

The Growth of Earn-and-Learn Apprenticeship Degrees: Expanding America's Mobility and Opportunity Structure

Bruno V. Manno

April 2025

Key Points

- Earn-and-learn work-based education through apprenticeships is a promising and growing pathway to good jobs and other opportunities.
- To be successful, any effort to expand apprenticeship programs will have to brand and market them as genuine and effective pathways to jobs and opportunity.
- By valuing both educational and employment outcomes, the new apprenticeship degree paradigm makes the nation's opportunity infrastructure more flexible and pluralistic.

Earn-and-learn work-based education through apprenticeships is a promising and growing pathway to good jobs and other opportunities—both for young people and for adults looking to switch careers. Those in apprenticeship programs earn a living by working, learn from mentors in the workplace and classroom, and receive an employer credential while taking on little to no student debt.

The recent popularization of the earn-and-learn model has spawned new forms of apprenticeships across the US, including apprenticeship degrees that combine work experience with the pursuit of a traditional college degree pathway. This work-based degree model aligns with Americans' desire for more flexible, pluralistic pathways to opportunity. It also broadens the mobility and opportunity structure by recognizing and valuing diverse pathways to human flourishing beyond the pursuit of a traditional college degree.

High School and Beyond: The Changing Landscape

Over the past two decades, overall college enrollment has declined. Undergraduate and graduate college enrollment peaked at approximately 21 million students in 2010 but has since fallen by nearly 12 percent as of December 2024.¹ While total postsecondary enrollment has rebounded since the pandemic—increasing 4.5 percent in fall 2024 compared with 2019²—the overall trend is that fewer students are enrolling in college.

A 2024 report from the National Student Clearinghouse Research Center shows that much of this post-pandemic rebound is driven by a significant enrollment increase in alternative credential and certificate programs, up nearly 10 percent yearly and 28.9 percent since 2019.³ Meanwhile, enrollment in bachelor's degree programs increased by only 2.9 percent and associate degree programs by 6.3 percent. Additionally, in fall 2024, around 1.6 million high school students were enrolled in dual enrollment classes that allowed them

to take college-level courses. This information suggests there is an appetite for alternative credential programs.

Meanwhile, the policy discussion around the alternative education landscape is still relatively limited. Learners are interested in new degree models, highlighting the need for innovative policies and programs like apprenticeship degrees.

Apprenticeship Degree Programs Abroad

College is the default option for many US high school graduates, so apprenticeship programs face a marketing challenge. Making them appealing to a wider audience includes demonstrating that apprenticeships need not conflict with a higher education degree. This is where the apprenticeship degree model comes in—a model that is far more common internationally.

Apprenticeship degree programs allow individuals to serve as apprentices while simultaneously earning a college degree. The United Kingdom developed such a program in 2015.⁴ The UK's program provides a debt-free path to a bachelor's or master's degree from a university. The program is offered to 18- and 19-year-olds and lower-level workers who want to acquire new knowledge and skills to advance in their careers. Degrees are offered in fields that typically require academic work, such as health and the sciences, business and administration, and aerospace. Through this apprenticeship degree program, the employer and the government each pay a portion of the full program cost; the government covers the tuition cost through an employer apprenticeship levy.⁵ Therefore, students do not have to take out loans to earn their degree.

Degree apprentices spend the majority of their week at work, with at least 20 percent of their time used for off-the-job study. Individuals cannot apply directly for an apprenticeship but must apply through an employer. It then becomes the employer's responsibility to arrange their study with an education provider. A program can take between three and six years to complete, depending on the particulars, and the degree is awarded by the university providing the coursework. Research indicates that UK apprenticeship degrees generally have positive outcomes like increased earning potential and improved social mobility, and participants report receiving valuable work experience.⁶

Another example of this approach is a program in Germany. Germany's institutions of applied sciences, now numbering more than 200 across the German higher education and research landscape, partner with employers on dual studies programs that combine applied science degrees with apprenticeships.⁷ As higher education analyst Ben Wildavsky writes, "These relatively new universities attract a broad range of students who want to pursue postsecondary studies but with clear practical applications."⁸ These institutions enroll about half (48 percent) of new undergraduates enrolling in university, while traditional universities enroll the other half (51 percent).⁹ Most degree courses offered at these institutions are in technology, engineering, economics, design, and the social sciences. On average, graduates of these institutions earn higher starting salaries than those without these degrees, according to a study conducted by the German Centre for Higher Education Research and Science Studies.¹⁰ Additional studies show that apprentices can achieve comparable lifetime earnings to traditional university graduates.¹¹

