

Digital Native Students' learning expectations in Higher Education

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1. Summary

This paper presents the results of a wide survey conducted in 2013, repeated in 2016, among 19,000 students at the University of Applied Sciences Western Switzerland (HES-SO), to better apprehend how students consider their training, their relationship to technologies and their expectations as "digital natives" students with regard to teaching. This bottom-up approach included digital native students' expectations, needs and requests concerning tools and new teaching approaches. The result of the two surveys depicts the new student who enrolls into higher education institutions.

2. Extended abstract

Statement of the problem

The "new" student, called by Prensky (2007) "Digital native", is no longer passively listening to lectures. His ability to concentrate has decreased (short attention span), while the use, in the classroom of communication mobile devices has increased in parallel. Besides, this student wants to participate, to be active and give his opinion in the same way he is accustomed to interact using social media. (Prensky, 2007) Family educational methods based on dialog, integration in a more horizontal society, the immediate access to a plethora of knowledge available on the Internet, have contributed to shaping up a student who considers himself as a course co-expert rather than a consumer of resources. (Oblinger, 2005) For this student, the act of thinking has become more important than theory itself, beliefs take the upper-hand on facts, authority has no genuine hold on them (Tapscott, 1998). Digital natives prefer to: obtain information rapidly from multiple sources, work in multi-tasking and parallel modes, learn using images, sounds and videos rather than texts, learn what is immediately pertinent.

Background information

Should teaching at the tertiary level take into consideration such characteristics and alter its pedagogical models? Is the Digital native student already present at university level? In an attempt to answer these questions, the HES-SO e-learning Center launched, in 2013, a survey among 19,000 students studying at the institution. Some 800 students answered 30 questions comprising 20 closed and ten open questions. The aim was to investigate 1) the students' habits when using the Internet, social media, mobiles, 2) how the students assessed teaching methods and their professors and 3) their ideal course as a Digital Native.

To ensure for the results to indicate a truly new tendency in the tertiary level, the Center conducted the same survey in 2016, after the 2013 students had completed their Bachelor cursus. This time, 387 students responded to the survey. In both cases, the survey results were statistically significant, and were delivered on the LMS Moodle, a blended learning platform proposed at the HES-SO, which is accessed daily by 90% of the regular students of this University.

52% of the respondents were women, 48% respondents were men, which is consistent with the gender distribution at the HES-SO. 80% of the participants belonged to the 18-25 age group.

Major conclusions

In 2016, 8.5% students own an e-reader, 36% owned a digital tablet, while 97% own a smartphone and 93% a laptop, meaning that the students are over-equipped. Among them 55% wish to use their smartphone as a learning means.

93% of the students access the Internet during their courses, 43% because they enjoy performing several tasks concurrently, 37% to check on the data delivered by the professor, 44% because they are bored (multiple choice). It is interesting to note that more than one third of the students cross-check the “authority” data with sources found on the Internet.

89% of the students use their smartphone during the courses, among them 70% check their messages, while 83% chat on instant messaging applications such as Whatsapp. 87% of the students are active on social media, Facebook placed in the first position among the social media used, closely followed by Instagram.

Considering educational resources, 72% of the students appreciate detailed graphs and explanatory videos, 60% prefer to attend courses in the form of workshops and 48% mention the video as the learning resource ranking first in their preference.

70% consider the courses interesting, while only 19% consider them modern, among other items.

To the survey item “according to you, what is the best means for learning” (multiple choice), the students vote in detailed graphs and explanatory videos (71%), notetaking (57%) with a significant drop 9% drop in 2016, compared with 2013. 51% select “listen to the professor”, while 50% claim to prefer reading over summaries and 47% to learn by explaining to their classmates.

Various pedagogical models were proposed to the students. Lectures followed by individual exercises remain the model preferred by a majority of participants (52%), in competition with courses in the form of workshops (48%).

The preferred learning devices are videos (50%), quizzes (49%) and simulations (48%). Mobile applications rank 5th out of 9 positions in total.

The students were asked about their view of an ideal course. 63% of the survey participants provided very detailed propositions. The answers were sorted by keywords. In 2016, the word Mooc became the most mentioned keyword. The next five positions are held by the course concepts which are traditional, practical, interactive, in the form of videos. The use of the term flipped-class increases significantly in 2016, whereas the term professor decreases.

Remarks were made by many students, among which three accounts are selected: “The best course is the course where theory is explained briefly and clearly, in a modern way by the professor, followed by practical situational exercises involving the students”. “A course with little time spent on theory to have more time for exercises, and with the professor available if needed.” “A little theory, group workshops, lots of videos, images, games to make the course more entertaining than a course based on Powerpoint which must be listened to passively.”

These three statements summarize how Digital natives see the university. The professor's role becomes more a guidance role, while the interactive educational resources, the use of the video, the practical applications and interactions with the peers, constitute the main items of a new pedagogy at the university.

In 2019, the HES-SO is designing a digital education model, offering in particular training modules (moocs) for professors, following the university education policy about the digitalization of tertiary institutions. The purpose of these modules is to increase professors' numerical skills to adapt teaching to the demands of new students. The results of this survey thus provided interesting inputs, allowing to integrate the point of view of the student into the educational policy of the institution.

3. REFERENCES

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Anne-Dominique Salamin is a full-time UAS professor and head of the e-learning Center HES-SO Cyberlearn. In 2015, she created the Enhanced Students Laboratory (Enslab) dedicated to the study of the impact of innovative and disruptive technologies on learning such as VR/AR and robot-student coupling. She holds an MSc in Educational Sciences from the University of Lyon Lumière II, and a DEA in distance learning from the University of Montreal (Can). Her research expertise is based on education, digital natives, multimodal platforms, mobile learning and cognitive processes in learning in distant environments. She teaches communication at the undergraduate level and supervises master theses on data processing and e-learning in general. She regularly attends international conferences and won the best paper award in 2014 for her writing on gamification at the university.



Nicole Glassey Balet is an UAS professor at the Institute of Management Information Technology at the HES-SO Valais-Wallis and a member of the Cyberlean committee. She holds an engineering degree in mathematics from the Ecole Polytechnique Fédérale de Lausanne (EPFL). She teaches programming, algorithmics and operations research. Her Ra & d activities focus on e-learning and mobile application development as well as project management related to databases. Nicole Glassey Balet is also active in promoting girls in STEM professions.