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Digital spaces: between educational tools and student uses

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Abstract

While the generation currently in basic training has grown up in an environment that is rich in information and communication technologies, since the beginning of this century, the French national education system has been promoting the development of skills in the use of ICTs and the creation of digital institutional spaces. However, these spaces sometimes appear incomplete or less attractive than the commercial platforms or social networks, and certain teaching activities tend to use these latter tools, with which the students are a priori more familiar. To what extent would these students be more likely to prefer and use one type of environment or the other for their studies? In order to advance some avenues of thought, we will analyse the responses provided by nearly 1,000 students registered at the Université de Picardie between 2012 and 2014. We will examine their tastes and habits in using the social media and the university's digital work environment in order to seek to better understand their technology preferences and practices in connection with recreational and learning activities.

1. Introduction

In France, for several decades, the desire to computerize and then to digitize education has given impetus to various initiatives and to a few large-scale programs, such as the one focused on "educational television" in the 1960s or the "computers for all" and "audiovisual for all" plans in the 1980s. However, the institutions and groups targeted generally tended to be limited. Since 1998, the governmental action program to bring France into the information society (PAGSI) is presented as one facet of a more general desire to develop the Internet network and to break away from the former experimentation policies: "While, as Philippe Breton (2000) notes, the plan for a society reorganized around communication through the ongoing production of new tools dates from the immediate

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postwar period and continues to be placed at the forefront by the media on a cyclical basis, with regard to the Internet, it should be underlined that there has been a change of scale in the instruments used by the political sphere, which marks a difference in comparison to previous initiatives. Actions targeting certain sectors have been followed by actions of a much wider scope, and communications on a more territorial basis have given way to widespread communication." (Thibault, 2007, p.10)

Hence, starting from the 2000s, particularly following demands for the creation of digital campuses, various systems fostering the integration of ICTs in education have been implemented, such as digital regional universities (DRUs), digital thematic universities (DTUs) and digital work environments (DWEs). At the same time, at the international level, various sites and social networks have been emerging, also often created in an academic context in order to foster the sharing of knowledge and social ties between students. While institutional platforms and networks take time to be deployed and adopted, those open to the public at large have quickly conquered young audiences, as illustrated notably by the social website *Facebook*. This "Who's Who", initially created for Harvard University, has in fact just celebrated ten years since its creation, and has over one billion users around the world. But whereas the tools made available to students are becoming increasingly numerous both in their private life and in their academic life, what are their social and scholastic preferences and uses?

In order to advance some avenues of thought, we will analyse the answers provided by nearly 1,000 students registered at the Université de Picardie Jules Verne (UPJV) between 2012 and 2014. We will examine their tastes and habits concerning use of the social media and of the University's digital work environment in order to try to better understand their technology preferences and practices in terms of recreational and learning activities.

2. Spaces for discussion

For about the past ten years, the digital spaces in which it is permitted to post information, photos, videos, and to communicate in real time or asynchronously have become increasingly numerous.

2.1. Digital work environments

In the area of education, it was beginning in 2002 that the creation of digital work spaces was given its impetus, with the third call for tenders for the creation of a digital campus, and then with the policy that followed. DWEs are part of the means deployed in order to modernize higher education. Included within a master plan, DWEs are specific to France in the sense that "With the master plan for digital workspaces, the State positions itself as the prescriber in order to provide a form of industrialization of a certain number of pioneering and experimental solutions set up in the scholastic institutions or at the level of the territorial communities within the territory concerning their activities" (Voulgre, p.589). DWEs are thus distinguished from the virtual learning environments based on open solutions and collaborative platforms chosen at the institutional level in the English-speaking countries. In 2004, the master plan established by the Ministry of National Education defined DWE as: "an overall system providing the user with an access point via networks to all the digital resources and services relating to his or her activity. It is an entry point to access the information system of the institution or school. The digital workspace is intended for all users: pupils, their parents, students, teaching staff, and administrative, technical and supervisory staff of teaching institutions." (MENR, 2004). It thus provides all educational stakeholders with access to an entire range of digital services. However, much like the deployment that took place gradually and more generally starting in 2009, uses take time to develop. Research on social uses of technologies clearly shows that widely available hardware must not be confused with widespread uptake of its uses. However, "We nevertheless observe that above a certain threshold, the broad material distribution of DWEs fosters the development of their use." (Genevois & Poyet, 2010, p. 568). For example, 13 million hits were recorded on a DWE in January 2013[*]. But the uses observed are mainly of an administrative nature, and teaching-related uses are not only rarer than expected, but especially, are far

[*] http://projets-ent.com/2013/04/16/les-ent-ont-10-ans-verite-des-chiffres-par-francoise-coutellier/

from providing the pedagogical innovation hoped for (IGEN, 2012).

