

Medical student's perception of the deployment of interactive whiteboards for problem based learning

Abstract

Background: Interactive whiteboards (IWB) were introduced in all the classrooms used for problem based learning (PBL) sessions within the University of Geneva faculty of medicine at the beginning of 2014. Students were surveyed at the end of the following semester to evaluate their perception and use of IWBs, and measure IWBs' impact on PBL process, student motivation, and group functioning.

Method: Bachelor students of Years 2 and 3 answered a 61-item self-administered online survey exploring eight themes: IWB launching, IWB use, practice of notebook (a writing and drawing software), role of the secretary, PBL process, personal interaction with IWB, group functioning, and socio-demographic data.

Results: 236 students (71.7%) completed the survey. Globally students found IWBs as well as the text editor easy to use (mean 4.8 ± 0.9 standard deviation ; easier for men, $p=.007$; and 4.9 ± 0.9 on a 1 to 6 Likert scale). Other functionalities were occasionally or rarely used, as well as the integration of learning materials (articles, book chapter, and websites) in the notebook. When compared to the situation before the deployment of IWBs, students did not report more motivation (3.2 ± 1.4), more concentration (3.2 ± 1.4), more creativity (3.7 ± 1.6), better understanding (3.2 ± 1.3), or better memorization of what was displayed in the board (3.3 ± 1.4). They agreed that the use of multimedia learning resources was facilitated (4.9 ± 1.1), the material produced by the group was richer in drawings, images, abstracts (4.3 ± 1.4), but did not think the group was better organised (3.6 ± 1.4) nor that the elements discussed were more precise (3.6 ± 1.4). After the first phase of a PBL session, the electronic notes were used by the majority of the students to complete their own documentation. They were however not used more frequently than before (3.2 ± 1.7), and only used sometimes as a starting point for the reporting phase of the PBL session (2.1 ± 0.8).

Conclusions: The implementation of IWBs within the institution was rather positively welcomed by students. Whereas they deemed the material produced by the group was enriched when compared to the situation without IWBs, there was no evidence, neither at the individual, nor at the groups' level, of a significant change regarding the learning process and organisation.