

The Core Pedagogy: Is There a Difference in Student Performance and Engagement?

Martha Anyango Omolo (University of Exeter)

Friday 3 September, 09:10-10:40 BST

Students highly value good performance in their learning process. In universities, students' perception of a subject being interesting not only draws them to it but also influences their belief about their performance in the subject in subsequent academic years. Economics as a subject is lagging behind in attracting a wide range of students as it has the potential to, yet the study of economics helps us understand how societies and resources are distributed in our highly globalised world (Bayer et al., 2020). To attract more students to economics, new pedagogies of teaching it have been developed. One such pedagogy is the CORE pedagogy, which provides students with a way of thinking how the entire economy works together (CORE Team, 2017). Thereby improving students' interest in economics and having a positive attitude about their future academic performance.

While the CORE pedagogy has been adopted by at least 375 universities (CORE Team, 2021) and numerous studies evidence its ability to attract more students to economics (Bayer et al., 2020), there is still inadequate research on whether the pedagogy improves the performance of students in subsequent academic years compared to those who are taught using traditional methods. Studies on grade comparison by University College London (UCL), shows that in their second year, the first cohort taught economics using the CORE pedagogy, outperformed the previous cohort taught economics the traditional way (UCL, 2017). Similarly, studies by Cardak (2021) show that students taught economics using the CORE pedagogy in the first year outperform those taught by traditional methods in a common course for both groups of students. These findings show that CORE as an interactive pedagogy increases students' performance which is consistent with the findings of Freeman et al. (2014). Although these studies demonstrate the benefits of the CORE pedagogy, their focus is not on the effectiveness of the pedagogy in a blended learning environment and post Covid-19 pandemic, which this study focuses on.

Therefore, this study investigates whether the introduction of the CORE pedagogy to first year economics undergraduate students at University of Exeter in 2019-2020 improves their academic performance in their subsequent year or not. The study addresses two research questions. First, what is the relationship between performance and students who were taught using CORE pedagogy? Second, what is the relationship between level of engagement and students who were taught using CORE pedagogy?

To address the first question, the study uses a regression analysis using data on grades of second year students over the 2020-2021 academic year for students enrolled in the

Economics, Economics with Econometrics; and Economics and Finance programmes who learnt economics using the CORE pedagogy in their first year; and compares them with the grades of previous cohort students who did not learn first year economics using the CORE pedagogy. Consistent with existing studies (Jacob and Rothstein, 2016; Mallik and Lodewijks, 2010), the study also controls for student characteristics: gender, nationality; pre-university qualification; and prior economic knowledge, all of which influence a student's performance. The preliminary results, shows that the second year students who were taught economics using the CORE pedagogy in their first year, outperform those students who were not taught using the pedagogy in their first year, in compulsory and research oriented modules.

Student engagement in their learning process is vital for their academic success (Fitzgerald et al., 2016). However, measuring student engagement is challenging and no standard way of doing it exists. Kirby and McElroy (2003), use class attendance as a proxy for engagement and show a positive correlation between class attendance and student performance. During the Covid-19 pandemic, restrictions on movement, safety and welfare of both students and educators, time zone differences and internet connectivity issues made it difficult to use class attendance (both physical and online) as a proxy of engagement given the large size of economic classes, necessitating the need to use other proxies for student engagement. Therefore, to address the second question, this study uses data on student habits from two sources. First, frequency of logins on the university's virtual learning environment (ELE) and duration of time spent doing learning activities on ELE. Second, frequency of viewing, and duration spent viewing and doing activities of instructor recorded videos using Panopto.

The preliminary results of this study show that students learning economics using the CORE pedagogy outperform their counterparts in subsequent academic year. Therefore, the implementation of the CORE pedagogy beyond first year economic students should be considered by the department.

REFERENCES

Bayer, A., Bruich, G., Chetty, R. and Housiaux, A. (2020) 'Expanding and Diversifying the Pool of Undergraduates who Study Economics: Insights from a New Introductory Course at Harvard', National Bureau of Economic Research

Cardak, B. (La Trobe University) 2021) Teaching Economics 101 using CORE's The Economy: Evidence on the benefits of a new approach. In: Proceeding of the 25th Australasian Teaching Economics Conference (ATEC2021), July 2021

CORE, Team (2017) Core Econ: Economics for a Changing World The Economy. Available at: <https://www.core-econ.org/>

CORE, Team (2021) Core Econ: Economics for a Changing World The Economy. Available at: <https://www.core-econ.org/universities-using-core/>

Developments in Economics Education Conference 2021

Fitzgerald, H.E., Bruns, K., Sonka, S.T., Furco, A. & Swanson, L., (2016). The centrality of engagement in higher education. *Journal of Higher Education outreach and engagement*, 20(1), pp. 245-254.

Freeman, S., Eddy, S.L., McDonough, M., Smith, M.K., Okoroafor, N., Jordt, H. and Wenderoth, M.P (2014) 'Active learning increases student performance in science, engineering, and mathematics', *Proceedings of the National Academy of Sciences*, 111(23), pp. 8410–8415. Doi: <https://doi.org/10.1073/pnas.1319030111>

Jacob, B. and Rothstein, J. 2016. "The Measurement of Student Ability in Modern Assessment Systems." *Journal of Economic Perspectives*, 30 (3): 85-108. DOI: 10.1257/jep.30.3.85

Kirby, A. and McElroy, B. 2003. "The Effect of Attendance on Grade for First Year Economics Students in University College Cork." *Economic and Social Review* 34(3): 311–26.

University College London (2017) 'UCL's radical approach to economics teaching sparks a global trend'. Available at: [UCL's radical approach to economics teaching sparks a global trend | UCL News - UCL – University College London](#)