Thus, as DWEs gradually become better known and more often used, it appears that this often takes place without a really meaningful uptake liable to foster the implementation of new teaching approaches, particularly since the teaching staff have not been trained for that (Thibert, 2012). Summarizing the studies conducted on DWEs, Bruillard (2011, p.116) thus notes that "the research attests to a process of deployment of DWEs that is slow and non-linear, and an uptake that is still limited, with some technical dysfunction. The research shows that unanticipated problems gradually emerge. While a consensus is taking shape in this research, as well as international comparisons, on the importance of having teaching staff participate from the design phase, as far upstream as possible, the processes at work are very different. What is announced as the inevitable nature of the industrial deployment of DWEs, an infrastructure deemed to be indispensable to the modernization of the education system, goes against observations in the field indicating a 'limited' professionalism. What is anticipated is not problems for the stakeholders, but rather issues of set-up (high speed, fibre optics, etc.) and the DWE is above all one component in processes that are more complex, concerning territories and their relations with the State." In fact, research on DWEs is done more in the field of information and communication sciences, from the angle of the theory of the network actor or of the spreading of innovation, than in that of education. Yet it involves artefacts that are supposed to contribute to education and liable to redefine its contours in the sense that "In this movement of transformation connected with the setting up of these new digital spaces, it appears that the school system is caught up in a two-fold process of deterritorialization (the 'virtual school' beyond the walls) and of reterritorialization (the 'wider school', defined as a territory to be constructed). Rather than a dilation of the educational sphere or an opening of the school system, we are experiencing a recompartmentalization of the scholastic space which seeks, if not to close itself in to protect itself, at least to redefine itself in relation to the Internet and the digital networks." (Genevois & Poyet, 2010, p.581).

2.2. Digital social networks

The uses of the commercial social networks have developed much more rapidly than those of work environments, and seem to be based much more on day-to-day practices. Although initially they were connected with the educational world in the sense that they made it possible to stay in touch with classmates, the social networks, such as *copains d'avant* (old friends) in France or *Facebook* at the international level, have spread quickly and been readily adopted, with the predominance of *Facebook*, which includes for example, an old friends page and attracts many onlookers that inspire mistrust and fear as well as enjoyment and popularity. As soon as they involve revealing personal data and building ties with people who are sometimes barely known or unknown outside the web, the digital social networks tend to play the role of "egotistical catalysts" (Lardellier & Bryon-Portet, 2010, p.33), having ties with education that are not immediately obvious.

While *Facebook*, much like *Yahoo* and *Google*, came into being in the universities (Dagiral, 2011), the initial purpose was not actually of an academic nature. It remains to be seen whether this type of network constitutes a means that is suitable for learning. Several studies into online training (Duplàa & Talaat, 2011; Papi, 2014) tend to make it clear that the students who communicate the most with their peers or tutors are those who succeed best, regardless of the content of their dialogue. The web 2.0 is therefore potentially suitable for learning according to a connectionist rationale in the sense that "the web surfers contribute to the exchange of information and can interact (share, discuss, etc.) easily, with both the content and structure of pages, but also between them, thus contributing to this social web." (Duplàa and Talaat, 2011). However, rather than focusing on the development of networks, the current assessments generally focus on individual knowledge and skills. These can apparently be developed via the social web to the extent that a foreign language can be learned entirely online through cross-referencing, verification of information and discussions with web surfers who are much more numerous than just the teaching staff and classmates, as was noted by C. Develotte (2010, p. 461): "at this stage, we have entered into a logic of networks where those giving out information are numerous and where the recipient learners have more and more leisure to connect to multiple sources, to interact among themselves, and in particular, as regards their language skills, to face numerous evaluation sources, which may or may not be formal or official."

Certain teachers and learners thus tend to take advantage of the digital social networks with a view to preparing

for a diploma. This is the case, for example, in the training for a diploma as online learning and training project leader: "The cooperative approach proposed with learning on the social networks in the CAFEL university degree allows for the inclusion of a number of profiles of learners who have not participated in an overly coercive collaborative system. The members of groups within the social networks will naturally communicate, not to collaborate explicitly to learn according to pre-established scenarios, but rather to cooperate on a basis of freely given consent, putting themselves forward as volunteers to undertake collective tasks if they wish to do so." (Arnaud 2012, p.21) Similarly, concerning another university degree, T. Gobert (2014) shows that if they are presented with a DWE deprived of the usual communications functions, or with fee-based learning platforms or restricted access in terms of number or time, the students choose to work together via *Facebook*, which then converts into a learning platform because of its many advantages, such as accessibility and being free of charge. However, although it allows for data to be stored on a long-term basis, this social network does not allow users to work together on a common document, nor to classify or search via frequently used key words, as soon as it involves working from a variety of information sources; hence the use of other complementary tools, such as *Google Drive*.

