

# The State of UNDERGRADUATE LEARNING

BY JOSIPA ROKSA AND RICHARD ARUM

*Josipa Roksa is an assistant professor of sociology at the University of Virginia. Richard Arum is a professor of sociology and education at New York University and program director of educational research at the Social Science Research Council. They are co-authors of *Academically Adrift: Limited Learning on College Campuses* (University of Chicago Press). The authors thank the Lumina Foundation, the Carnegie Corporation of New York, the Ford Foundation, and the Teagle Foundation for their generous financial support for this project and are grateful to the Council for Aid to Education for its collaboration and assistance with data collection.*

**H**ow much are students learning in college? That question begs another one: What *should* students be learning in college? In *Our Underachieving Colleges*, former president of Harvard, Derek Bok, proposed a range of goals, from learning to communicate to developing character and learning to live in a diverse and global society. He also pointed out that while faculty rarely agree on the purposes of higher education and tend to shy away from discussions of values and morals, they overwhelmingly agree that their students should learn how to think critically. Indeed, a recent study by the Higher Education Research Institute noted that virtually all faculty report that developing students' ability to think critically is a very important or essential goal of undergraduate education, as is promoting students' ability to write effectively.

But even if faculty concur that students should develop critical thinking and writing skills (among many others) during college, the question remains of how those skills should be assessed. In its critique of higher education, the Spellings' Commission claimed, based on findings from the National Assessment of Adult Literacy, that "the quality of student learning at U.S. colleges and universities is inadequate and, in some cases, declining." The Commission also highlighted some promising attempts to assess collegiate learning, including the Collegiate Learning Assessment (CLA). Since then, the CLA, along with the Collegiate Assessment of Academic Proficiency (CAAP) and the Measure of Academic Proficiency and Progress (MAPP), has been adopted by the Voluntary System of Accountability (VSA) as a measure that institutions may use to report on the learning of their students in the VSA's College Portrait.

The CLA focuses on general skills such as critical thinking, analytical reasoning, and written communication. It consists of three components: a performance task and two analytical writing exercises (make an argument and break an argument). The performance task is the CLA's most innovative component. Students have 90 minutes to respond to a writing prompt representing a "real-world" scenario, in which they are presented with a task or a dilemma and need to use a range of background documents (from memos and newspaper articles to reports, journal articles, and graphic representations) to solve it. The testing materials, including the background documents, are accessed through a computer. (Go to the CLA website at <http://www.collegiatelearningassessment.org> for examples of representative performance tasks and scoring rubrics).

In *Academically Adrift: Limited Learning on College Campuses*, we use the performance-task component of the CLA to gauge learning in higher education. While recognizing that critical thinking, analytical reasoning, and writing are not the only skills to be developed in college and that the CLA is not the only way to measure them, an analysis of students' performance on the CLA can provide useful insights into college-level learning.

Our findings emerge from a study organized by the Social Science Research Council (SSRC), as part of its partnership with the Pathways to College Network. In 2005, we joined the effort by the Council for Aid to Education (CAE) to assess the development of students' critical thinking, analytical reasoning, and writing skills using the CLA.

Over 2,300 students across 24 four-year institutions took the CLA in fall 2005, at the beginning of their freshman year, and again in spring 2007, at the end of their sophomore year. The colleges and universities were representative of four-year institutions across the country based on demographics (gender and race/ethnicity) and academic preparation (as measured by the SAT/ACT scores of entering freshmen).

It is important to note that we focused on traditional-age students. Assessing the learning of non-traditional students, such as those who enter college years after high school graduation or who typically attend community colleges, presents a unique set of challenges which were beyond the scope of our study.

## LIMITED LEARNING

So, how much are students learning? Based on our analysis of the CLA, the answer for many undergraduates is: not much. In the first two years of college, students on average improve their critical thinking, analytical reasoning, and writing skills by only 0.18 standard deviations. This translates into a 7 percentile point gain, meaning that freshmen who entered higher education at the 50<sup>th</sup> percentile would reach a level equivalent to the 57<sup>th</sup> percentile of the incoming freshman class by the end of their sophomore year.

