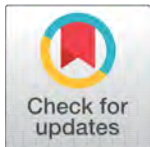# Online Learning: From the Curriculum for All to the Curriculum for Each Individual

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ABSTRACT

This paper seeks to study curriculum as a form of organization of the learning process from the perspective of the learner, in online learning contexts. Departing from a theoretical and conceptual analysis of curriculum, understood as the conception, organization and structuring of the learning process, we analyzed different adults' representations of online learning and their general conceptions of curriculum. The empirical data came from the application of a questionnaire, distributed online (study I, 833 participants), and semi-structured interviews (study II, seven participants). The results contribute to the reflection on curriculum in a digital context, and to describing the curriculum organization of the learning process adopted by each individual. We found that space and time, in addition to strategies and actors are the most dynamic curriculum components in these circumstances. The formal contexts in which institutionalised learning and the curricula in force therein, occur are central to the development of the personal learning curriculum. This leads us to question the possibilities and ways of reconfiguring curriculum, of conceiving it differently, in digital learning contexts.

Keywords DIGITAL TECHNOLOGIES, THE CONCEPT OF CURRICULUM, ONLINE LEARNING, PERSONAL LEARNING CURRICULUM

1 INTRODUCTION

How do adults use digital technologies (and take advantage of their potential) for learning? What strategies and forms of organization do they carry out in learning processes and what decisions do they make in terms of the sources, means and resources they mobilise in order to learn? How does each adult decide what to learn at a given moment and in a specific context, and how does he/she conceive and organise such learning? On the basis of these questions, this paper seeks to study curriculum, not as a structure of formal education (program, plan, process) associated with a specific area of knowledge, but rather as a form of organization of the learning process.

Regardless of the conception, perspective or model of curriculum taken into consideration in the field of curriculum theory (see, for example, the global analysis of different

curriculum conceptions conducted by Jackson, 1992), it is consensual that the curriculum is an organizer of learning. Under this understanding, it is also the aim of this paper to study (conceptually) curriculum as a form of organising learning by focusing on present–day contexts, enriched by the use of information and communication digital technologies. The first two decades of the 21st century have been characterised as an era with diverse and distinct learning conditions and circumstances to those of the 20th century, in which the study of curriculum emerged as a science, with principles and methodology, and was not viewed simply as content or subject matter (Tanner & Tanner, 1995).

In the digital transformation era, the contexts in which one learns have different characteristics to those within which the concept of curriculum and its underlying curriculum theory were constructed and configured. The contexts in which one learns today are different to those of that period, largely due to the development and evolution of information and communication technologies and to broadened access to the Internet for most of the population. Despite these circumstances, in general, teaching and learning online today for both young people and adults does not differ substantially from the way curriculum develops in traditional classrooms, that is, a single format curriculum, a curriculum for all, or as referred to by Barroso (1995) "teaching many as if they were one" (p. 79). Nowadays, the digital broadens learning possibilities and opportunities considerably – in terms of available sources of knowledge, the possibility of their access and the speed with which this may be accomplished; in terms of the means and resources that may be mobilised for learning; of the contents, themes and subject matter that may be learned; of the activities that may be carried out, the strategies that may be used in order to learn and the participants in each learning process (who to learn with at each given moment and in each specific context).

This paper seeks to study curriculum from the perspective of the learner, assuming that the latter plays a major role in the curricular organization of the learning process. Thus, the analysis also considers 21st century curriculum conceptions, and examines how the different interpretations of curriculum on the part of learners impact the way they organize their own learning process and trajectory. It involves an examination and discussion of curriculum from the learner's perspective –how each individual conceives and organises his/her learning, how he/she decides what to learn– ascertaining whether it still makes sense to speak of curriculum in these circumstances and within this framework.

It departs from a theoretical and conceptual analysis of the concept of curriculum, focusing on its understanding as the way by which learning is organised and developed, and analyzes the representations different adults have of their learning experiences in an online setting and their general conceptions of curriculum in the "digital era". Data was collected by means of an online questionnaire and through semi-structured interviews with individuals who use the Internet and consider that they learn from such experience. This information is provided in more detail in the methodology section of this paper.

