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How LT principles can improve diversity, inclusiveness, and student interest

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ABSTRACT

Economics has a well-documented problem with diversity. Literacy-targeted (LT) courses designed for a broader spectrum of students have the potential to help address the underrepresentation of women and racial/ethnic minorities in the discipline. The authors of this article explore how, by using the LT approach, introductory economics instructors can employ discussion, data, media reports, experiments, and other activities to broaden the applications of classroom content, including addressing issues of racism and discrimination.

KEYWORDS

Diversity; introductory economics; literacy-targeted

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While Black, Latinx, and Native American people comprise over 30 percent of the U.S. population,¹ they account for about 10 percent of economics doctorates earned by U.S. citizens and permanent residents over the five years ending in 2021.² As is well known, this is just one symptom of the profession's problem regarding race.

This problem does not begin at the graduate level. Underrepresented minorities³ earned only 18.5 percent of bachelor's degrees in economics in 2021. Latinx students earned over half of that 18.5 percent, Black students over 5, and Native American students 0.20, compared to population shares of 19, 13, and under 1 percent in that same year. A common reaction to these numbers is to argue that they are due solely to factors outside of the economics profession that prevent underrepresented minorities from pursuing more technical fields. That argument is undermined by the fact that these same groups account for over 21 percent of STEM majors.⁴

Tracing the issue further backward, to the very first course in economics encountered, Black, Latinx, and Native American students are underrepresented in principles of economics classes.⁵ Economics is turning students off before they even begin.

In a recent survey of teaching methods for introductory economics courses, Asarta, Chambers, and Harter (2021, 18) note

[V]ery little has changed in the past quarter-century. The typical instructor in introductory courses is predominantly a male, Caucasian, with a PhD. 'Chalk and Talk' remains the preferred method of instruction in introductory courses, along with the use of textbooks.

The median survey respondent does not discuss race or gender in their introductory course.

It is therefore unsurprising that economics has failed to attract and retain women and underrepresented racial and ethnic groups to the field when the best means of advertising (introductory economics) does not follow the best practices of the American Economic Association (AEA). The AEA recommends that instructors "offer course content that is relevant for diverse students, use effective and inclusive classroom techniques and build a sense of belonging for all students" (Bayer et al. 2019). Bayer, Bhanot, et al. (2020) show in their survey of introductory economics students that women and underrepresented minority

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students are less likely to feel that introductory economics is relevant to their lives, to feel a sense of belonging, and to believe that they can learn the material, with those last two differences achieving statistical significance between women and minorities versus white men.

Bayer, Hoover, and Washington (2020)⁶ surveyed and interviewed a sample of underrepresented minorities in economics: those who had considered and rejected economics as a career path and those who had left the field. Fifty-seven percent of interview respondents reported that the teaching of economics is a hindrance to increasing the number of minorities in the field. As a recent economics major interviewed for the project explained, “Most of my beginning theory classes, they were not inspiring. They weren’t interesting.” The respondent notes that while he was not turned off from economics, he saw many minority students who were, but that it does not have to be this way.

I’m now on academic Twitter on Econ and I see how hard some professors ... work to make their beginning materials interesting to their students. When I see the material, I get interested in their work even though it’s Econ I. That makes me think. I think, ‘Econ can be extremely engaging to a wide array of people.’

This essay offers suggestions for engaging a greater array of principles students through literacy-targeted (LT) instruction, an approach that has the potential to increase student interest in economics, particularly among students currently underrepresented in the field.

Literacy-targeted instruction

Over 40 percent of undergraduates today take a course in economics (Siegfried and Walstad 2014). Under 2 percent⁷ major in economics. Recognizing the large audience in principles as an opportunity to acquaint a wide swath of students with economic concepts that will impact their lives as workers, voters, consumers, and household members, the goal of an LT first course in economics “is to provide students with a self-contained opportunity to attain a deeper understanding and working knowledge of a short list of economics concepts” (Salemi 2005, 46). Gilleskie and Salemi (2012) note that a standard principles class covers 24–27 chapters of text; in the authors’ version of the LT classroom, that is reduced to 16. While professors will differ in what they see as essential to include in an LT principles course, Salemi (2005, 46–47) explains, “[T]he short list will always include scarcity, opportunity cost, marginal costs and benefits, demand, supply and market price. It will rarely include accelerators, Nash equilibria, money multipliers and monopsony.” Thus, there is no hard rule on the number of chapters or topics to be discussed in an LT classroom. The idea is to decrease breadth in order to increase depth.

