

How everyday digital practices affect students use of their Personal Learning Environments - case study at the University of Lorraine

Audrey KNAUF, Samuel NOWAKOWSKI
Université de Lorraine, LORIA UMR 7503
Campus scientifique
BP 239, 54506 Vandoeuvre-lès-Nancy Cedex, France
firstname.name@loria.fr

Keywords : PLE, comparative studies, learning uses, social network, quantitative and qualitative analysis

Abstract

The academic world today welcomes a generation of students who grew up with internet. They use this tool everyday for any kind of use, finding information, sharing or communication distraction. On the one hand, social networks, they are among the most commonly used applications and they occupy about 2 hours time per day for 15-24 and about 8 hours per week for 18-35. They are thus over 7 million in this age group to use the internet daily. On the other hand, digital learning environments, more or less personalized, they are made available to students by universities. They are more or less open and customizable but they can not exclude the specific uses (hyper-connections, high sociality based on weak links,...) of the new student populations.

This new landscape constantly changing regarding new generations of practices, just ask us about their impact on learning since they spend a large part of their day in the University and therefore as learners.

The objective of this analysis is to enable a better understanding of students everyday use to provide recommendations for teachers to help them to adapt their teaching practices, but also to be able to suggest improvements and developments in Personal Learning Environments Learning ergonomics and functionalities i.e. improving tools, building applications enabling interaction between the different actors of the learning platform (learner-teacher support services) and interoperability of such applications with those most widely used everyday (social networks, wiki, community platform and social bookmarking, recommendation system, etc. ..); ergonomics of the platform to facilitate navigation; supports, resources and teaching screenwriting best suited to their usual practices, etc ... To achieve these goals, we will use a SWOT analysis. The originality of our approach is to combine a vision outcome from Human and Social Sciences, Science of Education and mathematical modeling technics of the online uses.

Introduction

- ***Current state of uses of digital technology***

The uses of information technology and communication (ICT) has penetrated all areas of our daily life. The youth « digital natives »¹ are even more considering life without these services (Galligo, 2014). Médiamétrie study of March 2012, informs us

¹ Generation Y (The generation 1980-1995)

that the Digital Natives will on the internet for work (62% for researches) to learn (55% to consult news), to exchange (60% have personal page or blog, 58% to send or to receive emails, 55% to exchange via instant messaging and 55% to use a platform for sharing and storage), for entertainment (57% watch video on the Internet).

With 66% of Internet users use the Internet daily, France ranks 9th in the EU, above the European average (62%) but behind Germany and the United Kingdom. These are executives, college graduates and students who use the Internet more regularly (there are more than nine in ten surfing the Web each day)².

Thus, in 10 years, the average time spent online per month in France increased from six hours to 65 hours³. 34% of French say that digital tools have become indispensable in their everyday life⁴. 69% would like to be informed about the protection of privacy and data on the internet. Facebook, Youtube, Twitter and Skype social networks remain the most commonly used by 18-24 in France⁵.

- ***From ICTE to digital technology***

Today, we are more interested by digital technology than ICTE, because it includes both social practices, technical infrastructure, registration materials, content, methods of transmission, types of practices etc... These semantic changes also announced organizational and pedagogical changes (Bassy, 2011 in Thibert, 2012).

According to the barometer INRIA TNS-Sofres, nearly 80% of respondents believe that science and digital technologies are useful in teaching and the development of digital technologies has positive effects in education. 57% of students would have liked to take some of their courses on the Internet and 43% of them would work in the digital sector⁶.

75% of the students are convinced that digital technologies help in their studies. They are increasingly likely to own a laptop and take in university courses. As well as teachers, they do not use free-access computers room, they have expectations of increasingly strong concerning infrastructure (wifi access, spams, etc.), the technical assistance and documentation services (guidelines for Digital Learning Environments, etc.) and communication tools (Endrizzi, 2012).

Another observation, students argue that the use of an integrated learning platform enables rapid and efficient flow of information, instructor-student and peer-to-peer interactions. They can ask questions to the instructor and interact with other students.

² Eurostat, Community surveys on ICT use by households and individuals, 2013.

³ Synthesis of several studies on the use of internet in France and <http://www.fredcavazza.net/2012/01/13/a-quoi-ressemble-linternet-en-2012/> and <http://dofollow.bz/?post/2012/01/10/Chiffres-cles-Internet-France-10-ans>

⁴ INRIA publishes 2nd edition of the TNS-Sofres barometer Inria on French and digital technology: 1145 people aged 14 and over were interviewed face to face in all of France, between November 28 and December 2, 2013. <http://www.tns-sofres.com/sites/default/files/2014.03.10-numerique.pdf>

⁵ Etude IFOPRezoSocio, 2013, 2013, observatory in social networks. Survey of 21 to 28 November 2013 by self-administered online among a sample of 2,004 Internet users, representative of the French population aged 18 user questionnaire and more.