1.1 Learning in the digital era

At the end of the 20th century, there was little certainty as to how the use of technologies in education would develop in the 21st century; however, it was practically certain that the

curriculum would undergo changes, as a result of the generalised use of such technologies (Marsh & Willis, 1995). Back in the 1980s, Kelly (1981) stated that the rapid technological change was accompanied by equally drastic changes in society, and that "these social and moral changes [would inevitably have] (...) a bearing on curriculum development" (p. 11).

Throughout this last decade of the 21st century, extensive regular, natural and spontaneous use of the Internet has been witnessed, particularly through mobile devices, in environments characterised by mobility, flexibility, connectivity, ubiquity and serendipity, contributing to a characterization of the general contemporary context and the learning contexts that are generated at diverse levels. In a society which "is moving in the direction of a post-industrial and post-modern era" (Hargreaves, 1998, p. x), in a "social era", as defended by Figueiredo (2017), education (formal) still appears to be analogical, despite acknowledgement of the opportunities digital technologies create for learning and, by extension, for curriculum.

Technological innovation produces changes in the values and norms of a society and, thus, constitutes a source of pressure on both curriculum (Kelly, 1981) and learning. Given that the Internet presents itself as a possible means to support and innovate multiple forms of learning (Bates, 2019; Brown, 2007; Castañeda & Selwyn, 2019; Duart, Roig-Vila, Mengual-Andrés, & Durán, 2013; Figueiredo, 2017) among the population in general, and among students and teachers in particular, it is deemed as one of the most influential factors of curriculum (Means, 2008). These trends determine the role of technologies as a source of curriculum support, and regardless of whether curriculum is viewed as a body of contents or a learning process, it may be supported by technologies through the introduction of practices and ideas that will effectively change it or, ultimately, bring about change. Recourse to digital technologies has made multiple forms of learning possible and enabled the innovation of processes and the transformation of teaching and learning practices (Viana, Peralta, & Costa, 2017) (by means, for example, of MOOCs, programming and robotics, virtual and augmented reality and artificial intelligence) (Almeida, 2016; Resnick, 2017). In addition to the broad educational offer currently available in different formats, methods and configurations, most people also have access to multiple contents and digital resources; they can participate in groups or sharing communities and online learning; take open online courses; explore, simulate and experiment situations (virtual) that are close to real-life situations, among other examples.

At adult age in particular, the autonomous learner may self-regulate or self-manage his/her learning in a non-formal(ised) online context, is not subject to time or space constraints or a formal curriculum, and may define a strategy that will enable him/her to conduct and manage his/her own learning path. Digital technologies constitute privileged means, however it is the learner him/herself who thinks and decides on: how to use them and who organises how to make the most of their potential, making decisions in curricular terms; the knowledge he/she considers to be essential for his/her personal, social, professional and/or academic life; how to manage his/her learning processes and procedures, and on the periods of time and locations (physical or virtual) in which he/she does so. Thus,

the adult learner is also a constructor and curriculum decision-maker of his/her learning in non-formalised contexts, developing "his/her didactics" in the knowledge and learning relationship process.

These characteristics correspond predominantly to curriculum conceptions based on constructivist approaches, since they favour learning and/or the learner in the curriculum (co)construction process.

2 CURRICULUM, HOW ONE LEARNS AND ORGANISES LEARNING

The term curriculum was coined during a period of opposition between the visions of Dewey (1902) and Bobbitt (1918). Despite contradictions in the grounds of their perspectives, they both used the term curriculum to refer to that which is learned and how, when, where and why one learns. It is in this sense that the concept of curriculum is used in this study, and is simultaneously taken as the knowledge and content the learner appropriates and the process leading to such appropriation.