Registered Apprenticeships in the US

In the US, registered apprenticeship programs (RAPs) are structured training models that combine paid on-the-job learning with related technical training, creating a career pathway for participants and awarding them a nationally recognized credential. RAP sponsors include employers, educational institutions like community colleges, community-based organizations, and trade associations. Despite these programs' success at providing hands-on, technical job experience, it is a long and arduous process to obtain approval for an RAP from the US Department of Labor or a state apprenticeship agency. One study found that the average program applicant had to wait nearly six months to have a program approved, with 17 percent waiting longer than 10 months.¹²

Sponsors must submit a detailed plan that includes the knowledge and skills apprentices will acquire, the length of the training program, on-the-job supervision methods, a list of organizations providing classroom instruction, apprenticeship assessment methods, wage progression data for apprentices, and plans for equal opportunity and affirmative actions.

There is no fee for registering the RAP with the approval agency; however, there are multiple costs associated with preparing the application and implementing the program, including developing training materials, hiring instructors for classroom instruction, and administrative costs.

In *Apprenticeship Nation*, Ryan Craig summarizes the complex nature of the RAP registration process: “Many knowledgeable observers of America’s education and workforce challenges have ignored or written off apprenticeships due to the rigor mortis of the current registered system, exemplified by stultifying bureaucratic requirements.”¹³

Reforming US Apprenticeship Programs

These organizational barriers to creating RAPs have spawned new approaches to creating apprenticeship programs. For example, degree apprenticeships are being adapted to educator training in the US by some postsecondary institutions. The nonprofit Reach University has online and tutorial undergraduate and graduate programs that create debt-free teacher apprenticeships and concurrently award bachelor’s and master’s degrees to graduates.¹⁴

Reach works with over 400 school network partners nationwide, has credit transfer agreements with a growing number of community colleges, and is accredited by the Western Association of Schools and Colleges Senior College and University Commission. The federal Pell Grant and Department of Labor grants combined with philanthropy typically cover most of the program’s costs, and students’ tuition payments are typically capped at \$900 per year. This approach has the benefits of strengthening educator pipelines, helping students graduate debt free, and addressing recruitment challenges in the field.

Alongside private institutions like Reach, community colleges, nonprofit organizations, and states are also starting these programs. For example, the Community College System of New Hampshire now has three apprenticeship degree programs for leaders in early care education.¹⁵ Boston’s Neighborhood Villages operates two programs for early childhood educators in Massachusetts.¹⁶ In Kentucky, the Governor’s Office of Early Childhood works with two other state agencies

to offer an “early childhood administrator director” apprenticeship.¹⁷

During the Biden administration, the federal Departments of Education and Labor began working together to create paid RAPs for K–12 teaching by combining Department of Labor apprenticeship grant funding with Department of Education K–12 grant funding. The initiative was part of the administration’s Good Jobs Initiative and sought to fill teaching jobs by recruiting local community members—including education paraprofessionals, career changers, and high school and college students—into teaching careers.¹⁸ The initiative also provided financial support to a consortium of organizations to provide technical assistance to those developing these teacher apprenticeship programs.

In January 2022, Tennessee became the first state to receive Department of Labor approval for a teacher apprenticeship program.¹⁹ By February 2025, that number had increased to 39 states and the District of Columbia, with at least 32 school districts participating in these programs. These programs receive financial support from different entities, including federal, state, and local government sources and philanthropic grants.²⁰

Another type of apprenticeship degree program offers colleges the option to “unbundle” the four-year degree into building blocks, or stackable credentials, to be earned while working. As an apprentice’s career progresses, that individual can choose to proceed along one of several designated pathways leading to a degree. A recent study of the Virginia Community College System shows that such programs typically increase employment by 4 percentage points and quarterly wages by \$375.²¹ Research by the Community College Research Center estimates that between 3 and 5 percent of the college-educated population have stackable credentials.²²

Scaling Up the Model

The major challenge facing the earn-and-learn apprenticeship model is expanding existing apprenticeship programs and creating new ones. Elected officials have several places they can turn to for assistance in expanding their apprenticeship programs.

