Institutional Research Monthly-Friday Fact (IR-MFF), Issue 10-2018

Office of the Provost, Nazarbayev University

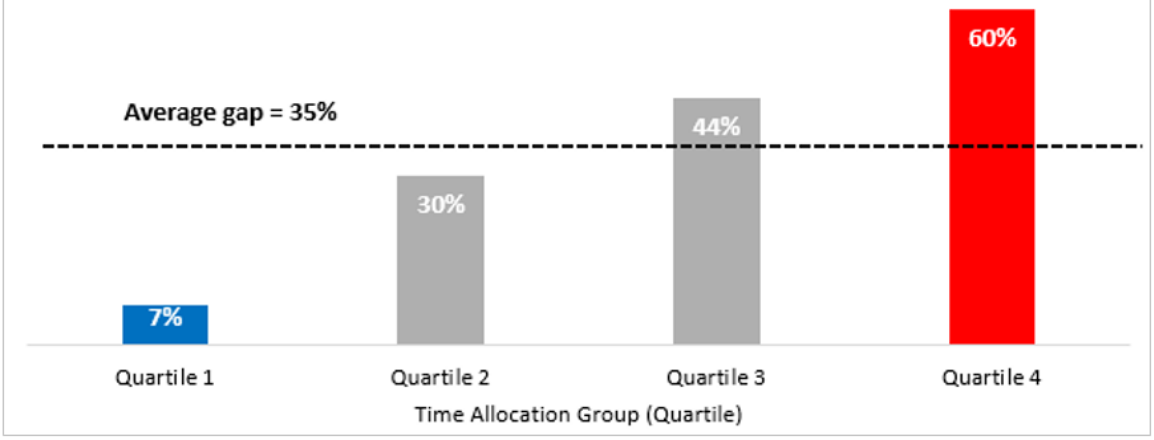
Does the Gap between Actual and Expected Time Allocation Impact Undergraduate Academic Performance?

Time is a "key indicator of student [academic] engagement" (Baik 2015). Although not a measure of learning per se (Harris 2002; Shedd 2003), time is an important input in knowledge acquisition and skills development (Babcock 2010, 2011). It is a key measure of student effort, which is "the most fundamental input in the education production function" (Stinebrickner 2008).

We used survey and administrative data on 2,232 first-year and fourth-year undergraduate students (2016-2018) to examine the gap between actual and expected time allocation based on ECTS standards. Using a quasi-experimental design, we examined the relationship between time allocation gap (TAG) and academic performance.

Figure 1 shows that first- and fourth-year undergraduate students allocated 35% less time to academic activities (class attendance and out-of-class study) than expected under ECTS standards. There was a considerable variation. Time allocation gap was substantially smaller for students in the bottom 25% (Quartile 1) but considerably larger for those in the top 25% (Quartile 4).

Figure 1. Average ECTS Time Allocation Gap in Percent.
Undergraduate students allocated 35% less time to academic activities than expected under ECTS standards. **Students in the bottom quartile allocated 7% less time** and **those in the top quartile 60% less time** to academic activities than expected (given their ECTS credit load).



After adjusting for background characteristics (Figure 2), we found that term GPA for students in the bottom 25% of TAG (most diligent students) was higher compared to the GPA for students with similar background characteristics but whose TAG was in the third or fourth quartile. The same pattern of results was observed for fourth-year students, though the GPA difference between treatment and comparison groups decreased slightly. Analyses based on Carnegie Credit standards resulted in similar results as

those observed under ECTS standards.

Figure 2. Adjusted Term GPA for Treatment and Comparision Groups: First-Year Students.
Adjusted term GPA was higher for students in the **first quartile (Q1)** of ECTS time allocation gap compared to students with similar characteristics who were in the **third (Q3) or fourth (Q4) quartile.**

These findings raise several questions for reflection. (1) Why are students investing substantially less time in academic activities that expected? (2) How well do students achieve learning outcomes, given the observed level of time investment? (3) What can schools/programs do to ensure that time investment (quantity/quality) is proportional to the level/quality of learning outcomes students are expected to achieve?

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We invite you to write to IR (ir@nu.edu.kz) and (1) share your thoughts and experiences relative to the topic under discussion in this **IR-MFF** issue and/or (2) suggest a question/topic that you would like us to address in a future issue of the **IR-MFF**.

The IR-MFF is published every last Friday of the month or, if the relevance and timeliness of the topic require, earlier (August through November and January through April). Analyses are *limited to 300 words or less (narrative text) and one or two graphs/tables*. If you need more detailed information (methodological or otherwise), please contact IR at ir@nu.edu.kz.