Given the need for re-evaluation, and indeed re-conceptualization, extensive discussion and research have focused on the concept of curriculum and its related practices. In the research on education, several authors, especially in the late 20th century and early 21st century, have discussed and highlighted the importance of re-evaluating the concept of curriculum and its configuration, especially with the emergence of the digital society, advancing proposals for its re-conceptualization. Among these proposals and contributions, two main diverging (Schiro, 2013) trends may be noted, although they are anchored in different perspectives, models and conceptual understandings: one is of a social nature, fundamentally giving value to curriculum as a construction based on significant social changes (e.g. Pinar, 2008; Young, 2014; Goodson, 2001, among others); the other is of an individual nature, focusing on the learner. In this latter case, the individual is perceived as the centre of curriculum construction, where value is given to experienced learning, and the curriculum is taken as a set of learning experiences, mainly in line with the considerations of John Dewey in the early 20th century (Grundy 1987; Doll 1997; Kliebard, 2011; Marsh & Wills, 1995, among others). Society and the individual are, in fact, the two pillars or variables that fuel the concept of curriculum, and are constantly interacting.

The work of different researchers in the last decades (Beyer, 2004; Cuban, 1993; Doll, 1997; Grundy, 1987; Kliebard, 2011; Marsh & Willis, 1995; Roldão, 2011; Selwyn, 2011; Wenger, 1998) has also shown that the majority of learning is determined more by the learner's real experience (real curriculum, in action) and less by that which is promulgated in the official curriculum and defined by curriculum decision-makers, at the various decision-making levels. They also state that the concept of curriculum may be understood in different and new ways, pointing in some cases to its de-formalization. It is within the scope of this understanding that curriculum gains meaning in its dynamic relationship with the digital and non-formal.

Stemming from the learning practices and experiences generated and provided by the Internet and its virtual learning environments, other concepts, approaches and ways of understanding curriculum have emerged (Almeida & Silva, 2011; Almeida & Valente, 2014; Bruno, 2011; Cormier, 2008; Costa, 2007; Doll, 1997; Wenger, 1998).

Considering curriculum from the learner's perspective, and cross-referencing its various conceptions and understandings, 'curriculum in action' may be associated with the learning of each individual in the different formative contexts experienced throughout the life course. From this standpoint, when the individual him/herself conceives and decides upon his/her own learning and formative experiences, we are referring to a *personal learning curriculum* (Viana, 2017). This is the understanding of (the concept of) curriculum which characterises the organization of learning accomplished in non-formal(ised) contexts, particularly by adults, and acknowledges that the learner takes on the two-fold role of curriculum recipient and designer.

2.1 Personal learning curriculum

When each adult designs, manages and regulates the development of learning processes and experiences in various life situations at a given historical, social and cultural moment, he/she is the author and curriculum decision-maker of accomplished and future learning. The decisions taken refer to: i) what to learn (knowledge of various levels and types, values, techniques, other); ii) the aims, intentions, needs (what the questions requiring an answer are) and interests that mobilize or determine the learning experiences; iii) what to do (tasks, activities); iv) the sources (which may be other people) and resources to be used; v) how to organize the learning situation (mobilised strategies and techniques, the time and space in which they take place), vi) how to act in order to accomplish the desired learning and vii) how to ascertain whether learning has been accomplished.

Thus, the entire spectrum of curriculum development is covered, consisting of a plan and developing action, which are constantly being reformulated and reconfigured. A learning plan or project (individual) is deemed to underlie this concept of curriculum, which may, in some cases, be rather open, general, broad, somewhat non-explicit and detached from an institutional (ised) framework or context. In other words, in non-formal contexts for learning, when there is no entity or pedagogical figure to determine, guide and decide on the learning to be accomplished, the individual learner establishes, with varying degrees of consciousness, a learning organization structure (curriculum). This structure is self-conceived and self-constructed, mainly taking the personal experience of formal learning contexts and individual conceptions of what curriculum is or the general idea of curriculum learning organization as a reference (Viana, 2017).

Thus, the curriculum process, in line with this understanding, is characterised (in a simplified manner) as illustrated in Figure 1, as it stems from a strategic conception of learning (which may occur in a situation, during action) –the *planned curriculum*.