There is no evidence that this narrowing of the introductory economics curriculum impacts student performance at the intermediate level. Gilleskie and Salemi (2012) and Benjamin, Cohen, and Hamilton (2020) compare students who self-selected into either a traditional principles or LT principles course at UNC—Chapel Hill (UNC) and the University of Toronto (UT), respectively. At neither school did LT students perform worse in intermediate theory courses than students who took the traditional introductory course.⁸ This is true for female as well as male students. Neither study reported results by race/ethnicity.

The time freed up in the LT approach can be devoted to discussion, simulation, and application with the goal of ensuring that students can apply the fundamental concepts to the contexts of their lives. The lack of such discussion, simulation, and application was precisely the impediment that so many interviewees stressed as a great limitation of introductory economics for attracting Black and Brown students to the field (Bayer, Hoover, and Washington 2020, 210). “Being able to connect what’s happened in the classroom with what a given student’s lived experience or question is, is extremely useful,” said the student who argued above that economics could be more engaging. An economics PhD student who was interviewed for the same project added that people of color

tend to find sociology more interesting early on because of the topics that it addresses that are more relevant to people of color. Economics doesn’t really signal that it cares about these things.... Just changing the topics and making it more relevant for minorities would do a lot in changing who selects into economics.

Bayer and Wilcox (2019, 311) state

[T]hus, our foremost request to textbook authors, publishers, and other curriculum writers such as the College Board is that they design and revise their materials with a central question in mind: Are issues of race, gender, and class integrated into the material in a way that will allow a broader swath of students to see economics as relevant to people like them? We suggest that textbook authors commission critical reviews of their own materials, with the goal of identifying how those materials can be made more inclusive along gender, race/ethnicity, and socioeconomic lines.

By trimming the introductory economics curriculum to those most relevant and applicable concepts, the LT approach leaves room for the instructor to add to the introductory course in ways that will both deepen economic understanding and widen economics' appeal. By eliminating topics like cost curves and isoquants, instructors can expand the contexts where key concepts are applied, introduce economic role models that look like the variety of students in the classroom, move beyond "chalk and talk" to discussions, role play and hands-on activities, and provide basic information on what economists actually do, all of which are likely to expand appreciation for the field beyond the typical demographic. In the remainder of this article, we discuss and provide examples for each of these innovations to the principles curriculum and thus contribute to the growing literature on how interventions to the introductory economics classroom can help to increase diversity and inclusion.

Integration and implementation

Topical applications

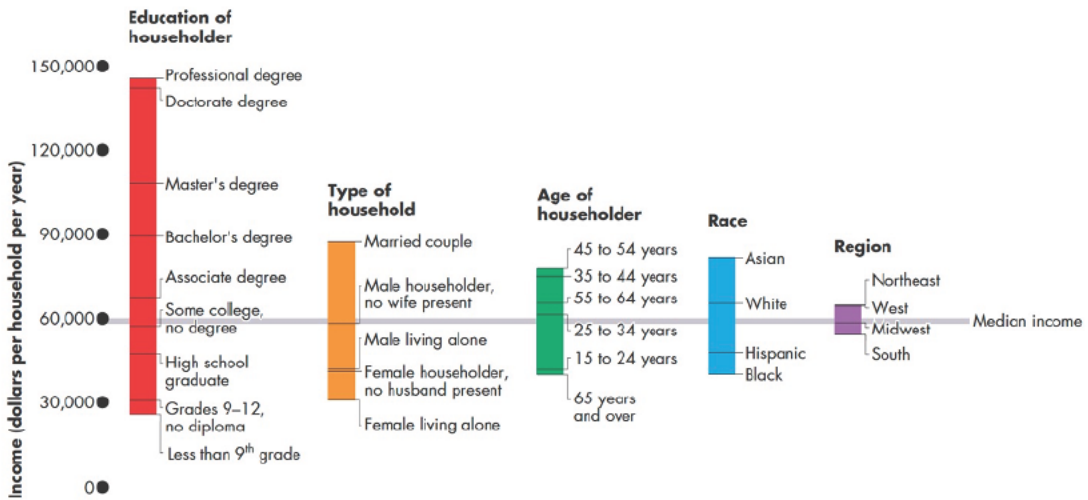
The underrepresented racial/ethnic minority respondents to the Bayer, Hoover, and Washington (2020) project bemoaned the lack of humanity in introductory economics courses. Recalling a conversation in which an economics graduate student argued that economics is like physics, a recent college graduate who majored in economics explained, "But we're not like physics because we're dealing with people and I think that if that had been somehow communicated more in an intro class, that would have made economics so much more appealing."

