Bologna: can we use technology to get there?

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Abstract – **In this exploratory study, we resort to data from two ongoing research projects with Portuguese Higher Education students to sought evidence to suggest that the change in the educational paradigm is essential for effective learning based on student workload, and that the use of digital technology resources can improve academic success and facilitate the shift towards student-centred learning. We concluded that the traditional curricular activities are not effective in engaging students, and that the decrease in teaching time was not compensated by an increase in study time, as would be expected. We verified that students have a clear idea that digital technologies could support and promote greater success in their learning activities, blurring the lines learning spaces and time and transforming "time and space for learning" in "all the time and everywhere".**

Keywords – Bologna Process, Student Workload, Higher Education, Digital Technology, Academic Success.

INTRODUCTION

The internal and external regulations of the Bologna Process has affected Higher Education, implying organizational or pedagogical changes. At an organizational level, the way degrees are structured was changed, by assigning credits based on the students' workload to curricular units, and by decreasing teaching hours. This decrease was expected to lead to an increase in the time students devote to autonomous learning, consequently increasing their responsibility in their own learning, and improving their skills for lifelong learning, a key element in the European Higher Education Area (Ministerial Conference, 2001).

The educational paradigm shift, from a traditional teaching orientation to a student/learning orientation that was expected to constitute the base for students' autonomous learning, has not yet fully happened in a broad and systematized way (ESU, 2018). In Portugal, the difficulty in changing this paradigm was the reason for the extension in time of the reforms (Veiga & Amaral, 2010), with still timid changes (Lopes & Menezes, 2016). Without adequate support of curricular activities designed to promote and guide students autonomous learning, students may not be benefiting of the extended study time, relying on the increasingly smaller teaching time, which would negatively influence their learning and academic success.

Digital technologies have been one of the focal points of a new generation of education policies in the European Union, that align with what is expected by the Bologna Process, regarding valuing active and autonomous learning processes of students, and supporting learning and inclusion in Higher Education (Eurydice, 2009).

When arriving at Higher Education, students have previous use of digital technologies as a way of life (Conole & Alevizou, 2010), and when at Higher Education and for academic purposes, research shows that they use technology mostly focused on the logistical and support aspects of learning (Bullen, 2015), falling short on more expansive, expressive and empowering practices (Henderson, Selwyn, & Aston, 2016). However, evidence also shows students use of every-day digital tools to enhance educational experiences (Costa & Harris, 2017). This reinforces the predominant literature stressing the transformative potentials of digital technology within Higher Education towards learning and teaching, and its role in students' academic success.

Based on data from two ongoing research projects with Portuguese Higher Education students, we sought evidence to suggest that the change in the educational paradigm is essential for effective learning based on student workload, for which the use of digital technology resources is expected to contribute, improving academic success and facilitating the shift from the teacher-centred process to the student-centred learning.

METHODOLOGY

The first study collected data regarding student workload, through a pen-and-paper questionnaire. A total of 379 undergraduate Portuguese students attending Engineering, reported on how much time they dedicated to several learning and assessment activities in one week. Total student workload, study time and time attending classes were computed. Document analysis showed that these students were enrolled in a traditional curriculum, with assessment mainly done with written tests at the end of the semester, for summative purposes.

The second study collected data through an online questionnaire focused on the use of digital technologies by Higher Education students in support of their academic study. Completed the questionnaire a total of 30 students, undergraduates and post-graduates (master and PhD), from one university, attending 22 different areas of study. From this survey, one question was selected for analysis for the purpose of this exploratory study, being: "Refer one thing your teachers could do with technologies, to facilitate or support your academic success."

FINDINGS

The student workload reported by the participants, is, on average, 27.5 hours/week (SD = 12.7), with students needing more than three years to get their diploma. It was reported class schedules with, on average, 21.4 hours per week (similar to the expected 22 hours/week). However, since they do not attend all classes (attendance is about 77%), their workload is, on average, 16.5 hours/week. As for autonomous learning, participants reported studying, on average, 11.2 hours/week. This is a «relative time» of 0.68 hours of study per hours of classes.

Considering that the results from the first study showed student workloads smaller than what was expected and desirable (42 hours/week), we turned to the second study, in which students' were required to state one thing their teachers could do with digital technologies, to facilitate or support their academic success. The aim was to understand if students' perceptions regarding the way technology could facilitate or support their academic success, was related to activities done during study time or during teaching time, or both. We considered that the focus of student's perceptions could be: support in the classroom; support in autonomous study time; facilitating the bridge from the classroom to study time.

A first preliminary analysis shows that in a total of 30 respondents (n=30), students reveal to have the need to gain support while in class and in their individual study time, but also to help them gap the bridge between both. Half the students suggested that teachers shared, in digital format, the documents and study materials used in class, as well as to give study tips regarding the study topics. Additionally, students mentioned the importance of accessing study materials in diverse multimedia formats, mainly in video format, to facilitate their learning. Students revealed having expectations that teachers interacted more with them, in and out of class, through shared digital spaces and synchronous online communication. This was stated to as an important aspect of support of their autonomous learning, and academic success.

CONCLUSIONS

In student-centred learning, students are responsible for their own learning, which is supported and guided by teachers and curricular activities. Because of the decrease in teaching hours, a great amount of student learning takes place during autonomous study time, which, according to data reported by the participants, would have an expected «relative time» of 0.91. Considering that, these students do not attend all their classes and that this lack of attendance should be compensated by an equivalent amount of study, the «relative time» reported during the weeks with classes is 60% of what is expected. We can conclude that the traditional curricular activities are not effective in engaging students, and that the decrease in teaching time was not compensated by an increase in study time. On the other side, students have a clear idea that in class activities and out of class study time could be facilitated if teachers made a greater use of digital technologies. Students indicate that teachers could use digital technologies in class to promote effective engagement and interaction through shared learning spaces, which would also be used by students in their autonomous learning time. Therefore, digital technologies could facilitate and transform the "time and space for learning" in "all the time and everywhere".

REFERENCES

Bullen, M., & Morgan, T. (2015). Digital learners in higher education: Implications for teaching, learning & technology. Teaching and learning in digital worlds: Strategies and issues in higher education, 11-19.

Conole, G., & Alevizou, P. (2010). A literature review of the use of Web 2.0 tools in Higher Education. Walton Hall, Milton Keynes, UK: The Open University, retrieved February, 17, 2011.

Costa, C., & Harris, L. (2017). Reconsidering the technologies of intellectual inquiry in curriculum design. Curriculum Journal, 28(4), 559-577. doi:10.1080/09585176.2017.1308260

Eurydice. (2009). Ensino Superior na Europa 2009: Evolução do Processo de Bolonha.

ESU. (2018). Bologna with Student Eyes 2018: The final countdown. Brussels.

Henderson, M., Selwyn, N., & Aston, R. (2017). What works and why? Student perceptions of 'useful' digital technology in university teaching and learning. Studies in Higher Education, 42(8), 1567-1579.

Lopes, H., & Menezes, I. (2016). Transição para o processo de bolonha: Significações de docentes e estudantes da Universidade do Porto. Educação, Sociedade & Culturas, 48, 93–125.

Ministerial Conference. (2001). Prague Communiqué.

Veiga, A., & Amaral, A. (2010). Uma interpretação do olhar da História sobre Bolonha. História: Revista Da Faculdade de Letras Da Universidade Do Porto, 1, 29–40.