⁶ The second edition of the TNS-Sofres barometer Inria

In this sense, it is the "centralizing" aspect of integrated learning platform that seems its main attraction to facilitate students' learning process: "Everything is located in one place". (Raby & al, 2011).

Finally, a survey by Docq and Lebrun in 2008 led to know the types of technology use in the context of higher education in Belgium. It has revealed that the features that engage the "information" dimension and learning resources (via i-campus platform) are the most popular, followed by discussion forums, collaborative working groups and interactive exercises (in Paivandi & Spinoza, 2013). Six years later, we find essentially the same results at the University of Lorraine.

This natural evolution of usage by new generations has encouraged institutions to rethink their educational system. This has led to a reconsideration of traditional teaching practices by teachers and their relation to uses of new technologies, particularly in terms of creating their courses. It is no longer whether digital is helpful in learning but rather to provide solutions to facilitate their integration and use.

This communication seeks to provide an overview of the use of digital tools in the private and academic sectors of about 80 students from the University of Lorraine and try to draw correlations between these two worlds. In a second step, we will try to offer solutions / recommendations to improve the Personal Learning Environments (PLA), to make student learning more effective by integrating tools and applications they are used to handle. Finally, we will share the limits encountered both during the course of our study, but also in formulating our recommendations and the evaluation of these.

Issues and hypotheses

Porosity between private and academic circles has as consequence the fact that students and teachers can communicate and stay in touch "permanently" because they live a time of extensive and flexible training. Thus, easily customizable and easy to use media, social networks and "collaborative" open devices, have become tools that play a central role in a new education space-time training that combines personal life and university (Paivandi & Espinoza, 2013).

This new landscape which is constantly changing regarding new generations of practices, just ask about their impact on learning, since students spend much of their day in the University and therefore as learners.

Thus, our question can be formulated in this way: "how everyday digital practices affect students use of their personal learning environments".

We begin with the following assumptions:

- Students do not distinguish digital tools according to their private or academic uses;
- Students want to find the same tools / applications they use in their private circles in their academic uses;

- Suggest EPA integrating tools / applications that students are familiar, increase students' motivation and facilitate their learning;
- Suggest EPA adapted the learning style of students could contribute to a higher success rate;
- Suggest new digital media and new skills to produce and maintain these materials make it more effective PLE.

Survey

Methodology

To understand how the use of social networks in a personal context can influence the use of digital tools - made available by the university - in a learning context, we chose to provide a questionnaire to two classes of students, one Master in Strategy and Communications Consulting (with a very strong internet practice, including training itself) and the other in the first year of the Ecole des Mines de Nancy.

To this questionnaire, we added a set of free texts in which we asked students (Master of Strategy and Communications Consulting) to have a reflective process about their practices of students and connected citizens. They detailed their practices using social networks, smartphones, personal learning environments, and they offered a critical view of their own uses, and analysis of risks and strengths of their practices. Qualitative data thus obtained come to enrich our results. Cross-speech analysis / answers and analyzes texts allow us to identify individual and collective practices (how they change in a connected community) and to understand whether conscious or unconscious, such bridges are created between the two world (personal / academic).

- **Participant**

We interviewed two classes of students from the University of Lorraine.

- The first class is in Master 1 Strategy and Communications Consulting, composed of 80 students, most of which are aged 22-24 years and comprises nearly 70% of women.
- The second promotion is the first year of the Ecole des Mines de Nancy - this is an audience of students who joined the school after two years of preparatory classes. Access to the school is through a national competition mainly based on mathematics and physics. On average they have 20 years with 15% women. Being a generalist engineering school, lessons include many projects and work in which students work independently. The groups are small and the school has an ultra-modern equipment in collaborative digital tools and flexible and adaptive workspaces (Node rooms, Mediascape ...).

- **Methods of data collection**

The questionnaire was developed and distributed online via a URL or directly accessible in their PLE⁷.

The questionnaire includes a total of 22 items focused on digital equipment and practices. 20 items with response options used to establish different forms of use of digital technology in the students' lives (private and academic context); two open-ended questions related to these aspects were added to the questionnaire, namely: "What do you think of the interest of including digital technology in your training" and "Of what digital services would you benefit from and via what equipment?".