LT instruction, with its more modest list of concepts, leaves room to drive home those concepts with applications that are interesting and relevant to students' lives. For example, survey respondents wished that they could have seen earlier on in the economics curriculum issues from policy and current events, including housing, education, trade, immigration, and especially discrimination, inequality, and race.

As noted above, in the median principles class, race/ethnicity is not mentioned at all. This is generally the case when instructors fall into the false narrative of *ceteris paribus*, or all things equal. After all, teaching our students that all agents are rational and, as such, are utility or profit maximizers leaves little room to explain lived experiences. In market-based models, discriminatory behavior is competed away. If race is discussed at all in the principles classroom, it is tangential. On the other hand, it might be asked whether a section or module devoted to the topic might be appropriate.

We would argue that neither extreme is appropriate. Race can and should be woven into class discussions of basic economic constructs, such as the labor market. For example, we know from the work by Bertrand and Mullainathan (2004) and Cook, Logan, and Parman (2014, 2016) that there is significant bias against individuals with "black-sounding names" and thus, all else is not equal when Black applicants of equal ability have an unequal opportunity to even make it to the interview stage, let alone into a wage regression (that omits zeroes). This information could be incorporated into presentations of the estimates of market returns to various observable characteristics.

Race could be discussed along with income distribution. In his principles classroom, Gary Hoover asks students about predictors of a person's placement on the income distribution, beginning generally with education. He then shows that even conditional on education, there is substantial variation left to explain. Students offer other predictive factors: age, type of household, geographic location. But even after accounting for these differences, significant variation in income remains. As the discussion continues, students arrive at gender and race as explanatory variables. (See figure 1, taken from Parkin [2018], for a visual accompaniment to the discussion.) For professors to ignore race—a factor that first-year



Source: Figure 2, Chapter 19, M. Parkin (2018). *Microeconomics*. 13th ed.

Figure 1. The distribution of income by selected household characteristics.

college students recognize as relevant in talking about income—only makes economics seem out of touch and unappealing, explained respondents to the Bayer, Hoover, and Washington (2020) project.

From income distribution, an instructor might move on to the tax system. For example, the instructor could lead a discussion of the relative merits of the progressive versus the flat tax. Which system would have a greater impact on those who are “stratified” in the current system? In addition, a rather robust discussion can arise from the logical questions that come at the end of a lesson on redistributive tax policy, namely: what are the opportunity costs of such actions? Is there really a deadweight loss? How are these incentives in line with encouraging individuals into the labor force?

Race also could be discussed along with government intervention in the economy, with examples of how supposedly race-neutral policies, like the Federal Aid Highway Act of 1956 or the CARES Act of 2020, furthered inequality by race. Black and Latinx business owners were 1/3 as likely to receive the initial Paycheck Protection Program (PPP) funding, conditional on application, as business owners generally.⁹

Labor markets, inequality, and government interventions in the economy are but three examples that are illustrative of how race can be integrated throughout the principles curriculum. As a respondent for the Bayer, Hoover, and Washington (2020) project noted, “If you’re going to [discuss] Uber [in the classroom] then why don’t you also do the problems that Black women face in calling Uber?” The integration of race into the curriculum, rather than segregating the topic into its own module or course, will not only demonstrate the centrality of the topic to economics but may also make it easier for the professor, inexperienced in teaching race in the economics classroom, to navigate these issues. Currently in economics, race enters the economics curriculum late—after students pass through introductory and intermediate theory to reach electives—or never. Another respondent reported that it was not until she had graduated from college and read about Raj Chetty’s research in *The New York Times* that she realized, “Oh economists do this. Economists take race into account?” The Diversifying Economic Quality (Div. E. Q.) Web site (Bayer 2021) provides curricular and pedagogical support for instructors interested in diversifying principles or other economics courses.