At a later stage, by means of an evaluation mechanism or reflective assessment (meta-analysis, metacognition), the *learned curriculum* is, to a certain extent, formalised by the learning individual, when there is (self) appropriation of what has been learned and trans-
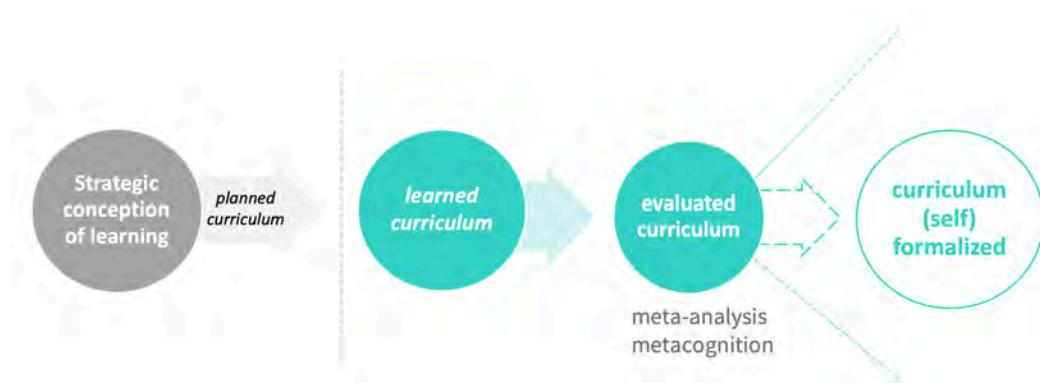
Figure 1 General sequence of the curriculum process in the personal learning curriculum

formed into constructed knowledge. The curriculum is (self) formalised. The learners themselves, even if to a less explicit, systematic or profound extent, evaluate or reflect on the learning accomplished (on the results or on the learning process) and/or the path and decisions taken, namely regarding each of the components of the curriculum (aims, activities, strategies, time, space, resources, participants) (Viana, 2017). Other participants may adopt a crucial role in the curriculum process contributing, to some degree, to its social legitimization (Roldão, 1999), in other words, providing social recognition of the knowledge acquired by the learner as being essential to his/her life at economic and social levels, and its acknowledgement among peers.

On the basis of empirical data, this study makes it possible to validate the conception and understanding of curriculum from this perspective.

3 METHODS

The empirical component of this study consists of an analysis of representations of how learning is organised within a curriculum, namely when learning is carried out by means of digital technologies, in contexts or situations that are not formally structured (for teaching or training). Thus, it seeks to understand how the respondents regard curriculum, while also ascertaining whether the concept of curriculum proposed herein corresponds to the representations of the study's participants, therefore confirming the reasonableness and pertinence of this concept.

This descriptive and interpretative research positions itself within a humanist-interpretative paradigm (Amado, 2013; Cohen, Manion, & Morrison, 2000; Denzin & Lincoln, 2000; Patton, 1990), and is characterised by a qualitative approach, complemented by and grounded in quantitative data and based on a partially mixed design (Creswell, 2009; Leech & Onwuegbuzie, 2009; Tashakkori & Teddlie, 2003).

For its operational development, the research was structured into two studies. In Study I, regular Internet users (over the age of 18 years and speakers of the Portuguese language) were surveyed by means of a questionnaire, distributed online (Andrews, Nonnecke, &

Preece, 2003; Rea & Parker, 1992), regarding the learning they consider to be carried out when they access the Internet and use the various environments it provides. The questionnaire was disseminated through email, on social networks, in virtual communities and other online groups. In Study II, semi-structured interviews were conducted (Amado, 2013; Cohen et al., 2000) with adults who consider that they accomplish learning online. In this case, individuals with diverse characteristics, identical to those of the sample of Study I were selected. In other words, the participants were adults belonging to different age brackets, with different levels and areas of completed schooling. Individuals from the main researcher's personal contact networks who met the defined criteria were also invited to participate in the study.