- **Methods of data analysis**

Statistics are exported directly from the PLE and analyzed with a spreadsheet application on all items of the questionnaire. The two open-ended questions to obtain additional information about digital technology to integrate into educational practices tools and services, have been analyzed using the NVIVO software and with manual further analysis because of the reasonable number of answers.

Results

We propose to detail the results by first separating the two promotions and then synthesize the results as a whole.

- *Master 1 Strategy and Communications Consulting*

The response rate of 35% after two reminders can be explained by the fact that the students were in internship at the time of the survey.

Concerning their equipment, they all have a computer, a smartphone and nearly 30% to be equipped with a tablet. Their daily internet use is mainly oriented entertainment (86%).

Concerning applications in their home environment, they use private social networks (93%), email (86%), sharing platform (71%) and education (50%) and that it uses the least are messengers (71%), blogs (43%) and RSS feeds (61%). Finally, they sometimes use the wiki and forum (57%) and professional social networks (46%).

We obtain substantially similar results in the professional / academic environment. Indeed, the three most frequently used applications are email (93%), learning platform (82%) and private social networks (50%) and least frequently used are the messenger (93%), the forum (79%), blogging (75%), RSS feeds (68%) and sharing platform (46%).

- *Year 1 of the Ecole des Mines de Nancy.*

The response rate is 100%. It must be said that, contrary to the Master Strategy and Communications Consulting, these are smaller groups of students. It is easier to get them answers to surveys.

⁷ <http://arche.univ-lorraine.fr/>

Concerning their equipment, they all have a computer, a smartphone, and one has a tablet. Their daily internet use is oriented entertainment and research for their projects (equally).

Concerning applications in their home environment, they use private social networks (90%), email (100%), platform sharing (80%) and education (70%) and that it uses the least are messengers (60%), blogs (20%) and RSS feeds (no). Finally, they sometimes use the wiki and forum (30%) and professional social networks (70%). Concerning professional social networks, we may note the significant increase in accounts created after the course dedicated to digital identities.

The results for academic / professionals uses are substantially identical. Indeed, the three most frequently used applications are e-mail (100%), teaching platform (100%), sharing platforms (100%) of private and social networks (90%). Other (messengers, RSS feeds, forums and blogs) appear only very marginally.

1st observation: no border between the two environments (personal / professional) regarding the use of digital tools and applications.

Students use these applications (goals in a personal and professional context) primarily to inform and communicate (both 26%) and entertainment (22%) and trade (18%). Only 6% and 2% are work and studies. Among the constraints to the integration of ICT in their practice, what emerges primarily, the lack of security (58%) and lack of interest (46%).

For those finding a value of integrating digital into their training, it is skills (especially communication) to be sufficiently equipped for the world of work (which requires minimum digital literacy especially in the trades communication) to be trained in best practices for security, to work independently and at any time (periods of internship or stays abroad). In a learning context, the interest is to be informed more quickly, to have the information at any time and quickly (and also have feedback) to benefit from course content more attractive and alive and facilitate exchanges between students. We note here that the private social networks are also a parallel trade and location information during the operation of the department and school and collaboration support.

However, we retain three interesting students thinking about their answers on the integration of ICT in training:

« Still underexploited is the collaborative creation of resources. Indeed many resources are available to organize collective creation data (wiki, forum, feedback, ...), but too few are still used. This is in my opinion due to the representation that the user has what training, where the relationship is unidirectional from teacher to student skipping over reflexivity but also on some cross between trained. »

« The use of these technologies is double-edged. It is easy to get lost and confused commercial and personal use. »

"It is essential to know how to use properly, but do not become dependent »

Finally, we wanted to know what services / tools would benefit students in their EPA and with what equipment. What stands out most is the ability to access their EPA via an application on smartphone and tablet (note that there is one proposed by the University of Lorraine but not sufficiently effective as students.). They wish to have a chat or forum with their teachers and if possible via a mobile application. They also want to be alerted via their smartphone if there are up-to-date with their training (schedule, availability of computer rooms or opening hours of services). Another proposal is to set up an application that provides a summary of lessons: key points discussed and deepened, and documents downloaded (including practice in the case of absences). Finally, it appears the wish to download PDF resources via a mobile app and access to professional journals. For students of the School of Mines, it is also mentioned that they would like to have a recommendation system of teaching resources - indeed, they see this as a service recommending them (digital, books, peers) resources adapted to their needs.