Underrepresented students are anxious to hear about topics outside of race as well. Many respondents spoke about how demonstrating the applicability of economics to key policy issues of the day would help to attract underrepresented students to the economics classroom. Here, the possibilities are unlimited: a discussion of climate change around externalities, the employment effects of the minimum wage around price floors, and the equity and efficiency of tuition-free college around cost/benefit analysis of policy are just three possibilities.

Pedagogy/approaches and resources

The paring down of topics in the LT classroom leaves room to not only delve deeper into the topics that are covered but also to be broader in terms of the ways these topics are covered. Despite the literature demonstrating the benefits of active learning on the performance of students, particularly underrepresented minorities and women (Bayer et al. 2019),¹⁰ as cited above, “chalk and talk” remains the dominant teaching paradigm in economics. Even for an instructor who insists on first presenting all material in lecture form, literacy-targeted instruction leaves room to complement the lecture with alternative forms of student engagement. As student learning styles vary, a greater variety of approaches is likely to reach a greater variety of student types. Games/Experiments, active applications, robust discussions, and the use of podcasts and other media can all be used in the classroom to great effect.

Games and experiments

The prisoner’s dilemma, the dictator game, and the public goods game are all commonly taught in principles courses. The economic education literature generally shows positive impacts of classroom games on student performance. (See Davis [2019] and Rodrigo-González and Caballer-Tarazona (2015) for reviews of the literature.) Beyond solidifying basic economic principles, games can be used to flesh out the policy, ethical, and behavioral impacts of economic theory and data. Schmidt (2015) proposes a modified public goods game in which the initial endowment is not uniform across players, and the return to the contributed tokens need not be split equally across players. With these variants, the game, followed by a classroom discussion to dissect players’ reasoning, illustrates not only the inefficiencies of the public good but also forces students to grapple with theories and practices of distributive justice.

Experiments also can be used to flesh out the humanity behind economics. Hoover and Kimbrough (2016) run an experiment that demonstrates how social comparison can lead to sub-optimal savings decisions. Subjects, assigned to be either low or high income, were offered the opportunity to invest their first-period income. In the baseline condition, low- and high-income participants are equally likely to invest. But in the information condition, where before subjects make their investment decision, the fact that high-income participants have a higher second-period expected income is made salient, high-income participants are more likely to invest, and low-income participants are less likely to invest than at baseline, despite the fact that the experiment was designed so that investment by both types would lead to the same increase in expected utility. The impact of social comparisons and inequities can be brought into the classroom either by reading and discussing the paper or by running the experiment itself in the classroom.

Games and experiments provide an opportunity for active and collaborative learning, the type of cooperative environment that several respondents reported would improve the economics classroom. “I wished that there was more collaboration. Sometimes economics felt lonely and boring,” explained one respondent to the Bayer, Hoover, and Washington (2020) project.

Fortunately, there are many sources of economic classroom games, from the resources that accompany textbooks, to journal articles, to a variety of Web sites.¹¹ To further enhance student engagement and learning, Bosley (2016) proposes having students design and analyze experiments from the ground up.

Active applications

A common complaint about introductory economics is that students have a hard time seeing the relevance of what they are learning.

When you’re taking the courses in economics, it seems like that’s all it is, just theory. You’re never really going to apply those things anywhere. At least that’s what I thought. It almost kind of gets boring, why am I learning all these different statistical methods and all this other stuff, I’m never going to use this? I think if you can show that to somebody, especially a minority ... [that it’s] actually pretty cool the stuff that you could do with it [that would help to increase diversity in the field.] Have more hands on, this is why you’re learning this.

—Government economist, respondent to Bayer, Hoover, and Washington (2020) project

Instructors can use the time freed up in the LT curriculum to have students grapple with concepts in ways that not only increase understanding but also serve to highlight the real-world relevance. Salemi (2005) provides an example of how to accomplish this with the concept of opportunity costs. He suggests a four-part exercise that moves from definition to application of the concept to a personal decision on whether and for how long to attend a party, to the use of the concept to write a reply to a politician who proposes increasing the hotel tax to fund the conversion of a broken-down pier to a park, to finally the employment of the concept in a class discussion on the value of human life. The Div. E. Q. Web site (Bayer 2021) is an excellent resource for additional activities.