The respondents were questioned on how and the circumstances under which they learn when they use the Internet, and were requested to tick their agreement or disagreement with a set of statements related to the basic characteristics that may configure online learning. These statements emerged from the literature review on the concept of curriculum, namely on the main characteristics and attributes associated with conceptions of curriculum, and resulted from their systematization, considering the variance that may exist among its constituent elements (Dilon, 2009; Gaspar & Roldão, 2007; Kelly, 1981; Peralta, 2005; Taba, 1974; Tanner & Tanner, 1995; Tyler, 1949), ranging from a more open and flexible curriculum to a predefined and previously established one.

The data analysis focused on the curriculum characteristics of the reported learning (Dilon, 2009) (Table 1).

Table 1 Data Analysis Scheme

Categories	Operational definition
Conceptions regarding curriculum	Perspective of respondents regarding the concept of curriculum in non-formal online contexts
Aims / intentions	Aims or intentions of respondents when they seek to learn online
Strategies, forms of organization and decision on learning	Learning strategies and how the respondents organize themselves to learn and make decisions throughout the online learning process
Learned knowledge, skills, competences developed online	Content, learned subject matter
Activities	Activities carried out online for learning
Learning participants	Participants in the accomplished learning: alone or with other people (and in the case of the latter, with whom?)
Online environments	Online environments accessed (and in which they participated) for learning purposes, where learning takes place
Evaluation of learning	Reflection or evaluation of respondents regarding the results attained, the learning accomplished

Combined statistical data processing (Hill & Hill, 2009) was adopted to analyze and process the information collected, with use of the *SPSS* software and the *Nvivo* software for the content analysis (Bardin, 1977). The ethical and deontological dimension was considered throughout the development of the research, and the study sought to guarantee the confidentiality, privacy, informed consent of the participants and the preservation of their personal details (Amado, 2013; Cohen et al., 2000; Denzin & Lincoln, 2000).

3.1 Sociodemographic characterization of respondents

In Study 1, 833 individuals participated, mainly female (76.5%), from different age brackets, and equally distributed between 18 and 64 years. Most of them were employed (74.8%) and around 21.9% were students. Among the latter, 14.8% were worker-students.

Most of the respondents reported having a post-graduate qualification, more precisely 51.7% held a post-graduate, masters or PhD qualification. Among the respondents were users who were integrated in a broad scope of professional areas, the most common of which were Education (48.1%), followed by Physical, Mathematical and Engineering Sciences (11%), Arts (8.8%), Design (7.9%) and Technologies (5.5%), among others.

As for Study II, seven individuals with different profiles were interviewed. They were aged 17, 26, 32, 42, 56 and 76 years; five were females. The participants had different levels of schooling (secondary education, degree, master's and PhD), some were students of secondary and higher education (graduate and post-graduate), others were employees (in the areas of design, health and education), and one was retired.

4 GENERAL CONCEPTION OF CURRICULUM IN THE DIGITAL ERA: PRESENTATION AND DISCUSSION OF RESULTS

On the basis of the analysis of each of the adult respondents' representations regarding the learning they carry out when they use digital technologies and access the Internet, the general conception of curriculum is discussed, in articulation with the theoretical and conceptual analysis conducted, in which curriculum is understood as the process of conception, organization and structuring of learning, which is embodied in the *personal learning curriculum*. As systematised in Table 2, a conception of curriculum as a process is implied in the responses of the respondents, in which learning is organised by the learner him/herself, who decides on the content (what is learned), the activities and strategies (how he/she learns), and the time and space in which learning is carried out.

The general conception of curriculum was observed to vary little according to the sociodemographic profile of the learners, thus pointing to a consolidation of the conception held of curriculum, in the learning context and circumstances considered in this research. Some variations were identified in their representations according to gender, age and level of schooling, however they were negligible. No variations were observed in terms of their professional area or whether they were studying, working or both, or in any other situation.