2nd observation: it is clear in the light of the results that students want mobile applications enabling them to better follow their training, whether administrative term (employment time management, room management) in terms informational (media access courses, additional resources, ...) and in terms of communication (to discuss with teachers and between students. They would also have environments with personalized services. A final point concerns the existence of "third party" sites (social networks, working groups, sharing and collaborative spaces); Indeed, despite the diversity of services offered in the digital work environment of the university, students are "private" spaces, outside the walls, where they can work without being "monitored" by the institution. It turns out that most mainstream tools they seem to be more efficient and have a long experience of their use.

Limitations

- The first limitation of our study falls within the low response rate (for students of the Master in Communication Strategy and Consulting) and the small group of the Ecole des Mines de Nancy. This brings us to the first, to rethink the target of the public survey (sample rethink?), Its mode of dissemination (eg when the provision of education by devoting his conduct 10min), the time survey (excluding internship and excluding holidays), the duration of the investigation (not to exceed 20 questions, 10 minutes), the content of the survey (perhaps make more intelligible). For the second group of students, we will expand the study to other groups; we plan to do is ask them when they arrive at school, when the teachings of the "Passerelle numérique" (week blocked earlier this year dedicated to the acquisition of transversal skills in ICT use).
- The second limitation relates to the fact that our approach was only quantitative. The qualitative aspect is done informally during class exchanges in progress, but not personal interview. It would therefore be necessary at a future survey asking our concerns from a different angle, to provide semi-structured interviews to explore some issues considered essential to validate (or not) our assumptions.

- The third limitation is apparent from the lack of detailed information in the answers and therefore allowing us to affirm or deny exhaustively our assumptions. However, by our reading, our field experience, our observations, their written contributions and our informal discussions with students and fellow teachers, we can now draw up a panel of recommendations aimed firstly, to meet this need correlate everyday digital practices of students with their use of personal learning environments and secondly to contribute to the improvement of the learning process (and thus lead to their academic success, which is the primary concern of universities today).

Building on these observations, and from theoretical considerations from the research, we will try to offer some recommendations in terms of services, organization and implementation of personal learning environments.

Recommendations

The first recommendations will concern platforms. We will go revue key elements identified in the literature and to the results obtained in the survey.

Towards hybrid and adaptive platforms integrating applications 2.0

The entry point of all these devices is the platform "the platforms of distance education" via Internet. These are devices socio-technical mediation recently generalized in French and foreign universities, whose main characteristic is the breaking of the three unities (time, action, place) through the commoditization of ICT. They evolve both the role of the teacher-trainer and the learner, in particular by developing self-study and collaborative work "(Massou, 2008). The platform becomes the work of human action rather than a mere object of transmission course content. Indeed, it is the result of human activity that although the technology field, restores the primacy of the human on the technique (De Ceglie, 2007). This networking of information and knowledge produced new social communicative process from the production and distribution by the teacher to the use of material by the learner. It also allows the learner questions and answers also produce content for online course: "Now online platforms allow to keep track of actions of all students who connect to the online course. This traceability can also be measured on blogs from the time [that] the student can connect. This possibility of watch [...] allows the teacher to see what are the most popular documents, [to] measure interest, difficulties or stalls [...]" (Le Deuff, 2009). Platforms are added so-called hybrid systems. Today they allow to combine classroom training with the remote, which can facilitate the transition from traditional teaching methods to the new "profile" methods. Six different profiles of hybrid devices (ranging from less developed to the developed device) have been established under the Hy-Sup program in 2011 in response to a questionnaire sent to

174 teachers in more than 22 senior and academic institutions Europe and Canada. "" (Coll. Hy-Sup, 2011, p.81 in Bonvin, 2014).

- Profile 1 - device-centered teaching and learning
- Profile 2 – Device centered education by providing multimedia resources
- Profile 3 – Device centered education by providing interaction tools
- Profile 4 – Centered teaching device tending to support learning
- Profile 5 – Open system focused on learning
- Profile 6 – Open device centered supported by a (most appreciated by the students according to a survey (Bonvin, 2014) at the University of Fribourg in 2011 device) rich and varied learning environment.