Class discussions

The LT approach allows more time for class discussion. In addition to inviting students to ask clarifying questions and structuring class conversations as in Salemi (2005) to solidify learning, instructors in literacy-targeted classrooms will have space in the classroom for students to share what is on their minds in relation to economics. Students may not be experts in economics, but they are experts in their lived experiences. Relating those experiences to economic concepts, a connection that so many students of color see lacking in the field, will enhance retention. When discussing social comparisons, invite students to comment on inequities they have witnessed in their own lives or in lives of others and explain how these inequities have impacted them, for example.

Literacy-targeted teaching further leaves room for the instructor to invite students to question and critique the models. Speaking of economic actors as being rational flies in the face of what students witness every day; allowing students to voice objections encourages them to stay critically engaged and demonstrates that their views are welcome in the classroom. In Bayer, Hoover, and Washington (2020, 210), a respondent looked back fondly on an introductory economics class in which, “Every time in class [the teacher] would say, ‘I’m going to show you this model [and] I want you to know that these are all of the assumptions baked into this model. . . . Every day you should ask yourself whether those assumptions are really true.’”

Sometimes, instructors shy away from class discussion, fearful that a student or the instructor themselves may say something impolitic. In a class discussion, the instructor is as much a student as a teacher. The most important thing an instructor can do during discussion is listen. Students may express views opposed to what students or the instructor have said previously. That is not a negative. Learning occurs from wrestling with opposing views inside the confines of a respectful classroom. Listening is key. See the Div. E. Q. Web site (Bayer 2021), for support for fostering an inclusive classroom discussion environment.¹² Both the Div. E. Q. Web site and Al-Bahrani (2022) speak to classroom management and inclusivity more generally.

Podcasts and other media

The popularity of podcasts continues to increase, especially among young people and people of color. In the past ten years, the number of Americans who listen to podcasts has nearly quadrupled, with even greater growth among those aged 12–34 (Edison Research and Triton Digital 2021). Black and Hispanic listenership has increased five- and sixfold over a decade so these groups are now overrepresented in the United States among podcast listeners (The Nielsen Company 2021). While the impact of using mixed media in the classroom has not been rigorously and extensively studied, the evidence that does exist indicates positive impacts on student engagement and performance.¹³ Porter (n.d.) offers an example of how an audio broadcast can be used in the classroom. In a class on statistical discrimination, the instructor plays “Pennsylvania Moms Fight Hiring Bias,” a story on NPR’s *All Things Considered*, about a woman who claimed she was unable to find work because she had children, a form of discrimination, the piece states, that is legal in 28 states. The discussion that follows, the Web site advises, can include whether statistical discrimination should ever be permitted and what the government’s role should be in statistical discrimination.

There are a tremendous number of economics-related podcasts to choose from. Intelligent Economist's list of the 25 Best Economics Podcasts of 2022 (Agarwal 2022) and audioecon.com, "a curated library of more than 100 economics-themed podcasts,"¹⁴ (Moryl 2014) are resources.

While podcasts may be the latest fad and therefore useful in capturing the attention of young adult learners, there is a much broader array of media sources that are helpful in the classroom. Over the course of the COVID-19 pandemic, a tremendous number of economics-relevant webinars have appeared online. The Federal Reserve Banks' Series on Race and the Economy¹⁵ covered education, housing, and the history of Black banks, among other topics. Vox has a series on race and society useful for stimulating discussions on race and the economy.¹⁶ Newspaper articles, television shows, and movies can all be sources of economic teaching material and are becoming easier and easier to find. There are Web sites that spotlight the economic concepts in individual television shows such as *Superstore* (Wooten and Lynch 2022), *Modern Family* (Wooten, Staub, and Reilly 2020), and *Shark Tank* (Patel et al. 2014), among many others, as well as compendium Web sites that catalog economics-relevant episodes across series (Wooten 2018).¹⁷ Mateer, O'Roark, and Holder (2016) list the 10 best films for teaching economics. There is even a Web site dedicated to the economics in Broadway musical hit songs (Rousu 2016) and a guide for teaching from *ESPN 30 for 30* (Al-Bahrani and Patel 2015). Wooten, Staub, and Reilly (2020) provide a cross-media survey of the economics teaching resource landscape. Students also can be tasked to find or even create appropriate material to encourage their thinking about the relevance of economics beyond the classroom. See Moryl (2016) for a discussion of a group podcast creation project.

