

EFFECTS OF PARTIAL SCHOLARSHIPS FOR EDUCATION MAJORS

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ABSTRACT: Research shows that the quality of education, proxied by international student achievement tests, positively correlates with a society's economic growth. For a society to have high quality education, it needs well-prepared teachers. In the last decade, teacher enrollment levels have decreased relative to overall undergraduate students. To combat this problem, the U.S. Department of Education created the Teacher Education Assistance for College and Higher Education (TEACH) grant in 2008 to draw more students into the teaching profession. This grant disburses \$16,000 over four years to undergraduate students but converts into a loan if the recipients do not fulfill the service obligations within eight years of graduation. This paper examines the effects of grants as a representative of partial scholarships and describes the ineffectiveness of the grant, providing further evidence that slight monetary incentives up front prove insufficient in nudging high schoolers towards certain careers.

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I. Introduction

All countries want positive economic growth, and average years of education correlate positively with expansion. As education increases the skills of the general population, productivity levels increase. In 2010, Hanushek and Wobmann, professors at Stanford University and the University of Munich respectively, found that the quality of education, measured by average scores in an aggregate of international student achievement tests, is the most important component in education's impact on economic growth, consistent with Darling-Hammond and Harris and Sass's findings.¹ These researchers also described a strong link between the preparedness of teachers and students' academic outcomes. According to these research conclusions, the United States needs to invest in education if it wants to continue its economic growth. Moreover,

¹ Linda Darling-Hammond, *Teacher Quality and Student Achievement: A Review of State Policy Evidence*, 8 *EDUC POL'Y ANALYST ARCHIVES* 1, 1-44 (2000); Douglas N. Harris & Tim R. Sass, *Teacher Training, Teacher Quality, and Student Achievement*, 95 *J. OF PUB. ECON* 798, 798-812 (2011).

well-prepared teachers who have sufficient education and training in the field could be “stronger than influences of student background factors,” such as poverty, language, and minority status.²

In the face of these findings, activists and parents called for the U.S. government to pour more funds into the education system, expecting better teachers to appear when offered higher monetary incentives, such as scholarships for education majors. Policy makers expected that more high school students would be attracted to the teaching profession if the students had stronger incentives, such as a sum of money. Thus, in 2008, the U.S. Department of Education implemented a partial scholarship for future teachers, the Teacher Education Assistance for College and Higher Education (TEACH) grant. Over a span of four years, undergraduate students receive up to \$16,000 and graduate students up to \$8,000. This amount has gone

² Darling-Hammond, *supra* note 1, at 33.

down by 6% since 2018, amounting to only a little over \$3,700 each year due to budget reforms. To receive and keep this grant, however, recipients must meet certain criteria and obligations. Within eight years of graduation, these students need to teach in a high-need area in an eligible school for four years. In addition, the TEACH grant recipients must show that they intend to fulfill this requirement or are currently fulfilling it annually.

This paper will analyze the effectiveness of the TEACH grant and give some insight on monetary incentives and long-term teacher quality. TEACH is the only grant administered by the U.S. Department of Education specific to the teaching profession and costs taxpayers around \$100 million a year.³ The grant affects over thirty thousand students, underscoring its impact and effectiveness.⁴ The next few pages will conduct a means-

3 U.S. DEPT. OF ED., FISCAL YEAR 2019 BUDGET SUMMARY AND BACKGROUND INFORMATION (2019), <https://www2.ed.gov/about/overview/budget/budget19/summary/19summary.pdf>

4 Elizabeth Barkowski et al., Study of the Teacher Education Assistance for College and Higher Education (TEACH) Grant Program, U.S. DEPT. OF ED.

end analysis, evaluate the failing outcome of TEACH, and explain the reasons for the outcome. Instead of saving students' money, TEACH increases their debt and proves ineffective in getting them to the classroom, costing the Department of Education millions each year at the same time.

II. Means Used to Disburse Grants

TEACH grants come directly from an eligible college's financial office, but the recipient must meet certain criteria, both before entering college and after graduation. Generally, the recipient must have a high school GPA above 3.25 and/or a score above the 75th percentile in standardized tests. Stipulations on academic performance in college are not given, only that the recipients must remain as an education major. After graduation, they must spend at least four years in their first eight years of teaching at a school on the Teacher Shortage Area Nationwide List.

(2018), <https://www2.ed.gov/rschstat/eval/highered/teach-grant/final-report.pdf>.

In addition, they must certify every year that they have the intention to complete this requirement, even if they are currently teaching in one of the eligible schools. If the grant recipient does not teach for four years out of eight at one of the high-need schools or fails to certify their intention to complete the requirement, the grant converts into an unsubsidized federal loan, accruing interest from the years it was a grant.