For example, since 2016, the Department of Labor has supported the State Apprenticeship Expansion Project, which provides technical assistance to state

agencies receiving grants from the department so they can expand their programs.²³ Another example is the Apprenticeship Professionals Learning Network, a virtual learning network for those creating new apprenticeship programs.²⁴ A final example is new third-party organizations called “apprenticeship intermediaries”—organizations that can create, run, and pay the upfront costs of apprenticeships, acting as go-betweens and points of contact for all the partners involved in the program. These organizations can also build and expand programs.

Apprenticeship intermediaries can be public, non-profit, or for-profit organizations, and they can work locally, regionally, statewide, or nationally; some examples include community colleges, chambers of commerce, and commercial staffing companies. Companies can then “try before they buy” an apprentice and pay a fee to the intermediary for recruiting, training, and matching employees with firms. In 2022, California created the nation’s first state-based funding formula for apprenticeships, whereby intermediaries get paid for every apprentice they hire and train.²⁵

To be successful, any effort to expand apprenticeship programs will have to brand and market them as genuine and effective pathways to jobs and opportunity. Efforts

should also create additional apprentice screening and assessment instruments—including digital learning and employment records—for a talent marketplace. These digital records would be portable and available to every employer and learning institution with which an individual would interact.²⁶ Additionally, apprenticeship programs should incorporate a full-service counseling and advisory services effort and train more mentors and classroom instructors. Finally, they should offer a research, evaluation, and information program to keep track of successes and lessons learned to improve the program.

An Opportunity Program

Our postsecondary education system creates what law professor Joseph Fishkin calls a “bottleneck” to opportunity.²⁷ The earn-and-learn apprenticeship approach breaks through this traditional degree credential bottleneck via opportunity pluralism, which holds that people should be encouraged to pursue varied pathways to a career, not only the traditional college degree.²⁸ By valuing both educational and employment outcomes, the new apprenticeship degree paradigm makes the nation’s opportunity infrastructure more flexible and pluralistic.

About the Author

Bruno V. Manno is a senior adviser at the Progressive Policy Institute, leads its Pathways to Opportunity What Works Lab, and is a former US assistant secretary of education for policy.

Notes

1. Melanie Hanson, “College Enrollment & Student Demographic Statistics,” Education Data Initiative, March 17, 2025, <https://educationdata.org/college-enrollment-statistics>.

2. National Student Clearinghouse Research Center, “Current Term Enrollment Estimates: Fall 2024,” January 23, 2025, <https://nscresearchcenter.org/current-term-enrollment-estimates/>.

3. National Student Clearinghouse Research Center, “Current Term Enrollment Estimates.”

4. Gov.uk, “Government Rolls-Out Flagship Degree Apprenticeships,” press release, March 12, 2015, <https://www.gov.uk/government/news/government-rolls-out-flagship-degree-apprenticeships>.

5. OneFile, “Who Pays for Degree Apprenticeships?,” August 20, 2024, <https://onefile.co.uk/explore/who-pays-for-degree-apprenticeships/>.

6. Paul Bolton and Joe Lewis, *Degree Apprenticeships*, UK House of Commons Library, May 8, 2024, <https://researchbriefings.files.parliament.uk/documents/CBP-8741/CBP-8741.pdf>.

7. German Academic Exchange Service, “Universities of Applied Sciences,” <https://www.daad.de/en/studying-in-germany/universities/haw/>.

8. Ben Wildavsky, “Germany Jumps on Degree Apprenticeships,” *Work Shift*, November 13, 2024, <https://workshift.org/germany-jumps-on-degree-apprenticeships/>.

9. Wildavsky, “Germany Jumps on Degree Apprenticeships.”

10. Karin Reinhard, “The German Berufsakademie Work-Integrated Learning Program: A Potential Higher Education Model for West and East,” *Asia-Pacific Journal of Cooperative Education* 7, no. 1 (2006): 16–21, https://www.researchgate.net/publication/239782491_The_German_Berufsakademie_Work-Integrated_Learning_Program_A_Potential_Higher_Education_Model_for_

West_and_East.