Since standard deviations and percentiles are not the most intuitive ways of describing learning, we also put it this way: how many students show no statistically significant gains in learning over the first two years of college? Answer: 45 percent. A high proportion of students are progressing through higher education today without measurable gains in critical thinking, analytical reasoning, and writing skills as assessed by the CLA.

While this overall portrayal of learning is not encouraging, there is much variation among students. By asking students about their college experiences during their sophomore year, we were able to explore how different factors are related to student learning, as measured by improvement in CLA scores over the first two years of college.

### INVESTING TIME IN LEARNING

We find a positive association between hours spent studying and gains on the CLA: Not surprisingly, the more time students spend studying, the more they learn. As much educational research has argued, time on task matters. But college students today do not spend much time on task.

Students in our sample reported studying on average only 12 hours a week during their sophomore year. Even more alarming, over 40 percent reported preparing for their courses for less than ten hours per week, and almost 40 percent dedicated less than five hours per week to studying alone. Students also went to classes and labs for an average of 15 hours a week. Taken together, this means that students on average spent less than one fifth (16 percent) of their seven-day week in academic pursuits.

This is not an anomaly of our sample or a “sophomore slump.” Findings from the National Survey of Student Engagement show that almost half (44 percent) of students from freshmen to seniors spend 10 or fewer hours per week studying. And for those who are tempted to suggest that students *never* spent much time studying, recent work by labor economists Philip Babcock and Mindy Marks indicates that the precipitous drop in study time occurred after the 1960s. In the first half of the 20<sup>th</sup> century, students spent twice as much time studying as they do today.

If they are not studying, what are students doing with their time? Some of it is spent working, volunteering, and participating in clubs and other organized college activities. However, on average, students in four-year institutions spend most of their “free time” (i.e., time outside of class) socializing and recreating.

A recent study of University of California undergraduates by sociologist Steven Brint reported that while students there spent thirteen hours a week studying, they also spent twelve hours socializing with friends, eleven using computers for fun, six watching television, six exercising, five on hobbies, and three on other forms of entertainment. Students were thus spending on average 43 hours per week outside of the classroom on these activities – i.e., over three times more than the time they spent studying.

Crucially, not all study hours are the same. We find a positive relationship between learning and time spent studying alone but a negative association between learning and time spent studying with peers. This finding holds even after we control for a host of background characteristics, including academic preparation (students’ high school grades, SAT/ACT scores, and AP courses) and institutions attended. Regardless of model specification, the more time students spend studying alone, the more they improve their CLA performance. In contrast, the more time they spend studying with peers, the lower their gains on the CLA.

This finding appears to contradict a long research tradition. The work of Vincent Tinto, Alexander Astin, and others has emphasized the importance of social engagement in higher education, particularly with respect to persistence. Astin also proposed that engagement (assessed with a student-student interaction scale)—by which he meant academic activities such as discuss-

ing course content with other students and working on group projects for classes, as well as social activities such as participating in student clubs or organizations—is related to learning (as indicated by GPA and students’ self-reports). Focusing more specifically on active and collaborative learning, a recent review of the literature by George Kuh and his colleagues concluded that “active and collaborative learning is an effective educational practice because students learn more when they are intensely involved in their education and are asked to think about and apply what they are learning in different settings.”

But a recent article by Robert Carini, George Kuh, and Stephen Klein showed no correlation between NSSE’s benchmark for active and collaborative learning (in either bivariate or multivariate forms for the full sample) and a RAND measure of critical thinking. Recent findings emerging from the Wabash National Study of Liberal Arts Education similarly show no association between cooperative learning (measured by students’ working in study groups or with peers on projects in and outside of class) and the CAAP’s measure of critical thinking.

