Students Educating Students: The Role of Peer Effects in Higher Education

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Why is student quality such serious business to colleges and universities, and why do prospective students care so much about the quality of an institution’s students? Why does selectivity loom so large in quality rankings like that of U.S. News and World Report? The answer is straightforward, and based on the implicit assumption that students learn better in the company of better students than with weaker ones. The proposition seems reasonable and persuasive, yet despite their potential importance, very little is known about peer effects in higher education. George Goethals, Gordon Winston, and David Zimmerman have begun a methodological investigation of the role of peer effects among college and university students.
Why Do Peer Effects Matter?

Peer effects appear to be central to the way educational services are produced and, through that, to the structure of colleges and universities. Higher education is characterized by a unique customer input technology—that is, students themselves are the only suppliers of an important input to educational production, which varies markedly across individuals. Schools, therefore, care very much about who their customers are; they sacrifice significant revenues by not accepting huge numbers of potential customers in an effort to maintain student quality. Public universities, which cannot legally turn away students, create enclave honors colleges, or campuses differentiated by quality where they can. Among the most selective private colleges and universities, competition for student quality has become fierce. The threat of high technology (and often for-profit) competition to conventional higher education should be assessed in light of peer effects. If such effects are important and difficult to generate via electronic media, there will be severe limits on the type and quality of education that new information technologies can replace. The distinction between education and training may become increasingly important.

Peer effects also may be relevant to the affirmative action debate. It's not a big step from the destructive stereotype anxiety identified by Stanford psychologist Claude Steele as reducing the confidence and competence of African-American students to the role of peer expectations and values in triggering or suppressing that anxiety. Further, should the argument prevail that it is unacceptable to allow minority representation in our best colleges and universities to fall significantly, then, in the absence of a proxy for race in admissions decisions, it may be necessary to lower standards for all to achieve acceptable levels of minority enrollment. Author Jeffrey Rosen has argued in The New Yorker that if peer effects are important, that situation would undermine the quality of public education in a way that affirmative action never did.

Do Peer Effects Really Exist?

Are there actually peer effects on learning? Is there an underlying educational rationale for all the attention paid to student quality, or is the competition for students driven by a less noble, hierarchical struggle among institutions? It seems important to know whether the magnitude of any educational benefits associated with peer effects warrant the resources expended to achieve them.

The most influential piece of research in this regard is the well-known study, Equality of Educational Opportunity, completed over 30 years ago by University of Chicago sociologist James Coleman et al. A key finding of the study, which included over a half million K-12 students, was that “...a pupil's achievement is strongly related to the educational backgrounds and aspirations of the other students in the school.”

A more recent K-12 study by Roberston and Simons of the London School of Economics used British data that follows the entire cohort of children born in a particular week in Britain in 1958. They found clear evidence that peer effects were positive and nonlinear—that weak students were helped more than strong students were hurt. Students were best off if they were in the top group of a school sorted by ability and worst off in the bottom group of such a school.

Further, author Judith Harris argues in her widely publicized book, The Nurture Assumption, that peers are much more important than parents in human development. Meanwhile, educational researchers have considered the benefits of peer assisted learning. These studies show the benefits of group versus solitary learning; inasmuch as researchers are interested in designing optimal learning environments, the effects of peers are important to their analyses.

A Methodological Approach

Determining whether peer effects exist is of primary importance. A key methodological issue that must be addressed is that people often select those with whom they associate. Thus, what may appear to be a peer effect may actually be a case of “birds of a feather flocking together.” Controlling for potentially confounding variables—particularly self-selection issues—is the central empirical challenge.
Other issues of interest include:

• Are peer effects nonlinear? That is, do the benefits of improving the peer environment diminish at some point?
• Are peers individuals, or groups, or is a broader institutional ethos more influential? How much can the college intentionally shape or change that ethos?
• Do peer effects work with equal force for better (good behavior and academic performance) or for worse (binge drinking, drugs)?
• Are peer effects dependent upon physical proximity or can they function just as effectively through cyberspace?

Two broad approaches are being undertaken, including experiments in the psychology laboratory and observation and econometric analysis of behavior.

Experiments in the Psychology Laboratory

This approach entails the study of live groups interacting in the laboratory to observe the impact of two peers on one fellow student. All three students read and discuss articles from the New York Times “News of the Week in Review.” The first study will look at the impact of two high ability peers vs. two modest ability peers on a modest ability student subject. It is expected that even in a situation with limited interaction, students learn more from high ability peers, and more enjoy doing so. The hypothesis is that face-to-face interaction with able, live peers will produce measurable increases in learning and motivation for learning.

Observation and Econometric Analysis of Behavior

Moving from a laboratory experiment to a natural setting where behavior can be observed is desirable; however, researchers must carefully avoid confounding results due to self-selection, as discussed above. One natural setting is in freshmen student housing where students’ rooms are assigned, not chosen.

The Andrew W. Mellon Foundation’s College and Beyond database provides an extraordinarily rich data set for the study of peer effects. It contains detailed information on the college experiences of approximately 90,000 undergraduates from 34 selective colleges and universities in cohorts entering in 1951, 1976 and 1989. One could, for example, check whether students tend to over or under perform conditional upon the SAT scores of their roommates. One could also check whether the over or under performance depends on either the student’s own SAT score or on the gap in scores between roommates. The presence or absence of peer environment effects could be measured at the roommate, entry and house level of proximity. The College and Beyond database also contains data regarding students’ pre-collegiate aspirations, presenting more interesting research possibilities.

Conclusion

The notion that students educate students is central to a diverse set of issues including selective admissions, affirmative action, and distance learning, among others. Beyond that, a clearer understanding of peer effects will help guide institutions as they face the formation of various student groups—formalized or not—that can have an enormous impact on students, campus atmosphere and, ultimately, the educational mission of the institution.

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