

ECTS, workload, and quality of higher education

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Abstract

The use of ECTS has facilitated student and graduate mobility within Europe and the comparison of study programs and courses. However, we have found that the ECTS credit equivalence in hours, from 25 to 30, is oversized. We show that this workload associated with ECTS credit has a negative impact on the quality of education systems and on the health of students, and that it is a threat to the credibility of the ECTS system itself. We conclude that a review of the hours/credit ratio is necessary, and we propose this ratio to be 20.

Keywords: *ECTS credit; workload; academic calendar; Quality of Higher Education.*

1. Introduction

One of the the main actions of the EHEA (European Higher Education Area) has been the introduction of the ECTS system (European Credit Transfer and Accumulation System). ECTS is a learner-centred system for credit accumulation and transfer. Until ECTS was defined, in European universities there was no standard measure of student work time, including outside the classroom. Today, ECTS helps in the design, description and delivery of programmes, makes it possible to integrate different types of learning in a lifelong learning perspective, and facilitates the mobility of students by easing the process of recognising qualifications and periods of study.

ECTS credits express the volume of learning based on the defined learning outcomes and their associated workload. 60 ECTS credits are allocated to the workload of a full-time academic year. But the real workload can only be measured in working hours, so, it is essential to establish the ratio between ECTS credits and working hours. A right definition of this ratio is fundamental for the validity and usability of the ECTS system, as well as to guarantee the quality of higher education in Europe when courses are planned using ECTS as a measurement of workload.

The rest of this paper is organized as follows. First, we analyze the workload associated with the ECTS credit adoption. Next, we expose the risk to the health of students and to the quality of student learning that this adoption entails. Finally, we make proposals to correct detected problems.

2. ECTS workload

The reference document for the use of ECTS credits is the ECTS User Guide (European Union, 2015). This document does not have a normative nature, but it is the reference that European countries have followed when regulating the Bologna process in relation to student workload. This guide establishes that 60 ECTS credits correspond to the workload for an academic year. But it does not define what is the load in hours that an ECTS credit supposes. This task is left to the legislation of each country, and it cites that *“in most cases, workload ranges from 1,500 to 1,800 hours for an academic year, which means that one credit corresponds to 25 to 30 hours of work”*. This equivalence of an ECTS credit with 25-30 hours of work is what we find in almost all European legislations and universities, with the exception of the British, which equate 1 ECTS credit with 20 hours of work (European Union, 2009, in Annex 5).

By assigning between 1,500 and 1,800 hours per academic year, regulations have taken the labour force statistics as a reference: when that equivalence was established, around 2003, the average time worked in the European Union was between 1,428 hours per year in the

Netherlands and 1,983 hours for Greece workers (OCDE, 2021). By 2020, these values have decreased to a minimal of 1,332 hours in Germany, and a maximum of 1,766 in Poland (see Table 2). However, taking that reference for academic workload, legislators have not considered that the academic calendar and the working days calendar are not the same.

2.1. Working days calendar

The number of days worked full time during a year varies depending on the legislation of each country and the worker's labor agreement. However, the European Union establishes that all workers will have a period of at least four weeks of paid vacation annually (European Union, 2003), leading to no major differences in European working calendars. The annual working days in a year is obtained by subtracting the not worked days from 365:

- Week-end days. They are 104.
- Bank holidays. It ranges from 9 to 14 (Eurofound, 2021).
- Paid annual leave. The average annual paid leave stood at 24.5 days in the EU27 in 2020 (Eurofound, 2021).

This results from 222 annual working days in Germany to 232 in Hungary, Poland, Ireland and Belgium.

2.2. Academic calendar

It does not seem easy to cope with the variety of lengths of the actual study period per academic year within Europe. However, one of the documents on which the ECTS Guide is based (Wagenaar, 2006), states that the university calendar in Europe lasts between 34 and 40 weeks, and that, when programmes are broken down, the differences in length prove to be much smaller than one would expect at first glance.

But using the week as a measure of time introduces a significant distortion in the total calculation for a year, since many weeks will contain less than 5 working days. It is more precise to use the same measure that we have applied to the working calendar, that is, the number of days actually available for study after removing vacations and holidays. In Rivadeneyra (2015) the academic calendars for 5 years in an European university are studied. Measured in weeks, it found that the academic year ranges between 35 and 39 weeks, depending on whether or not inter-term vacations are counted. This is in line with the range reported by Wagenaar (2006). But, in addition, Rivadeneyra (2015) also measures the number of days corresponding to those weeks, finding that they can be from 165.2 to 178.4 days, depending on whether inter-term vacations are counted or not. We will adopt these figures to calculate the daily load of a student.

2.3. Daily working hours

The most accurate measure of workload is the working day, obtained as a quotient between the hours worked in a year and the number of working days contained in that year. From the data collected on the duration of the working and academic calendars, in Table 1 we compare the daily workload for a student according to the ECTS criteria, and the load for an European worker. It shows that the load assigned to students is much higher than to workers. If it is accepted that the workload of a student should not be greater than that of a worker, we can affirm that the ECTS credit equivalence in hours, from 25 to 30, is oversized.

Table 1. Daily workload for students and workers.

	Annual working hours (min-max)	Annual working days (min-max)	Daily working hours (min-max)
European worker - 2020	1,332 – 1,766 (1)	222 – 232 (2)	6 – 7.61
Student	1,500 -1,800	165.2 – 178.4 (3)	8.4 – 10.89

Sources: (1) OCDE.Stat. (2021); (2) Eurofound, (2021); (3) Rivadeneyra (2015).