Most of the learning experiences stemming from use of the Internet and carried out in non-formal contexts are driven by a degree of intentionality, as there is a motive, an interest, a purpose, an aim or a need, whether of a personal, professional or academic nature. The respondents agree that learning conducted online is determined or conditioned (i) "by what interests or is meaningful for each individual" (Study I), as only the attention required to learn what is meaningful, arouse an interest or create some form of motivation is given: "there are always motivations or some level of interest when you embark on online research which drives you to learn" (Respondent, Study II).; and/or (ii) "by personal life goals, aims or needs" and also "those of a professional or academic nature" (Study I), from the per-

Table 2 Systematization of results regarding the constituent elements of the personal learning curriculum

Categories	Results
Conceptions on curriculum	Curriculum as a process, where learning is organized by the learner him/herself, who decides on the content (what is learned), the activities and strategies (how he/she learns), and the time and space in which learning is carried out.
Aims / intentions	Intention to learn (motive, interest, purpose, aim, need) of a professional, academic, personal and social nature. Intentionality of a given online learning experience in the majority of situations does not precede the learning moment and is not explicit (with the definition of a plan), but may become express during action, according to specific stimuli that promote the accomplishment of (other types of) learning, deemed relevant and meaningful by the learner.
Strategies, forms of organization and decision regarding learning	The majority of learning experiences are not previously organized or structured, nor are they defined and established a priori; they are freely developed. Most are characterized by some degree of structuring and occur in a sequential manner, respecting a set of stages defined by the learner him/herself during the action or process, on the basis of his/her decision – he/she chooses a specific period of time to carry out certain activities and attain his/her purposes.
Knowledge acquired	Learning regarding specific content (for which there is the need to learn) or new subject matter (encountered unexpectedly and which arouses the interest to learn more).
Learning participants	Predominantly alone, although information created and shared by other people is accessed. And with others: individuals with whom they interact, individuals with common interests (colleagues of the same area, workmates, friends, …) or in a similar learning situation.
Online environments (space)	Variety of online environments (Websites, blogs, groups or virtual communities, social networks, …)
Learning time	The time (days or periods) when learning is carried out in non-formal online contexts is not previously defined, even for those who are more organized and define learning plans.
Evaluation of learning	When it occurs, it is conducted a posteriori, in the form of a reflection or evaluation of the results achieved, the learning accomplished, the learning process, the activities carried out in order to learn, what could have been done differently.

spective of the majority of the respondents. Professional or academic life needs may be associated with socially valued knowledge, mainly imposed upon us, and the skills society expects each individual to develop on assuming a specific professional or academic profile. The personal dimension of curriculum in this context is situated on a conceptual strand between the broad social and political spectrum and a utilitarian concept. In other words, just as "the conflict of interests within a society and the dominant values that regulate educational processes" (Gimeno Sacristán, 1989, p. 17) are reflected in the formal curriculum, in a digital context the curriculum appears to reflect the conflict between individual interests and the dominant values of society that regulate the learning needs experienced by the individual who learns, particularly in professional and academic terms.

The respondents consider that in most of their online learning experiences, even when there is no prior intention, they may acquire an intention at any time. Intention regarding a given online learning experience does not necessarily have to precede the learning moment, and in fact does not in most situations. It may become express during action, according to specific stimuli that promote the accomplishment of (other types of) learning, which although unforeseen, is deemed relevant: "I may learn on the basis of the stimuli I get and less by the things I decide beforehand. In my opinion, what I didn't define beforehand takes precedence because I am highly susceptible to what emerges from discovery" (Respondent, Study II).

