning. Family, for example, can be a good alternative environment in which to apply and test knowledge and skills related to leadership or communication. Many others situation can became an alternative context as the participation to the activities in sport or religious groups. It is important to remember that the ultimate goal of PLP is not that to apply learned knowledge and skills to a real-world context but, to develop learners' autonomy and responsibility in taking charge of their own learning. Finally,

negative feelings and lack of time expressed by learners in terms of "fear", "take a leap to the unknown" or "over-commitment required", "anxiety" and "initial disorientation" are limits of the LC well known in the literature (Knowles, 1986; Berger, Caffarella &O'Donnell, 2004) and reported in our previous research (Fedeli, et al. 2013a, 2013b). These negative feelings are, certainly, due to a change resulting from the transition toward a new learning process that definitely requires more responsibility, commitment and involvement.

The last topic of discussion is the interaction between learners, faculty members and tutor, both on ground and online. Probably the most important limit of this personalized learning experience is the few opportunities for collaboration between learners. During the course, due to the lack of time, we proposed only two interaction opportunities for a total of 2 clock hours out of 15. Also during meetings, with the faculty member at the end of lesson, discussions focused more on the learning objectives, on the identification of adequate resources, and on the evidence to produce rather than on the facilitation of a dialogue between learners to help them in identify the correct questions that lead learners during the development of skills and knowledge. Even during the use of personal discussion forums, in the online platform, posts and comments relates to the exchange of information between tutors and learners, for the proper implementation of the PLP. Except in one case, discussions is on the course contents and on the problems experienced by a learner in his work context.

Conclusions

As answer to the first research question we can report the four main themes students wrote as answer to the question: "why you decide to reject a personalized learning plan in favor of a traditional way to learn?" These four topics are (a) inappropriate and insufficient knowledge and skills to change a traditional way to learn, (b) The lack for unemployed learners of a working environment, (c) negative feelings experienced and (d) lack of time. To

answer the second research question learners' answers can be grouped in categories which are: (a) the faculty members'availability at the end of each lesson, (b) the possibility to negotiate the learning, (c) the presence of the tutor to ask questions, and (d) the online platform for the interaction with peers, the tutor and as a repository of their learning evidences. Students who implemented a PLP seem to agree with the ability of the LC to make the learning results and learning objectives understandable, to help learners reflect and organize their learning, to facilitates interaction more with the faculty member then between learners.

The work presented here, is the last one of a series of empirical works that since 2012 we are conducting in our University to develop a model that represents a possible way to promote PL in the formal academic environment. We believe that these PLPs can represent a further opportunity to offer a responsible, autonomous and independent method to learn. We had the opportunity, in recent years, to exchange our ideas with different educators who have promoted the same approach. Comparing with them our process and activities we find in all of them strong similarities. These allow us to promote a well-defined position that requires a strong awareness and preparation. We are also interested in and we are working on the use of PLP in blended programs. We believe that a LCMS can support our practice and better react to the needs of learners, especially for the possibilities it gives to personalize the time and the space in which learning happens. In the future we will continue to investigate and research in this area, with the aim to develop strategies and methods to meet the needs of learners in relation with a formal learning environment, moreover we will continue our productive international comparison, to share our knowledge and skills with those who have already or with those who have willingness to experiment with us.

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