Adding more complexity to paperwork, the disclosure document that describes the obligations of the recipient is thirty pages long, filled with legalese, government abbreviations, and terms, thereby creating an opportunity cost.⁵ Even though figuring out what information does not impose financial costs, a student would still need to allocate from their scarce store of time and resources to read the documents. After all, many adults

⁵ Teacher Education Assistance for College and Higher Education Grant, FEDERAL STUDENT AID, <https://studentaid.gov/app-static/images/teachCounselingGuide.pdf>.

hire tax accountants to file taxes for them to avoid poring over pages of IRS documents. Students at risk of losing their grants often switch majors. Even if education students stick with their major, they might be bewildered by the terms and conditions of the TEACH grant and possibly discard the pamphlet, which increases their chance of the grant turning into a loan.

In addition, different colleges have different eligibility criteria after ensuring that the students met the federal requirements, making information hard to find. Some institutions stipulate that freshmen or sophomores are not eligible and others only give these scholarships to students who declared a specialized major or minor in the high-need fields. For example, 55 percent of the institutions required students to have a major or minor in high-need fields, 48 percent required students to “be admitted into a teacher preparation program,” and 22 percent required

students to be at least a sophomore.⁶ Increased information costs causes confusion and deters prospective students from declaring an education major. Copious amounts of paperwork before matriculation could signal a bloated bureaucracy that a student must contend with during their four years at college. On the other hand, education students on the margin might not even consider the major because they do not know about the TEACH grant and whether they qualify. With higher costs of acquiring relevant information and more information asymmetry, fewer students will declare an education major.

III. Goal of TEACH

The government's stated goal of TEACH is to "increase the number of teachers in high-need fields and schools by providing up to \$4,000 per year to undergraduate and graduate students" who are studying to become teachers.⁷ The Government Accountability Office

⁶ Barkowski, *supra* note 5, at 35.

⁷ Barkowski, *supra* note 5, at xiii.

documents high-need fields as "math, science, bilingual education, English language acquisition, special education, reading specialist," or any other field that various states list as high-need on the Teacher Shortage Area Nationwide List.⁸

IV. Incentives Generated with the Grant

For prospective college students thinking about an education major, the TEACH scholarship influences their decision. Instead of choosing to teach because they thought that they would be good teachers, the students now have a marginal monetary incentive to become teachers. Prospective teachers who could not afford college could now attend with the grant. As many as 44% of current education majors said that the TEACH scholarship played a large role in their decision to pursue a teaching career. Out of the students that received the TEACH grant, 58% said

⁸ U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-15-314, HIGHER EDUCATION: BETTER MANAGEMENT OF FEDERAL GRANT AND LOAN FORGIVENESS PROGRAMS FOR TEACHERS NEEDED TO IMPROVE PARTICIPANT OUTCOMES 8 (2015), <https://www.gao.gov/assets/gao-15-314.pdf>.

that the scholarship was “somewhat or very influential” in their decisions to teach at a high-need school.⁹ This grant also incentivizes students on the margin to declare an education major or teach in a high-need area. This survey shows that the partial scholarship changes the incentives for high schoolers thinking about getting an education degree, even though demonstrated preference is not the same as a questionnaire.

For financial aid offices, this grant helps students “fund their education” and may even help struggling schools with teaching programs attract students.¹⁰ An overwhelming 92% of responses from a survey sent out to financial aid officers reflected reasoning along those lines, which is not one of the stated ends of the U.S. Department of Education. Only 49% said that they gave the grant to incentivize teaching at a high-need field in a high-need school, illustrating the disconnect between the Education

⁹ Barkowski, *supra* note 5.

¹⁰ U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 9, at 20.

Department and the individual colleges.¹¹

For politicians, this grant shows they are doing something to try to help the teacher shortage. Even if the policy does not succeed, the efforts demonstrate their attempt to fix the problem. Since students usually take four years to graduate and TEACH allows them another eight years to fulfill the four-year teaching requirement, most politicians do not need to take responsibility if the grant fails. It would take twelve years for finalized data on the first cohort of students to emerge and a minimum of five or six for preliminary data that show trends, and it has been twelve years since the program was implemented in 2008. Most political offices only last five to ten years, so the politicians that implemented the program will not be in office to answer to the public when data shows the failure of the TEACH grant. Thus, they do not have an incentive to make sure the grant works as they only need

¹¹ Barkowski, *supra* note 5.

to demonstrate that they did something to help with the shortage of teachers.

