

Modelization of the Personal Learning Environment in the Moroccan Higher Education

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ABSTRACT: Any research focusing on the teaching-learning process must focus on the learner, by mobilizing the various devices to facilitate and optimize learning. In this context, we introduce the integration of educational technologies into a personal learning environment (PLE). The PLE has significant potential for learning; namely self-construction and self-management of knowledge. According to Attwel (2007b), the development and improvement of PLE will lead to drastic changes in the way we use educational technology, as well as in the organization and ethics of education.

With the present contribution, we try to modelize the PLE of students within institutions of higher education in Morocco.

Based on data from a questionnaire put online using google forms, we have found that digital devices are ubiquitous in the daily lives of learners, but their practices are limited to distracting uses, and that the institutional framework remains more basic to manage their learning.

The purpose of this study is to develop learning autonomy and to improve the way of using technologies through our students's conception of the PLE.

Keywords: Higher Education, Personal Learning Environment, Practices, Self-Learning

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1. Introduction

Since their integration into the educational processes, information and communication technologies have constantly transformed the actions of teaching-learning (Kozma, 2005), (Tondeur et al, 2008), (Veletsianos, 2010). Facebook, Twitter, Youtube and many other networking services still provide more connectivity, more social networking and more interactivity between student-student, student-teacher and student-knowledge. In this context, these adult learners develop learning practices in spheres (individual or collaborative) are the opposite of the training instituted (Roland and Talbot, 2014): they have self-learning according to their Personal Learning Environments (PLE) (Lopez et al., 2016). This concept recalled first in 1976 in the field of computer science, and recently introduced in the field of educational sciences. It is defined by Peraya and Bonfils as “the space of interactions in which the learner actively constructs, by his own experience, his knowledge” (Peraya and Bonfils, 2014). Thus, in order to learn freely (far from the requirements of his institution), the student is interactive permanently with his environment using the various instruments and devices at his disposition. However, a paradox (Linard, 2003), (Henri, 2014) is press himself: how to give to the student this autonomy to design and build his own learning environment, and at the same time impose institutional training who ensures the continuity of its social organization? An attempt will be made to address the issue of independent learning in the context of prescribed learning, while showing its limits. Then, we will justify the purpose of collaboration between these two forms of learning. Next, we will introduce the importance of the personal environments for the learning

process of higher education students, considering the arrangement of self-study through these PLEs. Finally, we will assume that students, as adult learners, have the necessary skills to manipulate different digital networking services.

Formal Learning Vs Informal Learning

The methods and forms of learning are numerous, of which, we advance self-learning. When we talk about this concept, we think directly of this autonomy of learning (self-learning) which considers educational technologies as essential tools for its activities (Linard, 2003): the subject is formed itself by integrating and mobilizing the tools that qualifies as necessary and adequate, far from the institutional requirements, hence, the name of informal learning (Attwel, 2007b).

In addition to that, the discourse of the modern school is concerned with ensuring equity and quality training and learning throughout life. However, formal learning with its constraints (especially in terms of time and space) cannot guarantee alone to achieve these goals. Informal learning is not limited in time and space. Complementarity is then necessary to overcome the constraints (Milligan *et al.*, 2007), (Henri, 2014).

While university courses are governed by official texts (curricula, directives), and even sometimes managed by platforms (LMS), self-learning remains, omitted, unorganized and without official framework, despite its importance for learning, the contents are structured only after their choices by the learner. Therefore, the needs that will help the subject in training to better define and articulate his learning strategies need to be analyzed (Peraya, 1995). This implies describing and modeling all the tools used in each personal learning environment, without detaching from the institutional dimension, hence, the purpose to introduce more open learning (Peraya, 1995), (Couros, 2010).

Educational interest of PLE

For Attwel (2007b), the development and improvement of the PLE will induce radical changes both in the way we use educational technology, and in the organization and ethics of education, in effect:

1. The PLE is constructivist (Rahimi *et al.*, 2015) in that the subject in training “builds his own network, identifies and retrieves the learning resources he needs and chooses the technologies he will use to communicate, collaborate and to create his own knowledge” (Henri 2014), the result is an individualized, active and autonomous learning. In this context, the interactions of the individual with the world around him, and his own experiences, allow him to acquire the knowledge necessary for him self-feedback. This is due to the multitude of degrees of freedom that the learner has towards his learning strategies. Thus, the PLE is the synonym of learning in its own way and for each personal interest (Harmelen, 2006). It’s a personal style that involves a new conception of learning.
2. The PLE also has an innovative aspect, as considered by and for the learner, it presupposes to change the prescriptive approaches to move towards more open and global approaches that, aiming at the learning of knowledge related to an area, support the learner’s ability to build and maintain their own learning environment: the PLE will lead to a new and pedagogical approaches.
3. Finally, the PLE has a co-management aspect, because it allows the student community to have more responsibility and more independence for the management of its learning, and this by articulating the different digital and non-digital tools for its self-organization (Rocha, 1998), (Dabbagh *et al.*, 2015) : PLE will influence on the way in which learning is managed.