Type	Posture d'enseignement	Métaphore	Caractéristique(s) principale(s)	Caractéristique(s) secondaire(s)
1	Centrée enseignement	La scène	Médiatisation de ressources textuelles	
2		L'écran	Médiatisation de ressources multimédias (comp. 5)	Liberté de choix des méthodes pédagogiques (comp. 13)
3		Le gîte		Ressources ou intervenants externes au monde académique (comp. 14)
4	Centrée apprentissage	L'équipage	- Outils d'aide à l'apprentissage (comp. 3) - Outils de communication synchrone et de collaboration (comp. 7)	- Ressources sous forme multimédias (comp. 5) - Objectifs réflexifs et relationnels (comp. 9)
5		Le métro	- Participation active des étudiants en présence (comp. 1) - Participation active des étudiants à distance (comp. 2) - Accompagnement méthodologique (comp. 10) - Accompagnement métacognitif (comp. 11) - Accompagnement par les étudiants (comp. 12) - Liberté de choix des méthodes pédagogiques (comp. 13)	- Outils de gestion, de communication et d'interaction (comp. 4) - Recours à des intervenants et à des ressources externes au monde académique (comp. 14)
6		L'écosystème	Toutes les composantes sont présentes	

Figure 1. Summary of characteristics of six types of devices (Lebrun et al, 2014 in Jezegou, 2014).

To better understand and analyze the answers provided in the course of the investigation, we can bring the work of Delone and McLeane (in Humbert, 2011). They proposed to analyze the success of a device according to six families of factors that we can transpose to PLE on a platform:

- The quality of the platform: speed, flexibility and users friendly, etc.
- The quality of information: what is the relevance of information (training materials, administrative.), Its usefulness, its clarity and readability, conciseness, freshness, etc.
- Use: what are the behavior of users (developers and learners)? What do they do in the system? What is their frequency of use? All the features offered are they used, etc.
- The satisfaction of the user: the system meet the needs of the user (this issue mainly concerns the learner, for whom the platform was developed)? It is he satisfied with the information provided (including course materials and mode of interaction with the teacher if you have questions)? The system is there for the task of the user (learning itself)?

- Individual Impact: what is the effect of the device on the activity of the user (learner)? Productivity (Enhanced Learning), etc..
- Organizational Impact: what is the effect of the device on the performance of the organization (which may be, in our case, a group of students, a diploma or a component)? Its profits (success rate)? Its costs, etc.

The learning profile vs. learning style

According to Felder (Felder, 1998), learning is a process that can be divided into two parts: the receipt of the information and its processing. The Felder-Silverman model classifies learners as relevant means it uses to collect information and process this information.

- The individual learning style is his particular way of learning and, thereby, to communicate, to produce (replicate something or apply a technique) and create. This style of fundamental learning is what an individual could be implemented under ideal conditions.
- The profile of an individual's learning is what it implements in its real life context from its basic learning style. The learning profile is a snapshot of the usual way to learn, communicate, produce (reproduce something or apply a technique) and to create an individual. The learning profile of an individual is dynamic and changing⁸.

From learning styles, it is possible to create different devices depending on the objectives and challenges of the entities involved and according to the expectations of learners:

Personal Learning Networks (PLN) « networks created deliberately who can guide independent learning and professional development needs »⁹. The teacher aims to transfer its skills (collection, sorting information) to students by encouraging them to gradually create their own personal learning environment. Students and themselves become curators. 3 dimensions that can be generated from this type of space are indexing (including a tool like delicious (socialbookmarking) or digoo), reporting (alerts or RSS), sharing (via curation tools scoop it, pearltrees or Netvibes or editing and communication tools such as slideshare, twitter, collaborative blog (wordpress), youtube, delicious,), all powered tools mapping heuristic (Chomienne & Lehman, 2012).

The Personal Learning Environment (PLE): one can find three types of PLA: the first reproduces the traditional model of Moodle kind designed to follow the course of the training ; the second is an environment of reflection, it includes tools for sharing ideas and communicating with other students or with the teacher. The goal is to maintain a dialogue to deepen the learning experience; and the third is as open to the public highlighting the skills and expertise showcase. It can display the resume, portfolio, is in search of employment, etc.. However, these three configurations include tools for collaboration and networking (Henry, 2013).

⁸ <http://www.irpa.qc.ca/>

⁹ Weisgerber Corinne : <http://eduscol.education.fr/numerique/actualites/veille-education-numerique/avril-2014/medias-sociaux-universite>

In both cases, learners are asked to identify their personal learning project they will control. They define their own goals, identify actions, explore the resources they use, focus on results and establish evaluation criteria.