This is not to suggest that no form of active and collaborative learning is beneficial. Extensive efforts following Uri Treisman’s pioneering work on collaborative learning in mathematics have shown promise, particularly for less-advantaged groups of students. Similarly, the Association of American Colleges and Universities (AAC&U) has highlighted the benefits of peer learning and learning communities. Early results from the Opening Doors Demonstration Project in particular are also promising regarding the benefits of learning communities.

These discrepancies reflect the fact that the studies vary along a number of dimensions, including the measures of active and collaborative learning, the specific contexts and structures within which that learning occurs (e.g., whether it occurs inside or outside of the classroom), and the outcomes considered. For example, while the work of Carini and his colleagues showed no relationship between NSSE’s measure of active and collaborative learning and a test of critical thinking, active and collaborative learning *was* related to students’ GPA. The relationships also varied across groups: lowest-ability students seemed to benefit more from active and collaborative learning with respect to both their GPA and critical thinking.

Active and collaborative learning occurring within structured programs, such as Treisman’s Emerging Scholars model or learning communities, differs from the learning that occurs (or doesn’t) when students work together without guidance. The diversity of possible practices and their results highlights the need to think carefully about how to structure collaborative activities so that they can produce desirable educational outcomes.

### EXPECTATIONS AND COURSE REQUIREMENTS

Students may not be spending a lot of time studying, but that may at least in part reflect the finding that they are not being asked to do much by their professors. Fifty percent of students in our sample reported that they had not taken a single course the prior semester that required more than twenty pages of writing. One-third of students did not take a course the prior semester that required on average even 40 pages of reading per week.

Combining these two indicators, we found that a quarter of the students in the sample did not take any courses that included either of these two requirements, and only 43 percent of students experienced *both* of these requirements the prior semester. If students are not being asked to meet even these modest reading and writing requirements, how can we expect that they will



improve their critical thinking, analytic capacities, and writing skills in college?

When faculty members include reading and writing requirements in their courses, even at these modest amounts (i.e., reading more than 40 pages a week and writing more than 20 pages over the course of a semester), students improve their performance on the CLA. Having either reading or writing requirements is not sufficient. Only when students take both courses with reading and courses with writing requirements do they substantially improve their critical thinking, analytic reasoning, and writing skills.

For skeptical faculty members who think that increasing requirements is a waste of time because students will not complete the assignments anyway, we find that students are responsive to faculty demands. When students report that they have taken a course where they had to read more than 40 pages a week and a course where they had to write more than 20 pages over the course of the semester, they also report spending two more hours per week studying than students who do not have to meet such requirements. Two hours may not seem like a lot, but it is substantial given the meager average investment of 12 hours a week.

Moreover, when faculty have high expectations, students learn more. Students who reported that faculty had high expectations developed their critical thinking, analytical reasoning, and writing skills during the first two years of college more than those who reported that their professors had low expectations. These findings align with an established sociological model of educational attainment, which has highlighted how expectations of significant others, including teachers, are important for spurring students' educational success.

## CONCLUSIONS

Changing higher education to focus on learning will require transforming students' curricular experiences — not only the time they spend sitting in their chairs during a given class period but everything associated with coursework, from faculty expectations and approaches, to the kind of teaching we do, to course requirements and feedback. Our findings indicate that spending time alone studying, having faculty who have high expectations, and taking courses that require substantial reading and writing—what previous research has termed “academic press” and “academic challenge”—are associated with students' learning over the first two years of college.

Our findings regarding academic rigor corroborate results from previous research. The distinctiveness of our study is the ability to relate what students do in college to changes in an objective measure of student learning over time, and to do so for a large number of students across two dozen four-year institutions. The simple answer is that in order for students to learn more, we need to increase our demands and expectations of them.

Increasing academic rigor may appear a simple proposition, but these findings highlight how challenging it is. Even after decades of conversations on the topic, only 43 percent of students in our sample took both a course that required more than 40 pages of reading a week and one that required more than 20 pages of writing over the course of the semester — which are arguably pretty modest demands. Moreover, fewer than 20 percent of sophomores in our study reported studying at least 20 hours per week, and fewer than 10 percent spent that amount of time studying alone, a level that several decades ago was considered merely an average or modest amount of class preparation.