Table 2 shows the values in hours that the ECTS credit should have to equal the daily workload of a student to that of an European worker in 2020. It ranges from 16.52 hours per ECTS credit for a daily load equal to the European minimum (in Germany, with an average of 6 hours daily work), during the minimum academic calendar measured in Rivadeneyra (2015) (165.2 school days), and 22.62 hours per credit in case of the European maximum workday (Poland, 7.61 hours) and the longest academic calendar (178.4 days, assuming that on inter-term vacation days the student will work the same hours as on standard days included in the academic calendar).

Table 2. Hourly value of the ECTS credit to plan a daily workload similar to that of workers.

Daily working hours	Annual working days (min-max)	Annual working hours (min-max)	Hours/ECTS credit
6	165.2 - 178,4	991.2 – 1,070.4	16.52 – 17.84
7.61	165.2 - 178,4	1,257.17 – 1,357.62	20.95 – 22.62

3. Consequences

Great efforts are being made to correctly plan the workload required to students. In accordance with legislation, these schedules are made considering that an average student has to work at least 1,500 hours per year, which gives rise to weekly and daily loads well above that borne by European workers. For example, in Sánchez (2014), a scheduled workload of about 45 hours per week is considered appropriate in a Spanish university, planning up to 51 hours for some weeks. In other European countries things are not different. As a sample, in Komenda and Malisa (2011) an average of 50 hours per week is also planned. If we consider that European legislation expressly prohibits working weeks longer than 48 hours (European Union, 2003), we should conclude that it is not reasonable demanding our students to exceed this limit.

Anyway, it is not only a question of labor legislation (which is not applicable to students), it is also a question of the quality of the university system, or even student health. It is known that an excessive student workload hinders an adequate assimilation of concepts (Ruiz-Gallardo et al, 2011), and that it leads to superficial learning (Bachman & Bachman, 2006; Lizzio et al, 2002). Overload is also related to absenteeism (Cerrito & Levi, 1999), and academic failure (Cope & Staehr, 2005), being one of the main causes of drop out (Woodley & Parlett, 1983). Its consequences can be really harmful for students health, affecting their self-esteem and self-confidence (Chambers, 1992), or even producing anxiety and depression (Diaz et al, 2001).

On the other hand, measurements of the real effort put into by students (Jimenez-Munoz, 2015; Souto-Iglesias & Baeza-Romero, 2018) reveal that, in general, they manage to not comply with the schedules their teachers make, and they are carrying out their courses working fewer hours than planned. Perhaps it is just a natural defense mechanism to preserve their health, but aforementioned negative effects on the quality of learning are unavoidable.

This scenario is changing as the Bologna process is boosting the paradigm shift from teacher-centered to student-centered higher education. These new modes of learning and teaching, often involve a much closer control of the work done by students inside and outside the classroom. That is, these new methodologies provide teachers with tools that, to a certain extent, force students to really do the tasks planned in a course. So, in this emerging scenario students will not have as much freedom as they have been up to now to comply or not with the hours outside the classroom planned by the teacher. One of the publications that analyze the impact of this methodological change on the student's workload is Ruiz-Gallardo et al. (2011). Their results confirm the increase in student effort induced by the introduction of student-centered active methodologies: it measures an average increase of 266% in student effort after changing the methodology, and warns of

needing to monitor the actual hours that the student invests, just to detect and correct dangerous overload.

Another consequence of the explosive combination of new methodologies and oversized ECTS credits is exposed in Navarro et al. (2014). They measure the worsening of results in companion courses (in the same term) of those that introduce active methodologies. They have found that active courses cannibalize students' time, leading to a harmful side effect in companion courses, which are deprived of that student time. Navarro et al. (2014) defend that, to avoid this, all courses should implement these changes simultaneously. We think that, before it, the workload of every course should be redefined downwards.

4. Conclusions and proposals

The conclusions drawn from the above are the following:

1. The analysis of the academic calendar reveals that the ECTS credit is oversized. Only by requiring the student to work above the average for European workers, and, frequently, even above labor legislation, could schedules with 25-30 hours per credit be fulfilled.
2. Measurements of the effort of the students show that, in general, they are not performing the 25 or more hours planned for an ECTS credit. This is a risk for the credibility of the ECTS system.
3. The new teaching methodologies that monitor the student's work can force the student to perform the workload planned. The serious consequences on the quality of teaching and on the health of students that would have to approximate the effort made by the students to the 25-30 hours planned per credit will make clear the unfeasibility of this ratio.
4. If actions are not taken to correct this situation, we will find that each university or each center will face the reality of the infeasibility of the 25-30 hours/credit ratio in its own way. In other words, every institution will adopt its own credit/hours ratio, jeopardizing the usefulness of the ECTS system as a tool to facilitate the mobility between EHEA institutions.

Our proposals to correct this situation are:

1. In order to neutralize the risks for the EHEA, as soon as possible update current recommendations and legislation to associate 20 hours of workload with an ECTS credit.

2. In order to avoid damage to the quality of teaching and/or to the health of students, those responsible for university courses should plan considering 20 hours/credit, even without waiting for regulatory changes.

The proposed 20 hours/credit ratio is based on data in Table 2, as a mean value between the maximum and minimum collected in it. So, it is an hourly value of the ECTS credit that leads to a workload for students similar to that for workers. Furthermore, it is a value that has been already adopted in some European states (United Kingdom and Ireland).

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