2.3. The survey

It is thus shown that DWEs are not very well suited to communication and that the social networks are not very well suited to learning. A tension thus appears regarding the choice of digital spaces to be used in the educational context: would the students be more inclined to use artefacts already known in a personal context if these are brought outside of this context, or is the context predominant in separating digital spaces? In other words, what relationships do the students maintain with the means of communication and of learning offered them by the school system and by society?

In order to advance some avenues of thought, we propose to analyse certain data resulting from two questionnaires that were answered by 971 students registered at the Université de Picardie Jules Verne (UPJV) in 2012-2013, or in 2013-2014. The first questionnaire was given before the training for the certificate in information technology and Internet (C2i), and the second at the end of the training. We retained only the responses of those students who answered both questionnaires, which we linked by means of the student number. The responses to the closed questions were analysed using the SPSS software, in the form of simple sorts and cross-tabulations with the Khi^2 test, and the open questions underwent content analysis.

61.5% of the respondents were female students, 88% were aged between 17 and 22, and they had mainly come out of the general bachelor's programs (39.6 % scientific, 25.5% economic and social, 17% letters) but also technological (35.5%) and were registered in their first year of a *Licence* in the different streams of science, health, humanities and social sciences, arts, sports, law, etc. offered at the Université de Picardie Jules Verne.

3. Relationships with the digital universe and with education

Reflecting on digital spaces suitable for students implies knowing their tastes and habits in terms of uses of the media and means of communication available to them.

3.1. The indispensable connection

Two thirds of the students state that they are not interested in a computer without an Internet connection and 89% state that they connect at least once per day. It is clearly observed that the Internet is now ahead of other media among the preferences of young people, as reflected in the table below.

Table 1. Media preferences (Percentages in columns).

Appreciation	Books	Press	Radio	Television	Cinema	Internet
I adore	22.5	8.1	11.6	25.3	35	44.2
I love	21.8	21.8	20.4	33.4	35.3	40.6
I like	31.4	42.8	43	28.3	23.3	14
Indifferent	17.8	23	21.8	9.9	5.5	0.7
I don't like	6.5	4.2	3.1	3.1	0.9	0.5

In fact, the Internet can replace all other media in its functions of access to audiovisual information. Also, being accessible from a computer as well as from a tablet or smartphone, Internet and more broadly, the current information and communication technologies, offer many possibilities for communication used with varying degrees of frequency, as reflected in the table below.

Table 2. Frequency of use of various means of communication (Percentages in columns)

Frequency	Regular mail	E-mail	Forums	Chat rooms	Sms, Mms	Telephone conversation	Video-conferencing	Social websites
Never	28.5	4.8	50.4	30.5	0.8	2.6	41.2	6.3
Less than once/month	41.9	12.8	23.7	16.7	0.5	4.2	21.2	2.8
At least once/month	20.7	17.4	11.8	11.1	0.9	9.9	17.4	4.8
At least once/week	6.7	36.9	10.1	21.4	4.9	40.3	14.8	21.3
At least once/day	2.5	28.1	4	20.3	92.9	43	5.4	64.8

While it is hardly surprising to observe the lower frequency of letter writing, it is more surprising to note than barely a quarter of students exchange emails daily, and this in most cases this involves only a single email. Forums, chatting and videoconferencing are even more rarely used, and not by all the students. The most popular and most frequently used means of communication is thus shown to be exchanges of text messages, followed by the use of digital social sites or networks; hence the potential interest in diverting these latter means of communication, whose use is already ingrained, for educational purposes.

However, it is apparent that the use of communication technologies for learning purposes is relatively limited. For example, in the course of their school work: 26.8% never communicate by e-mail, 46.7% never communicate by chatting, 75.9% never use forums, 52.2% never use social sites and 18.5% never communicate by telephone. Indeed, while one third of the students state that they connect as soon as possible, and three quarters would go back to pick up their portable phone if they left home without it, this research is mainly linked with a potentially reassuring habit and a recreational aspect (Papi, 2012), so that seven times as many of them state that they use the Internet for enjoyment than for a work-related activity. Moreover, in contrast to the fears often portrayed in the media, of people enclosed in virtual worlds, 73% of the students state that their preferred communication situation in daily life is face-to-face with one person, and 19% prefer communication within a group. While there is some appreciation of text messages, with 5.4% choosing this means of communication, fewer than 1% state that they prefer communication via social websites.

3.2. *Traditional forms of school work*

Just as they prefer face-to-face contact in daily life, when they arrive at university, students show a preference for lectures (53.1%), working in groups of students with the teaching professional moving around among the groups (23.5%) or individual classes (21.9%); following a distance learning course, whichever resource is used (paper,

multimedia, Internet) only tempts 14.4% of them. Indeed, before preparing for the C2i, they generally never had an opportunity to follow any training that was wholly or partly online, and are accustomed to traditional teaching. In fact, their teachers used ICTs relatively little in the courses when they were in secondary school, as reflected in the figures below.