V. Means-End Analysis of TEACH

The TEACH grant does not achieve the government's lofty goal of increasing the number of teachers in the system. More than 33% fewer students enrolled in teacher preparation programs in 2013 than in 2008, while universities across the nation experienced a slight increase in enrollment, even though students stated that the scholarship influenced their decision.¹² After all, demonstrated preference, which is declaring the education major, is a better measurement than questionnaires. Between 2010 and 2018, there was a 35% drop nationwide in teacher enrollment. Nearly all states have had a decline in teacher enrollment, with some more than 50%.¹³ Oklahoma

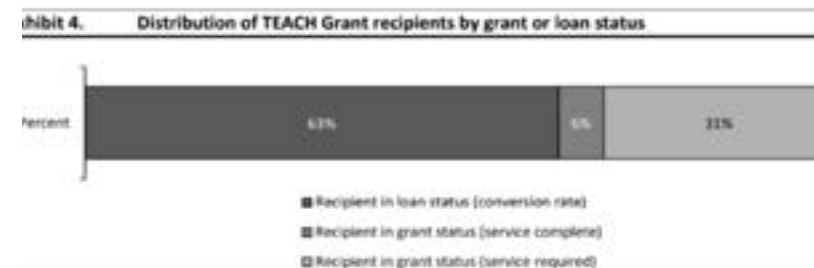
¹² U.S. DEPT. OF ED., ENROLLMENT IN TEACHER PREPARATION PROGRAMS (2015), https://title2.ed.gov/public/44077_Title_II_Issue_Brief_Enrollment_V4a.pdf.

¹³ Lisette Partelow, What To Make of Declining Enrollment in Teacher Preparation Programs, CTR. FOR AM. PROGRESS (2019), <https://www.american-progress.org/issues/education-k-12/reports/2019/12/03/477311/make-declining-enrollment-teacher-preparation-programs/>.

saw a drastic drop of 80% with Michigan trailing at 67%. At the same time, most schools saw a drastic increase in undergraduate enrollment. Clearly, TEACH grants did not increase the number of students studying to become teachers.

VI. Unintended Consequences from TEACH

In a survey conducted in 2016 by American Institutes for Research, researchers found that more than 89% of the grant recipients thought that they were likely or very likely to fulfill the service requirements of the loan when they first received it.



A Government Accountability Office (GAO) report, however, states that 63% of the recipients who had begun their service obligations before June 2014 had converted

a TEACH grant to an “unsubsidized loan,” for which interest is calculated from the date the TEACH grant was disbursed.¹⁴ For many students, the sum of their TEACH Grants and federal loans exceed their federal annual loan limit, meaning they will go over the limit if the grants turn into loans, which is normally illegal. In the 2013-14 academic year, close to half of the grant recipients will be “borrowing over their federal annual loan limit” if all recipients from that year converted the grants into loans.¹⁵

Out of the 63% of grant recipients that converted the grant into a loan, one third were not teaching in high-need areas. Another third did not complete the teaching degree or certificate, and others did not understand the requirements of the grant. 41% of the recipients ran into complications or forgot to certify their intention to fulfill the service obligation.¹⁶ Instead of lowering the cost of

acquiring an education major, the TEACH grant raises the cost of teaching. When the grant converts into a loan, the teachers have more debt than if they had chosen another major because the grant accrues interest from the time that the student receives the loan. In this way, TEACH significantly raises the opportunity costs of becoming a teacher when it supposedly does the opposite.

To decrease the percentage of students who did not understand the terms and conditions of the grant, some schools provided counseling about the requirements of the loan. The counseling, however, did not impact the grant-to-loan conversion rate.¹⁷ Most of the time, counseling involves meeting one-on-one, which incurs an opportunity cost for both the student and the administrator. Instead of studying or working, the student must sit down with an administrator from the financial aid office, and the administrator must give up their time from doing administrative work to meet

14 U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 9, at 6

15 Barkowski, *supra* note 5, at 36.

16 Barkowski, *supra* note 5.

17 U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 9.

with the student.

As colleges usually provide placement services to graduating education majors, colleges should have updated lists of eligible positions available to students. Unfortunately, this is not the case. Only a little over half of the colleges told students about teaching positions that satisfied the grant requirements, and less than half possessed updated lists. In the group of students that were teaching in ineligible positions, 15% of the students could not find an eligible position even though they tried.¹⁸ In addition, the TEACH grant is administered by the universities' financial office, with only 7% of the respondents saying that other departments, such as the college's education department, "led oversight."¹⁹ Having more experience, faculty in the education department would have a better idea of which students would make good teachers, knowledge that would possibly lower the percentage of students who converted

¹⁸ Barkowski, *supra* note 5.

¹⁹ *Id.* at 26.

the grant into a loan because they did not teach in an eligible field or dropped out of the education major.

In addition, TEACH may also contribute to the high rates of teacher attrition. More than 15% of teachers left the teaching profession within five years, with higher rates in low-income schools.²⁰ Around 7-8% of teachers leave the profession each year, although some return later.²¹ Turnover costs money for states and districts, which must train new teachers. Students need to withstand teachers who are still learning the ropes, which could mean that they receive a lower-quality education. High-need areas, such as special education, math, and science, also have the highest rates of teacher attrition.²² Most teachers who

²⁰ Lucinda Gray et al. Public School Teacher Attrition and Mobility in the First Five Years, U.S. DEPT. OF ED. (2015), <https://nces.ed.gov/pubs2015/2015337.pdf>.