Finally, it seems clear that the modelization and analysis of the PLE will make it possible to bring more efficiency to the development of self-learning for adult learners, particularly in terms of the effective use of educational technologies for the benefits of their learning.

2. Methodology and Results

Higher education in Morocco is not immune to the changes brought about by information and communication technologies, so we thought to modelize the tools and devices used in the PLE of our students, and this by means of questionnaire that has been developed and put online using Google forms. The answers concern a group of 115 student, from three cycles, through several higher institutions, whether they are open access or limited access. The results related to networking techniques showed that Moroccan students resort mainly to four devices, and according to the following percentage of use: First, Facebook at 89.0%, then, Whatsapp at 70.4%, then, YouTube at 40.7%, and finally Emails at 33.3%. The using concerns instant discussions and

comments with a rate of 55.6% and the exchange of information with others as part of their learning at 4.4%. Thus, 89.0% of the subjects consider social networks inappropriate for their learning. Regarding the connectivity, 66.5% of students stay connected more than 5 hours a day, and during this time: 48.1% consult courses and exercises related to their training program, 59.3% attend distance courses offered by their universities, 85.2% react to these training either by feedback or sharing, and finally 33.3% of students qualify these training courses insufficient. For out-of-class activities, 66.7% of students prefer individual work. When it comes to collaborative work (imposed), 48.1% of the subjects meet at the library, to coordinate tasks. They use Microsoft office tools for writing reports, and presentations at 63.0% while manuscripts are present at 33.3%.

3. Discussion

Students in Moroccan higher education make massive and autonomous use of digital devices (Kuhn, 2017). In one hand, they have the skills to handle these devices without any prior training. This makes sense with the research of Couros who had noted, “a significant increase in social connectivity related to the practice of subjects in teaching-learning” (Couros, 2010). On the other hand, these students devote a significant part of their time to “connect”. But, they revise courses and exercises (digital online resources) only when they are offered or imposed by their teachers. It can be said that these students have a lack of confidence for digital resources in the absence of certified criteria for the choice of these resources. As for social networks, they are frequently used by Moroccan students. Thus, Facebook has become the best information tool. The using is limited to discussions and comments, that is to say, a dimension of distraction. The academic using is strictly referenced by the institutional: the polycope offered by the teachers is still the basic tool to prepare for exams. We justify that our students do not exploit educational technologies properly, either because of reluctance to change or because of lack of confidence in the effectiveness of these technologies. Their exploitation in an academic context remains far from the expectations of their teachers. We also find that educational technologies are used only when imposed by the teachers or the institution. Our students use devices that belong to their private life in collective contexts. They create, discuss and react in virtual groups, but not in an academic context. When it comes to their learning, they prefer to be alone: it is a paradox between virtual and reality. Finally, we propose a model that shows the tools present in the individual and collaborative spheres of Moroccan students, depending on whether the learning is formal or informal:

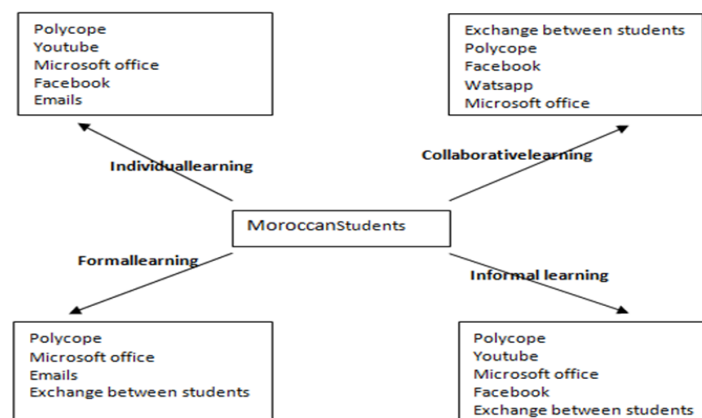


Figure 1. Tools used on the PLE of Moroccan Undergraduate Students

4. Conclusion

The modelization of the personal learning environment of higher education students is influenced by several complex factors, and it usually depends on the situation of the learners. It is a modelization often centered on the different tools which only used “out of class” and decontextualized of the institutional one, and which must never be isolated from the formal one; the implicit complementarity relationship between formal and informal learning (Greenhow and Lewin, 2016). Such modelization also shows that the students must be accompanied in their autodidaxy (Saker, 2015) so they can make the relevant choices of digital devices to have the beneficial use to his learning (Kuhn, 2017). Therefore, by being aware of the learning environment, the designers of the hybrid formations will be able to develop appropriate activities that flow directly from the students PLE to facilitate teacher’s tasks (Norman *et al.*, 2016). Finally, we wonder if PLE will influence on the main orientations of institutions in their curricula soon, or will they simply remain marginalized and ignored by them?

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