Economic research

The LT approach also leaves room in the curriculum for instructors to explain to students what economists actually do, a topic that is surprisingly absent from most introductory economics courses. In fact, Bayer, Hoover, and Washington (2020, 201) find that lack of good information is one of the top three factors hindering underrepresented minorities from pursuing a career in economics. Explained one respondent, "I lacked concrete information on what my career prospects would be beyond academia. I didn't even know until recently that I could have worked for the Federal Reserve" (201). Bayer, Bhanot, and Lozano (2019) underscore the power of information provision, demonstrating experimentally that emails to incoming women and underrepresented minority first-year students highlighting the diversity and breadth of economics research increased the likelihood of completing an economics course in the first semester by 3.0 percentage points, nearly 20 percent of the base rate.

Role models

Forty percent of respondents to the Bayer, Hoover, and Washington (2020) survey named a lack of role models in economics as a hindrance to a career in the area. With only 8 percent of academics employed in economics departments hailing from Black, Latinx, or Native American backgrounds,¹⁸ underrepresented minority students are extremely unlikely to be taught by principles instructors who look like them, which underlines the importance of racially diverse role models.¹⁹ While there is no direct evidence regarding race, there is experimental evidence on principles students' role models and gender. Porter and Serra (2020) show that just two 15-minute visits from women economists to introductory economics classrooms in a semester nearly double the fraction of female students going on to major in economics.²⁰ Highlighting the work of a diverse array of economists is a way to address this void. The Committee on the Status of Minority Groups in the Economics Profession, along with the Committee on the Status of Women in the Economics Profession, have created short videos of a diverse group of economists speaking about their research.²¹ The two organizations, together with the Committee on the Status of LGBTQ+ Individuals in the Economics Profession, maintain a database of self-identified racial/ethnic minority, women, and non-binary and LGBTQ+ economists and their fields of expertise that can be mined not only to extend seminar invitations as intended, but also to include their research in the classroom.²²

Conclusion

Over 40 percent of undergraduate students today take a course in economics, but under 2 percent major in economics. The LT approach to teaching principles has as its objective not to weed students out of the major, as many students perceive as the goal of a traditional principles class, but to reach as wide a swath of students as possible with the economic concepts that will improve their lives as workers, voters, and consumers. In this article, we have offered several suggestions on how the flexibility of the LT curriculum can be exploited to potentially increase interest in the field among racial and ethnic minorities and other students who are underrepresented in the economics profession. While there are unlimited possibilities for classroom enhancement, we urge instructors not to be bogged down by the numbers. Instead, start today with one new component. A repertoire is built over time.