²¹ John Marvel et al., Teacher Attrition and Mobility, U.S. DEPT. OF ED. (2007), <https://nces.ed.gov/pubs2007/2007307.pdf>.

²² Erling Boe, Whither Didst Thou Go? Retention, Reassignment, Migration and Attrition of Special and General Education Teachers From a National Perspective, J. OF SPECIAL EDUC. (1997); Russel Rumburger, The Impact of Salary Differential on Teacher Shortages and Turnover: The case of mathematics and science teachers, 6 ECON. OF EDUC. REV. 389, 389-399 (1987).

left cite personal reasons or dissatisfaction.²³ Teacher turnover continuously fluctuates two to three percentage points, and the number of TEACH grant recipients only makes up less than 1% of the total teacher population, so the magnitude of the effect of TEACH does not show up in the aggregate.²⁴ Since TEACH nudges students who may not actually want to teach into these high-need and difficult areas, TEACH could have increased the rate of teacher turnover on the margin, but the data does not show either way.

For teachers in the profession, their pay is determined by a step and lane system set by the state. Their level of education puts them into a lane, where they can earn preset incremental bonuses. Instead of getting a much larger bonus for performing well, the teacher gets the same raise. This, in turn, disincentivizes teachers to go above and beyond. As long as a teacher meets the minimum, they

will get a raise. Right out of college, a biologist's pay and a biology teacher's pay are roughly equivalent, but the pay widens to \$30-40,000 after five to ten years in either profession. In addition, schools cannot bid up the price of teachers, which impedes the effective allocation of teacher abilities. Thus, the TEACH grant is just another branch of governmental bureaucracy that does not help the situation.

VII. Conclusions & Further Research

TEACH may initially draw students into the education major, but it does not effectively achieve the end of supplying more teachers. Instead, students end up changing majors or even more likely, changing jobs post-graduation. Amid a general increase in college attendance, teacher enrollment rates have declined in real numbers. In addition, 63% of the students who received the grant lose it after graduating because of failure to fulfill the service requirements or ignorance about certification requirements. Instead of the university education departments providing

²³ Gray, *supra* note 21.

²⁴ U.S. DEPT. OF ED., *supra* note 4.

oversight in how the loan is administered, most of it falls to the financial aid offices, which present the loan as a means of making education more affordable. In the end, however, TEACH makes education more expensive because the grant needs to be paid back with unsubsidized interest. Thus, partial scholarships do not seem effective in incentivizing students to choose to teach in high-need schools and areas.

The conclusion of this paper also aligns with previous research focused on the correlation between wage outcomes and major choices.²⁵ Pecuniary factors do not affect students' choice of major, but the "consumption value of schooling," which refers to a student's preferences and abilities, plays a key role.²⁶ As a whole, students in the West do not choose a major because it pays more, but because they enjoy what they study and learn. People love

25 James A. Freeman & Barry T. Hirsch, *College Majors and the Knowledge Content of Jobs*, 27 *ECON. OF EDUC. REV.*, 517–535 (2008).

26 Magali Beffy, Denis Fougère, & Arnaud Maurel, *Choosing the Field of Study in Postsecondary Education: Do Expected Earnings Matter?*, 94 *REV. OF ECON. AND STAT.*, 334–347 (2012).

doing things for which they have a natural aptitude, so prospective college students major in something in which they deem themselves as skilled.

Concerning possible improvements, the terms and conditions of the grant could be made simpler, and graduates who are currently teaching in a high-need area need not file. Instead, the U.S. Department of Education could rely on public schools notating it in their paperwork to streamline and simplify the certification process.

Further research could compare the amount of red tape involved in the maintenance of TEACH and other grants for different majors provided by the federal government. Since 41% of the loan-converters stated complications with the annual certification, this study would show if convoluted paperwork really affected the grant-to-loan conversion rate. Since this grant costs the Department of Education close to \$100 million a year, researchers should take a longer look at this program,

making sure that this grant helps future teachers.²⁷

In its current form, TEACH fails abysmally in its attempt to garner more students who want to become teachers, since teacher enrollment levels dropped while overall undergraduate enrollment had a slight increase. Perhaps TEACH could achieve its aims with reforms and further research.²⁸

²⁷ U.S. DEPT. OF ED., *supra* note 4.

²⁸ I would like to thank Dr. Caleb Fuller, Dr. Jason Edwards, and Emma Brower for their time and energy in proofreading, making comments, and suggesting improvements for this paper.