Towards adaptive educational systems: El Bouhdidi proposes in his thesis to define appropriate educational systems. These objectives are to provide a personalized learning architecture. It is a solution which has the claim to assist learners, aware of the difficulties they encounter or gaps accumulated to acquire new concepts or improve their knowledge or skills. Learners can use the tool outside the classroom targeting objectives directly apprehend while enjoying an adaptation that takes into account their knowledge and their learning styles. The architecture has three dimensions: the first is based on taxonomies teaching objectives and teaching approaches, the second is based on the semantic ontologies and organizational third is based on multi-agent systems. Educational systems must be able to identify gaps in learners in case of failure and to offer the same courses remediation that directly target what they could not assimilate, possibly with the ability to adjust the method learning. The system dynamically build routes as and when progressions of learners and their need for information. Therefore learners become masters of their training, they have the freedom to control their evolution, can move forward or backward when they want according to their needs. In addition, the courses made are stored in the system so that the learner can return at any time on any particular concept temporarily away-of course he has followed so far. Adaptive learning systems must take into account the methods and learning styles of learners as well as their goals and preferences (El Bouhdidi, 2013).

Thus a learning path can be (Zniber, 2008):

- Standard course: This kind of course is defined by the instructional designer in advance and for a class of well-defined profile. Standard Courses can be defined according to different criteria, based on domain knowledge learners or based instructional strategies desired by learners. One difficulty with this approach is to identify classes of learners, these classes are required to develop standard course.
- Adaptive course: it is an individual course that adapts to each student according to his profile. It is a course that typically built at the beginning of a learning session by referring to the knowledge of the learner.
- Dynamic course: it is a course built dynamically, which fits the learner based on the actions he performs throughout the learning process. Such a course is generated and updated during the learning session. Personalized learning paths are generated to meet the personal needs of learners, several methods and languages are adaptations emerged over the years.

A device must be developed in an organizational dynamics (driven by the institution) and not on individual initiatives. This includes taking into account:

- The human aspect: rethink teaching practices (custom, modular, versatile, etc.). Imagine future interactions between actors (such platform includes not only teachers and students but also tutor, technical support, etc ...) other than those traditionally lived and as possible emerging uses, encourage new behaviors to learners, constantly reinvent itself (experiment, learn, deploy, ...).
- The organizational and informational aspect: learn to organize information differently, rethinking information processes; imagine possible scenarios

based learning contexts; understand the new space / time to work (connection from anywhere at any time).

- The technological aspect: adopt and appropriate the right tools based on predefined uses. Mastering these tools to optimize their operations. Integrate social applications like the image of those public (Knauf, 2012).

Towards mobile and ubiquitous applications

The portrait of current students is that of a hyperconnected multitasking generation. ICTE are supported by technological developments related to the development of the ubiquity and mobility (la « mobiquity¹⁰ ») that are realized in the field of learning at university. The technological environment of education is changing dramatically. The rise of digital, flow networks and mobile technologies leads to a multiplication of workspaces and communication as well as time for learning and exchange (Badillo, 2009).

Mobility tools are the real drivers of the pedagogical innovation interactivity they make possible (IGEN, 2012 in Thibert, 2012). The "mobile learning" is seriously considered in the United Kingdom, Denmark and the Netherlands. It would be appropriate to use a mixed approach combining education and distant. Indeed, mobile tools (such as the smartphone, netbook, tablet) have become the primary means of Internet connection regardless of age people. To access mobile applications that promote learning is a real demand from students today. Academic institutions must take into account the evolution of uses, media and digital technologies.

Towards new roles and new skills involved in PLE

Skills are active combinations of resources, personal qualities, knowledge, skills, behaviors, mobilized in professional situations identified possible to obtain measurable results (competency framework). This is a process that, beyond knowledge, called the behavior of people, their life skills, their attitudes (Grundstein, 2002).

He will need to develop roles of both social, educational, managerial and technical resulting in:

- The *facilitator* encourages the adaptation of actors involved in the EPA actually encouraging creativity, development of projects to organizational development and learning new skills. It ensures that activities are carried out and that the objectives are achieved. It ensures that processes and procedures are properly applied and secured.

¹⁰ Mobiquity : a user has the ability to connect to a network without time constraints, location, or terminal.

- The *mediator-facilitator* playing a liaison role and relay is reassuring for PLE, it encourages participation and interaction and creates a common language between the different actors.
- *The assistant trainer* provides technical and pedagogical skills and experiences. He must master the CTBT as a whole be good enough for teacher knowledge transfer. It provides the basic tools and methods to integrate good teaching practices.

Different denominations of business-have Emerged: such as: pedagogical engineer, educational or instructional designer mediator.

A teacher may have two roles, one for publishing hypermedia learning units and evaluation, and other as instructional designer for structuring modules of training goals easy to understand and evaluate. The instructional designer plays a fundamental role in the platform, it is he who is responsible for structuring modules objectives. The course designer is an experienced teacher in the field (Rouissi & Vieira, 2008).