11. Barbara S. Grave and Katja Goerlitz, “Wage Differentials by Field of Study—the Case of German University Graduates,” *Education Economics* 20, no. 3 (2012): 284–302, <https://doi.org/10.1080/09645292.2012.680549>; and Rong Zhu, “The Impact of Major-Job Mismatch on College Graduates’ Early Career Earnings: Evidence from China,” *Education Economics* 22, no. 5 (2014): 511–28, <https://doi.org/10.1080/09645292.2012.659009>.
12. Karen Gardiner et al., *Expanding Registered Apprenticeship in the United States: Description of American Apprenticeship Initiative Grantees and Their Programs*, Abt Associates and Urban Institute, September 2021, https://www.abtglobal.com/files/insights/reports/2021/etaop2021-23_aai_grant_program_description_final1.pdf.
13. Ryan Craig, *Apprentice Nation: How the “Earn and Learn” Alternative to Higher Education Will Create a Stronger and Fairer America* (BenBella Books, 2023).
14. Reach University, “Programs,” <https://reach.edu/programs>.
15. ApprenticeshipNH, “Early Childhood Education Apprenticeships—A Place to Grow,” September 6, 2024, <https://apprenticeshipnh.com/early-childhood-education-apprenticeships-a-place-to-grow/>.
16. Neighborhood Villages, “Apprenticeship Programs,” <https://www.neighborhoodvillages.org/apprenticeships>.
17. Kentucky.gov, “New Apprenticeship Program for Early Childhood Administrator Director Debuts During Kentucky’s Early Childhood Institute,” March 18, 2022, <https://www.kentucky.gov/Pages/Activity-stream.aspx?n=EducationCabinet&prId=548>.
18. Manny Lamarre, “Building the Next Generation of Teachers Through Apprenticeship,” US Department of Labor, May 7, 2024, <https://blog.dol.gov/2024/05/07/building-the-next-generation-of-teachers-through-apprenticeship>.
19. Tennessee Department of Education, “Grow Your Own,” <https://www.tn.gov/education/grow-your-own.html>.
20. Nicole Reddig et al., *Profiles of Educator Registered Apprenticeship Programs*, RTI International, Educator Registered Apprenticeship Intermediary, May 2024, <https://educatorapprenticeships.com/PDF/ProfilesReport2024.pdf>.
21. Katharine E. Meyer et al., “Stacking the Deck for Employment Success: Labor Market Returns to Stackable Credentials,” Working Paper No. 20-317 (Brown University Annenberg Institute for School Reform, January 2022), <https://edworkingpapers.com/sites/default/files/ai20-317.pdf>.
22. Thomas Bailey and Clive R. Belfield, “Stackable Credentials: Awards for the Future?,” Working Paper No. 92 (Community College Research Center, April 2017), <https://careertech.org/resource/stackable-credentials-awards-for-future/>.
23. American Institutes for Research, “State Apprenticeship Expansion Project,” <https://www.air.org/project/state-apprenticeship-expansion-project>.
24. Apprentice Professionals, website, <https://apprenticeshipprofessionals.org/>.
25. Craig, *Apprentice Nation*.
26. Annelies Goger et al., *Going Digital: How Learning and Employment Records Shape Access to Quality Education and Jobs*, Brookings Institution, December 19, 2022, <https://www.brookings.edu/articles/going-digital-how-learning-and-employment-records-shape-access-to-quality-education-and-jobs/>.
27. Joseph Fishkin, *Bottlenecks: A New Theory of Equal Opportunity* (Oxford University Press, 2016).
28. Bruno V. Manno, “Opportunity Pluralism in Education,” *National Affairs*, Fall 2023, <https://www.nationalaffairs.com/publications/detail/opportunity-pluralism-in-education>.

© 2025 by the American Enterprise Institute for Public Policy Research. All rights reserved.

The American Enterprise Institute (AEI) is a nonpartisan, nonprofit, 501(c)(3) educational organization and does not take institutional positions on any issues. The views expressed here are those of the author(s).