Most of the learning experiences conducted or triggered in non-formal online contexts are not previously organised or structured, nor are they defined or established *a priori* (Study I). Their organization and delimitation become express during action or the experience itself: "sometimes what starts as something structured becomes unstructured, and begins as a sequence until you almost arrive at knowledge. (…) It varies a lot". (Respondent, Study II). It is the individual him/herself who decides and defines freely what he/she wants to learn, how he/she learns and how he/she organises him/herself to learn, in an environment characterised as being devoid *a priori* of any formalization state or nature. This free form is associated with the random and occasional mode (which may be referred to as *serendipity*, as observed in the topic 1.1) experienced at (a) specific moment(s) in online environments, when there is no explicit intention or prior definition of a learning plan, but while surfing the Internet and accessing specific information, unexpectedly learning is accomplished. In other words, although online learning in these contexts is devoid of any formalization state or nature *a priori*, most of the learning experiences are characterised by some degree of structuring and occur in a sequential manner, complying with a set of stages defined by the learner him/herself who chooses a specific period of time to carry out certain activities and attain his/her purposes. Learning occurs in an organised manner, especially when there are concrete aims —"I define certain stages, certain strategies" (Respondent, Study II)—, based on guidelines or a plan the individual creates or gradually defines, making decisions in this regard.

The respondents also agree that most learning experiences on the Internet are carried out "freely" (Study I). According to the respondents in Study II, "there is no study plan here". The context in which they are situated is devoid of any formalization state or nature. This free form is associated with another type of online learning that they all claim to experience at (a) certain moment(s), stating that "a lot of online learning is carried out randomly and occasionally" (Study I), since there are always moments "when you feel like going on the Internet to research something random", "depending on what emerges". We do not always expect to find what we end up finding, on the basis of which "a goal can be defined" (Respondents, Study II).

The informal curriculum concept applied in these circumstances is ambiguous and less appropriate since, in spite of everything, there is a formalization, or *curricularisation of such learning*, a formalization that is self-constructed. More precisely, if I program and/or organize myself to learn, that learning ceases to be informal and becomes a formalization that I have created (figure 1). In this context and under these circumstances, curriculum may be regarded as informal, in so far as the learner does not follow a set of guidelines for learning that are formerly established and predefined by others within the scope of a specific institutional framework. However, by individually constructing his/her curriculum, or rather, by organising his/her learning process or path, the individual formalises how (his/her) learning curriculum develops (*personal learning curriculum*).

As far as time and space are concerned, the time (days or periods) spent accessing the Internet and learning is not defined in advance, even for those who are more organised and who define learning plans. According to the respondents (Study II), this may eventu-

ally occur, but rarely and in highly specific situations. For the vast majority of respondents (Study I), Internet learning occurs "in a variety of online environments (Websites, blogs, groups or virtual communities, social networks, ...)" and "on a variety of days and at different periods of time". In this regard, in Study II, the respondents explain that there are environments they select (regularly) for learning, according to their aims and purposes. In an online context, learning is accomplished on specific content (for which there is a need to learn) or new subject matter (which is encountered unexpectedly and arouses the interest to learn more).

In general, the respondents consider that when reflection occurs on the learning accomplished (what has been done and achieved, what could have been done differently), it is *a posteriori*: "it is not during the actual period I am on the Internet that I reflect on the activities", explaining the type of reflection carried out: "I sometimes think *(...)* perhaps I could have gone there to search. *(...)*. Mainly when I do not find an answer for what I want, isn't it?" (Respondent, Study II).

Most of the respondents refer to learning in a non-formal digital context alone (Study I). Some respondents analyze this issue, wondering what online learning alone is when information created and shared by other people is accessed: "I mean, deep down you are alone. But, what is on the Internet was created by someone. You learn with other people, but alone, no one is with you on the computer" (Respondent, Study II).

In addition to learning alone, they all consider that they also learn with others, among whom different groups may be identified, namely "all those with whom we are in contact and with whom we can interact" and "people with whom we share common interests" (Study I). Something is learned from each individual with whom an interaction is established, "even if it is not connected to my area in any way. I feel that I am always learning from different people" (Respondent, Study II) and essentially from the interaction established, and less so from the content. The individuals with common interests may be colleagues (from the same professional area, workmates, friends) or in a situation or at a similar learning stage to our own:

> the individual may not be an expert, it could be someone at a similar learning stage to yours, and it is also interesting to share experiences *(...)*. In order to understand their difficulties and learn how they managed to resolve these problems.
>
> *(Respondent, Study II)*

Some agree that they learn with experts, for instance the "people who write articles", on the basis of which valid and trustworthy knowledge is acquired, and the possibility of "consulting an expert (…) if you want" (Respondents, Study II).