Towards a change in the management

We shared in a previous article, the problem of resistance to change due to several brakes and the need to support teachers in changing their teaching practices and to motivate them to change these practices (Knauf, 2012). Indeed, to manage a digital learning platform is not a matter of tools, it is above all related to human (with their specificities: cultural backgrounds, beliefs, history and experience). This is quite a change to drive in order to adopt new uses and new practices. This is important because the uses have evolved on other media, such as smartphones or tablets. It is therefore to convince the teachers and institutional bodies of the need to develop educational applications on these media.

Thus, for a change is here to stay, it is important to support change. They use the concept of instructional leadership to guide these actions: a process performed by an authority for regulating influence and guide educational practices and ensure favorable teaching conditions for learning (in Letor & al, 2014).

Thus, we recommend to develop policies that promotes mobility and technological ubiquity in learning, develop digital and Skills, focus learning on the learner, develop teacher training, imagine possible futures for the learning to be more efficient, equitable and innovative, enhance communication between stakeholders (learners / teachers / engineer ...), strengthen the involvement of staff (team, cohesion and job sharing), etc.

Toward a charter of good practices

A charter should look like a real teacher's guide for users. It relates to formalize and to ensure safety ethics relating to the use of digital learning platforms. It must propose a comprehensive review of uses and practices during its implementation and should not be dissociated from an annual cycle of training / mandatory awareness on:

- *Ethics (sense of responsibility and individual conscience, respect for the general interest objective of achieving a proactive approach to safety)*

- *Safety / Privacy (aggregated within PLE)*
- *Active promotion of the online resources*
- *The control of communication tools and applications associated.*

Towards a questioning of traditional teachings and assessments

One of the major changes, but often overlooked is the consequences of the change of posture of the teacher: the teacher goes from passer of knowledge to teacher advisor and guide (Thibert, 2012). In addition, there are cultural differences from the coexistence of book culture and digital culture.

ICT can degrade the relationship between teacher and students if their use is realized through traditional pedagogy (temporal rigidity, lack of forms of support, significant number of students, and transmissive directive attitude of the teacher (Paivandi & Espinosa, 2013). If you want that digital tools make learning more effective, it is necessary that the contexts in which they are used change (Poyet, 2001 in Thibert, 2012).

Furthermore, establishing a link between digital use and improved student achievement is difficult to the extent that evaluations have kept the traditional forms in France. Indeed difficult to measure the impact of ICT on learning the organization. Finally, the need is to focus on the learning process, more customization and encourage collaborative work by providing scalable, flexible and fostering creativity spaces.

Conclusion

The conclusion can be formulated as questions. What win or lose teachers and students involved in the use of ICT? Are they more efficient? Effective?

What is the impact of the institution? How to solve the equation, increasing number of students, digital technology and pedagogy? (Nowakowski, 2014)

Then note the composite character of the responsibilities and expenses in universities whose organizational dynamics differ significantly between research, teaching and service to society. The superposition of these missions gives a feeling of fragmented activity, dissolute, scattered, alternating tasks to incompatible temporalities tasks, intellectual maturation of the research; routine tasks and sequenced teaching; ad hoc administrative tasks but lean (Faure & al., 2011). Recent developments in the work teachers and researchers highlights greater diversification and complexity of tasks perceived as being more severe (Losego, 2004). The perception of increased workload is related to the bureaucratization of activities and noticeable pressure on the support service functions to the institution via secretarial duties and administration. This part of the work undermines research activities which nevertheless are among the strategic priorities of institutional policies and teachers and researchers concerned with the advancement of their careers. In this context, if the relationship between teaching and research can not be understood without taking into account the disciplinary logic (Spoiler & Musselin, 2004), it is common to find that educational activities are relegated to second place.

As asserted by Davidenkoff Emmanuel, Director of the Student magazine, "do not expect to know if the digital improves learning. Integrate it simply because it is our new world. "

References

Autissier, D. and Moutot, J.M. (2003). *Pratiques de la conduite du changement*, Dunod.

Badillo, P.Y. and Bourgeois, D. (2009). Ubiquité et TICE : de l'ambiguïté à la mixité. *Actes du colloque: TICEMED 2009 Conference Ubiquitous learning, Milano Bicocca, 28-29 mai*. 7p.

Bassy, A-M. (2011). Le numérique ou les fausses évidences. *Administration et éducation*, vol.2011-1.,n°129, p.19-25.

Bonvin, G. (2014). Dispositif hybride et approche d'apprentissage. Analyse de la relation entre un cours à dispositif hybride et l'approche d'apprentissage dans l'enseignement supérieur. *Education & Formation – e-301 – Mai*.