Faculty members can raise expectations and course requirements. Administrators can communicate a greater sense of institutional purpose, one that assumes greater responsibility for shaping the developmental trajectories of students and prioritizes that organizational goal in decision making. Graduate students can be better trained, not only in pedagogy but also in understanding the importance and value of teaching.

These propositions, however, run afoul of the incentive structures that exist in contemporary higher education. While faculty spend a sizable proportion of their time teaching and preparing for classes, reward structures generally do not focus on these activities. Research is increasingly the key requirement for tenure in four-year colleges and universities of whatever type.

The current system seems to produce what George Kuh has termed a “disengagement compact” in which faculty do not require much of students and in return are not bothered by them. Perhaps even more problematically, graduate students, the future professoriate, are trained primarily to do research. Although recent decades have seen an increased interest in improving the preparation of graduate students for teaching, a recent survey of doctoral students by Chris Golde and Timothy Dore reported that only half had been given an opportunity to take a teaching assistant (TA) training course or to learn about teaching in their disciplines through workshops and seminars.

Similarly, administrators are rewarded for leading “successful” institutions. This tends to imply increasing the selectivity of the student body, since college-ranking systems place a disproportionate weight on the characteristics of the entering student body and pay no attention to whether and how much students are learning. Increasing one's position in the prestige hierarchy thus becomes equivalent to restricting access, not improving learning. Building the endowment (or in general securing financial resources, whether from private donors, state governments, granting agencies, or other sources) is another priority for administrators.

Having an academically prepared student body and an abundance of resources are obviously desirable characteristics. But they are not a reality for many institutions of higher education, and in chasing them, leaders can be diverted from pursuing what should be regarded as the core mission of colleges and universities: learning.

Actions of the federal government have exacerbated the situation. Since the 1970s, it has increasingly shifted financial aid from institutions to students, solidifying their role as consumers. In recent years, this market-based logic has been further extended by federal policies that rely on tax credits and student loans.

Moreover, the federal government has heavily invested in research, while teaching barely registers on the radar. The funds allotted to the Department of Education's Fund for the Improvement of Postsecondary Education (and that are not spent on pork-barrel projects) are minuscule in comparison to the federal budget for research and development. Public investment in research is a worthy end; at the same time, federal and state governments would do well to balance it with greater funding commitments tied to improving undergraduate learning.

At the turn of the 21<sup>st</sup> century, higher education is abuzz with conversations and activities regarding learning. Some institutions, such as those participating in the Voluntary System of Accountability or the initiatives of the New Leadership Alliance for Student Learning and Accountability, are measuring learning and considering different practices that may facilitate it (although, as the recent assessment institute at Indiana University-

Purdue University at Indianapolis made clear, changing practices is even more challenging and less prevalent than measuring learning).

Meanwhile, higher education organizations such as the Association of American Colleges and Universities (AAC&U), the American Association of State Colleges and Universities (AASCU), and the Association of Public and Land-Grant Universities (APLU) have issued statements and organized activities to encourage institutions to assess and improve undergraduate learning. And organizations such as the National Institute for Learning Outcomes Assessment have disseminated information regarding assessment efforts.

But collegiate student culture at four-year institutions continues to be described by scholars such as Mary Grigsby

and “Rebekah Nathan” (a pseudonym) as focused on social experiences, not academics. The National Survey of Student Engagement (NSSE) still reports that students dedicate a limited amount of time to studying and infrequently take rigorous courses. Pressures for research are not abating, many graduate students are earning degrees without having much (if any) training in pedagogy, federal money is not making a substantial shift to focus on learning, and popular institutional rankings are still based largely on who enrolls rather than on what students learn.

Perhaps the multitude of recent activities will gain momentum and lead to the slow transformation of higher education. That will only happen, though, if individually and collectively, we recommit ourselves to the fundamental mission of higher education: to educate the next generation. **□**

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