Notes

1. Authors' calculations using U.S. Census Bureau's (n.d.) Population Division 2020–2022 data.
2. For the academic years ending 2017–21, the average share of economics doctorates earned by U.S. citizens and permanent residents going to Black, Latinx, and Native American scholars was 9.5 and 10.9 percent in the Integrated Postsecondary Education Data System (IPEDS) Completions and the National Science Foundation (NSF) Survey of Earned Doctorates data, respectively. These numbers are little changed from 20 years prior. For the academic years ending 1997–2001, the figures were 7.4 and 8.2 percent. Averages based on authors' calculations using IPEDS 1995–2021 (U.S. Department of Education n.d.) and NSF (n.d.) 1980–2021 data.
3. We refer to Black, Latinx, and Native American persons as underrepresented minorities in economics.
4. Percentages are of degrees earned by U.S. citizens and permanent residents. Authors' calculations using IPEDS 1995–2021 (U.S. Department of Education n.d.) and U.S. Census Bureau's (n.d.) Population Division 2020–2022 data. Due to data limitations, we sum based on majors, and not on bachelor's degrees. If a student receives a bachelor's degree with two STEM majors, they are double counted.
5. At Harvard, underrepresented minority (URM) students comprised 20 percent of undergraduates and 18 percent of those taking principles during 2018–20 (Bayer, Bruich, et al. 2020). At Swarthmore, URM students made up 21.2 percent of the undergraduate population and 15.8 percent of those taking principles during 2017–19 (Bayer, Bhanot, et al. 2020). This is not a recent phenomenon. Over the period 1987–2010, Emerson and McGoldrick (2019) report that URM students at six southern schools comprised 9 percent of principles courses, compared with 12 percent of the student population (authors' calculations using IPEDS 1995–2021 data (U.S. Department of Education n.d.)), while Mumford and Ohland (2011) report only a small degree of underrepresentation—12.9 percent compared to 13.5 percent—for a slightly different set of six southern schools during the period 1990–2003.
6. The research was declared exempt by Yale's Human Research Protection Program Institutional Review Boards (IRB). IRB Protocol ID: 2000025813. Survey respondents consented online. Interview respondents provided verbal consent. All quotes from the respondents used in the current article are from the unpublished interview data unless otherwise noted.
7. Authors' calculations using IPEDS 1995–2021 data (U.S. Department of Education n.d.).
8. At UT, students who took the LT version of the course were less likely to hit the grade threshold (which differed by class type) necessary for continuing on to intermediate-level economics. At UNC, there did not seem to be an introductory grade gate, but students in the LT course were slightly more likely (36 vs. 34 percent) to go on to the intermediate level.
9. See Smith and Rosalsky (2020) for a discussion of racial inequalities in CARES Act funds distribution. Data cited therein are from surveys fielded in May 2020. The Small Business Association does not collect race data. In May of 2021, the Center for Investigative Reporting analyzed PPP data by neighborhood and found that in top metropolitan areas, businesses in white neighborhoods were 1.5 to 2 times as likely to receive PPP funds as businesses in Black and Latinx neighborhoods (Morel, Al Elew and Harris 2021).
10. Eddy and Hogan (2014) and Theobald et al. (2020) provide evidence of the benefits of active learning for underrepresented and first-generation students in undergraduate biology.
11. The Economics Network <https://www.economicnetwork.ac.uk/themes/games> and Science Education Resource Center (SERC) <https://serc.carleton.edu/sp/library/simulations/examples.html> (both accessed May 6, 2021) are two examples.
12. Many universities have teacher and learning centers offering additional support. See, for example, the Web site of the University of Michigan's Center for Research on Learning and Teaching Guidelines for Discussing Difficult or High Stakes Topics (<https://crlt.umich.edu/publinks/generalguidelines>) and Handling Difficult Topics in Discussion (<https://crlt.umich.edu/tstrategies/tshctd>) and the University of Indiana Bloomington's Center for Innovative Teaching and Learning Managing Difficult Classroom Discussions (<https://citl.indiana.edu/teaching-resources/diversity-inclusion/managing-difficult-classroom-discussions/index.html>) (all accessed August 21, 2021).
13. See, for example, Chu (2014), McClough and Heinfeldt (2012), Luther (2014), and Moryl (2013).

14. <https://audioecon.com/> (accessed May 15, 2021).
15. See <https://www.minneapolisfed.org/policy/racism-and-the-economy> (accessed May 15, 2021).
16. See <https://www.youtube.com/channel/UCLXo7UDZvByw2ixzpQCufnA> (accessed August 31, 2021).
17. <https://teachingwithsuperstore.com>, <https://modernfamilyecon.com>, <http://econshark.com> and, for example, *Economics Media Library: Teaching Economics with Media* at <https://econ.video> (all accessed May 15, 2021).
18. Authors' calculations using unpublished AEA 2021–22 Universal Academic Questionnaire (UAQ) data. These data are based on the 346 institutions that responded to the survey and include ethnic representation for U.S. citizens and permanent residents only.
19. Primarily using teacher fixed effect models, researchers have found evidence that teacher-student racial concordance increases student performance from elementary through to community college. See, for example, Buddin and Zamarró (2009), Egalite, Kisida, and Winters (2015), Fairlie, Hoffmann and Oreopoulos (2014), Harbatkin (2021) and Ouazad (2014). Dee (2004) exploits the randomization of students to teachers in the Tennessee STAR program to get at causal identification. Mechanisms have yet to be unpacked. However, role modeling is one of the leading theories.
20. Outside of economics, Herrmann et al. (2016) find that encouraging letters from female graduate students increase female undergraduates' grades in introductory psychology and chemistry.
21. See <https://docs.google.com/spreadsheets/u/1/d/e/2PACX-1vRpjrg8Fzh8yeEi72asUNZbvk5Hz4I0vDKPp06bNAk16-T6Uen0Sr-Do8f-tkorqeVYGw3CuWM7DxOo/pubhtml> (accessed May 17, 2021).
22. See <https://econspeakerdiversity.shinyapps.io/EconSpeakerDiversity/> (accessed May 17, 2021).

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