Table 3. Proportion of students whose teachers used ICTs in different ways in secondary school.

Teachers using ICTs in class	Proportion of students
None	30.4
Some, to distribute documents or show videos	45
Some, giving lessons in the form of a slide show or using an interactive whiteboard	16.7
Some showed us how to search for information or work on a computer	0.7
Some teachers frequently used a computer and invited us to do the same	2.1
Nearly all the teachers used the technologies available to them to teach lessons	5.1

Furthermore, in doing their school work, the use of information technology did not seem to be indispensable and the more traditional sources of information came before research on the web, as reflected in the data below.

Table 4. Uses of information technology and Internet in doing school work.

Doing homework and schoolwork on a computer	Proportion of students
Never, I work from the textbooks and write assignments by hand	10.4
Sometimes, for all of a specific project	34.8
Only for the information search phase	20
Only in relation to one particular discipline	5.7
Only for the writing phase of the homework/assignment	7.1
Systematically for all the work	22

Table 5. Preferred sources of information in doing school work.

Preference order	I look in the lesson	I look in the textbooks and books	I go to the library	I ask my friends/family or prof	I search on Internet
First	**86.7**	5.3	1.4	2.8	14.4
Second	8.6	**47.4**	6.3	14.9	**31.9**
Third	2.8	19.6	15.5	**31.8**	**30.5**
Fourth	1	20.5	19.9	**34.3**	15
Last	1	7.2	**56.9**	16.2	8.2

Questioned about the ways in which they did their school work, the students gave answers that reflected a pervasiveness of traditional practices, broadening out toward the use of digital solutions. This work method is probably rooted in school work practices that have been developed since childhood and that are notably adapted to a mode of evaluation consisting of verifying the mastery of the lessons delivered by the teacher, by means of a handwritten assignment.

4. Students and digital environments

Being to a degree accustomed to digital environments, two thirds of the students found a DWE to be clear and easy to take up, although they were generally not trained in its use beyond the brief introduction given as part of their C2i training. While the majority of students considered this environment useful or even indispensable, 17% saw little usefulness in it. In fact, the interest in a DWE is linked to institutional expectations and resources. It is seen as useful by most of the students to the extent that it constitutes the access route to the C2i training platform; however, the remainder of their appreciation seems to depend on teaching practices. Apart from the C2i training and the consultation of examination results, it is in fact primarily to consult their courses or material potentially placed online by their professors that the students turn to the DWE. The comments of students on this subject reflect an expectation and a real benefit drawn from the material made available to them, whether it involves complete courses, slide-show presentations or course outlines. As long as the traditional evaluation framework of individual assignments based on the course given by the teacher is maintained, the DWE seems to be adapted to the expectations and practices of the students provided that the teachers, or the administration, place the expected resources there. The possibilities for storing differentiated material according to the courses clearly makes this tool more suitable to the work habits of the students than the social networks are. However, what about communication?

In general, students rarely communicate online with their teachers or classmates. However, when they are encouraged to do so with a view to developing their skills, as is the case in the C2i training, it must be noted that nearly two thirds communicate – not all that frequently, of course – with their instructors and classmates, even outside the collaborative activity. It is therefore interesting to observe which means of communication are preferred. Indeed, 93% of the students who communicated with their instructor stated that they had done so by email, but when a message system was available to them on the DWE, and another on the INES training platform, half of them communicated via their personal messaging system, while the other means of communication (forums, chatrooms), whether included on the platform or public, were hardly used. While personal email was also the most common means of communication between students (38%), almost completely obscuring the other two types of messaging (DWE, INES), meetings at the university (26%), telephone conversations (13%) and exchanges on social websites (13%) were also used to an appreciable degree. It thus appears that the contribution of means of communication habitually used outside the school setting is liable to be deployed spontaneously and independently of the institutional means of communication provided.

In conclusion, these results invite us to examine the relevance of developing further means of communication within DWEs, on the one hand, and on the other, that of potential uses of SMS and MMS in education, and finally, of the institutional creation of workgroups on the social networks. Since communication among students, as well as between them and the members of their institution, is a potential source of sociability liable to foster perseverance (Tinto, 1994; Papi & Gobert, 2014), more so than the means, it would appear that it is above all the situations inviting people into discussion that should be developed, and similarly that the possibility of placing resources online could be made to contribute to the development of the pedagogical approach that fosters openness toward reliable sources of knowledge other than only the teacher's course. Given the broad scope of information available, it would seem necessary to develop the critical openness and autonomy of our students by offering forms of coaching that increasingly draw inspiration from practices being implemented in distance learning.

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