In short, the content of the respondents' answers allows us to consider that, in online learning situations, each individual has his/her own conception of curriculum, that is, each person conceives and decides on how learning is organised and developed. This learning differs, in its specific features, from that of the other respondents, and, in general, from the curriculum for all, common to most face-to-face learning situations in institutionalised

contexts. Due to its defining characteristics, this notion appears to be closely related to our concept of a personal learning curriculum.

5 CONCLUSIONS

It was the aim of this paper to contribute to the reflection on the understanding of curriculum in a digital context, and to describe the curriculum organization of the learning process adopted by each individual. This organization is rooted both in its conceptual evolution, considering the conceptions of curriculum in the digital era, and in the results of the empirical study, based on the respondents representations of curriculum when they use digital technologies and carry out learning. The concept of curriculum is embodied in the conception coined as the *personal learning curriculum* (Viana, 2017), namely an autonomous, individualised curriculum, the development of which is promoted and facilitated by the digital. Within this context, curriculum is associated with the learning experiences and activities carried out by the learner him/herself. These activities are driven by intentionality, and unfold throughout the personal learning process, in a dynamic and flexible trajectory that is constructed and developed, particularly throughout adult life.

The learners themselves take on the design and curricular organization of the learning they accomplish (or intend to accomplish), instead of these decisions being made by others, especially when they use digital technologies and access the Internet in order to learn.

The components of curriculum that undergo the most significant changes in this type of learning situation are space and time, strategies and actors, unlike in formal contexts, where institutionalised learning takes precedence. It is by taking these elements, or assumptions, as a reference that a number of conclusions may be drawn on the main features that characterize curriculum in this learning context, and the ways by which it develops in such circumstances, according to the conceptions of the respondents in this study: a) specification of the organising elements of learning (aims, strategies, evaluation) and giving it a degree of structure, establishing the learning circumstances in advance or not, are decisions predominantly made by the individual who is learning; b) in most of the learning experiences, a degree of intentionality is acknowledged which determines the respective conception and curriculum organization, in a process where the learner, in the majority of situations, is the main participant; c) time and space are ubiquitous and flexible, and are not predefined or delimited in advance; d) evaluation is a curriculum component which appears to be less explicit and recognised by the authors of non-formal online learning contexts.

In these situations, when there is no concrete teaching process, the individual teaches him/herself, and teaching and learning become merged. Furthermore, as the learner is the central agent and the main curriculum decision-maker, in this context and under these circumstances, the curriculum is also dependent on external pressure factors or sources, such as: the social context to which the individual belongs and the extent to which the learning he/she carries out is socially valued, for instance in professional or academic terms, the political and economic contexts, and the learner's actual basic and continuous education. In other words, design of the curriculum also varies according to the beliefs and values the

learner has in relation to education (Ornstein & Hunkins, 2009; Roldão, 2010).

At a broader level, the learning conducted within the scope of the *personal learning curriculum* is an epistemic activity which produces knowledge, and this knowledge is confined to specific places, contexts or people. This knowledge may be useful and necessary, but not necessarily sufficient in our social lives, thus corroborating the perspective of **?**, regarding the importance of the specialised knowledge we may access in educational institutions "we have schools and curricula to store and make available specialist knowledge that our ancestors did not need and had not discovered" (p. 198).

The formal contexts in which institutionalised learning is carried out, and the curricula in force therein, are central to the development of the *personal learning curriculum,* since they act as the structuring basis for the path that is later constructed in non-formal learning contexts. This leads us to question the possibilities and ways of reconfiguring curriculum, of conceiving it differently, of reconsidering its organization and development, both in formal and non-formal, presential and virtual learning contexts.

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