Chomienne, E. and Lehmans, A. (2012). Réseaux sociaux et apprentissages collaboratifs à l'université : pratiques innovantes dans une communauté connectée. *Colloque international de l'université à l'ère du numérique, Lyon (France)*.

De Ceglie and al. (2010). Performance « E-Learning » : un nouveau mode d'interactions et de médiations entre acteurs. *Ludovia*,

El Bouhdidi, J. (2013). Une Architecture Intelligente Orientée Objectifs Basée sur les Ontologies et les Systèmes Multiagents, pour la Génération des Parcours d'Apprentissage Personnalisés. *Thèse de doctorat, faculté des sciences et techniques de Tanger, 16 nov.*

Endrizzi, L. (2012). Les technologies numériques dans l'enseignement supérieur, entre défis et opportunités. *Dossier d'actualité Veille et Analyses, n°78, octobre*. On line : <http://ife.ens-lyon.fr/vst/DA/detailsDossier.php?parent=accueil&dossier=78&lang=fr>

Felder, R.M. (1993). Reaching the Second Tier. Learning and Teaching Styles in College Science Education. *J.College Science Teaching*, 23(5), 286-290.

Galligo, D. (2014). Enseignement et numérique : quelles difficultés, quels enjeux ? On line [<http://blogs.sciences-po.fr/prospectibles/2014/06/20/enseignement-et-numerique-quelles-difficultes-quels-enjeux/>] 20.06.2014

Grundstein, M. (2002). Le Management des Connaissances dans l'Entreprise. Problématique, Axe de progrès, Orientations. *MG Conseil Report, juillet*.

Henri, F. (2013). Recherche sur les environnements personnels d'apprentissage. De l'objet de recherche à l'objet scientifique. *Ref, 11 juilt.*

Humbert, P. (2011). Approche informationnelle pour la prise en compte des contextes d'usage sans la conception d'outils de travail collaboratif assisté par ordinateur : apports et limites d'une démarche de veille stratégique. *Thèse en SIC, Université Paul Verlaine*

Jézégou, A. (2014). Regard sur la recherche « dispositifs hybrides dans l'enseignement supérieur » (Hy-Sup) : avancées majeures et interprétation possible de la typologie produite. *Education & Formation – e-301 – Mai*.

Knauf, A. (2012). Comment conduire le changement pour optimiser la scénarisation pédagogique ? *In Concepts and Tools for Knowledge Management (ISKO Maghreb), Hammamet (Tunisia)*.

Le Deuff O. (2009). Architextes et nouvelles mediations. *Work in progress*.

Lebrun, M. (2007). Théories et méthodes pédagogiques pour enseigner et apprendre : Quelle place pour les TIC dans l'éducation ? *2ème édition revue. De Boeck (Bruxelles), 206p*.

Letor, C. and al. (2014). Développer des dispositifs hybrides : une opportunité d'apprentissage Organisationnel. *Education & Formation – e-301 – Mai*.

Massou, L. (2008). Mediations socio-techniques et usages dans le cadre d'un Master en ligne. *Acte du 4^{ème} colloque international, Enjeux et usages des Technologies de l'information et de la communication, Lisbonne, 706-717*.

Nowakowski, S. (2014). The increasing number of students, digital technology and pedagogy. A equation no solution ? *9ème Journées du eLearning, Lyon, France (online)*

Paivandi , S. and Espinosa, G. (2013). ICT and the teacher-student relationship at université. *Distances et médiations des savoirs [En ligne], 4 | 2013, mis en ligne le 22 septembre*.

Paquette, G. (2002). L'ingénierie pédagogique : pour construire l'apprentissage en réseau. *Canada : Presses de l'Université du Québec*.

Perrenoud, P. (1994). La formation des enseignants entre théorie et pratique. *Paris, éditions L'Harmattan*.

Peraya, D., Charlier, B. and Deschryver, N. (2014). Une première approche de l'hybridation : étudier les dispositifs hybrides. Pourquoi ? Comment ? *Education et formation, e-301*.

Raby, C. and al, (2011). Usage des TIC en pédagogie universitaire : point de vue des étudiants. *Revue internationale des technologies en pédagogie universitaire / International Journal of Technologies in Higher Education, vol. 8, n° 3, p. 6-19*.

Rouissi, S. and Vieira, L. (2008). Interaction humaine et e-learning en contextes universitaires. *Knowledge construction in e-learning context. Colloque Université de Bologne – Cesena. 1e-2 Septembre.*

Thibert, R. (2012). Pédagogie + numérique = apprentissages 2.0. *Ifé, n°79, nov, 22p.*