

Learners' behavior in teaching context: characterizing the use of Information & Communication Technologies

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Abstract

In universities of West Europe as in Industrials training centers and in work places, the use of Information & Communication Technologies (ICT) such as the iPad, iPhone, tablet and laptop computers, has widely spread. Advantage or drawback? Based on observations and interviews of students at the LSE (UK), this study aims at contributing to highlight elements of answer.

Introduction – research context

«As a professor, complaints that mobile phones distract from learning are ubiquitous. Text messaging, Facebook, and Twitter are the usual suspect applications. I personally hear these complaints from other professors, administrators, and a lot of people over the age of 40» [2]. Teachers of West Europe complain daily about difficulties they have to catch their students' attention while the students «play» with the iPad, iPhone, laptop computers.

Observations in the universities or in the training sessions of companies, as well as observations of teenagers' daily life show how they switch fast and often from one source of information to another, intuitively integrating the operating of new software. The «Millennials generation» (born between 1979 and 1994 [4]) has developed a high level of dependence to ICT, seeking for permanent connection [7; 3] and this has an impact on the work [1] at least from educational, organizational and social standpoints. This involves learners' attitudes and behaviors which may serve or impede the ability to learn during the courses. How can this be characterized?

Methods

Students have been observed during courses held in classrooms and lecture halls and interviewed afterwards at the London School of Economics and Political Science (London, UK) in December 2012. Students were involved in Master degree studies (20-25 yo. for more than 83 % of them). Collective observations aimed at quantifying how many used ICT during the courses, and individual observations helped us to specify what students did using ICT during courses. Types of ICT activities were characterized, frequency and duration of ICT use were measured as well as the switches from one activity to another, including the course participation.

Results and discussion

Three collective observations were undertaken in lecture halls and showed that for 40, 60 and 80 students, 22 to 50 % of them could be involved in ICT

activities among which 86 % female while representing 77 % of the total population. Interviews showed that they could undertake four types of activities: 1) iPhone for sms and personal purpose, 2) tablet for other purpose than the course, 3) tablet for course such as checking information related to the course, 4) listening to the teacher or participating to an exercise.

Two female students (subjects B and C) were observed individually during the same classroom course for an effective teaching of 39 min. 20 sec.

During the whole course, subject B was using both iPhone and tablet, switching among the four aforementioned activities. The mean rate of ICT use was equal to 0.84 occ/min (about 50 occurrences per hour): 27 interactions with ICT of type 1, 2 or 3 among which 6 were of type 3 (related to the course). The mean duration using ICT was 31 sec. with a standard deviation of 37, and the higher proportion of duration within the range of 6-10 sec. This was performed by student B whilst expected involved in doing exercises or listening to the lesson. The total rate of time spent with ICT was 27.7 %, and the rate of time spent with ICT without link to the course (activities 1 and 2) was 11.1 %.

Subject C was using only iPhone at the beginning of the course and then put it on her desk likely without paying attention to it. The total time spent for the ICT use was 5.0 % distributed in two periods: first period for checking messages and second period to send an sms. The rate was 3.05 occ/h.

Interviews of subjects B and C and others confirmed these types of behaviors and the switch between the four activities aforementioned. All of them explained not being disturbed by this kind of multitasking during the course, first because some of the ICT uses were related to the lessons, and second because when it was not, the duration was very short (a few sec.).

Yet, recent studies have shown that multitasking is not so efficient than what is thought by the concerned subjects. Researchers [6] studying 275 students performing multitask job found a «lack of concordance between perceived and actual multitasking ability». While 70 % were confident in their multitask skills, the correlation between this self-assessment and the actual performance was very poor: $r=0.08$.

Conclusion

Such results applied to our research context lead to the assumption that, despite a self-assessment by students saying that using ICT during the courses does not disturb their understanding of the courses, this self-assessment might be (highly) over-estimated and the actual understanding might be worth than what they think. If true, this would be in opposition with other findings [4]: if ICT use by learners during the courses may be a strength [5], in some conditions this might be a latent weakness.

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