ALTERNATIVE PROVIDERS IN HIGHER EDUCATION:

THE INTERSECTION OF TECHNOLOGY, INNOVATION, POLICY, AND ACCOUNTABILITY

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ABOUT THIS BRIEF

Alternative Providers in Higher Education: The Intersection of Technology, Innovation, Policy, and Accountability explores the current environment for alternative providers of education and training programs that largely falls outside of the current regulatory regimes as well as short-term credentials offered within those regimes. The brief details the potential benefits to participants of such opportunities as well as the potential pitfalls, before concluding with possible recommendations for establishing a productive and protective approach to ensuring innovation and protection. The author, Patrick Lane, is vice president for policy analysis and research at the Western Interstate Commission for Higher Education (WICHE), an organization that has worked to facilitate cross-state data sharing of education and employment data in addition to other efforts to improve access to and success in postsecondary education. Information contained in this brief is drawn from lessons learned during the Multistate Longitudinal Data Exchange Effort as well as general research. The views presented in this brief are those of the author.

ABOUT DATA FOR THE AMERICAN DREAM

Data for the American Dream (D4AD) is a consortium bringing together Schmidt Futures, Lumina Foundation, Walmart Foundation, and the Walton Family Foundation. D4AD initiatives in three states (Colorado, Michigan, and New Jersey) are aimed at supporting workers and jobseekers, particularly those who are un- or underemployed and experiencing structural racism and economic marginalization. D4AD is focused on creating tools and systems that provide more accessible, current and actionable information workers can use to identify career and training opportunities. D4AD initiatives work with both public and private agencies to engage workers and jobseekers and ensure that services and resources are flexible, responsive and designed to meet the needs of jobseekers.

The National Center for Higher Education Management Systems (NCHEMS) is the implementation partner of D4AD. NCHEMS is a private nonprofit organization whose mission is to improve strategic decision making in postsecondary education for states, systems, institutions, and workforce development organizations in the United States and abroad.

INTRODUCTION

The COVID-19 pandemic upended virtually all aspects of life and impacted the broader economy and the education sector in myriad ways. In postsecondary education, a massive shift to remote learning has accelerated the idea that individuals can learn and gain new skills in different formats. The pandemic also disrupted training opportunities, placing restrictions on in-person work that is crucial for obtaining needed workforce credentials. This massive shift has the potential to accelerate another trend: the provision of education and training by alternative providers.

Even pre-pandemic, there had been substantial growth in workforce- and career-oriented opportunities offered outside of traditional accredited higher education and formal workforce training programs. Policy and regulatory frameworks have not kept pace with innovation and the development of these new providers leading to the current environment where potential students and trainees face a bewildering array of options that may (or may not) have any quality assurance and be able to deliver on their promises. Such options include boot camps, new forms of credentials (including badges, etc.) and non-credit-bearing and short-term training programs.

Although data and evaluations of these programs are scarce, it is likely that some alternative programs are offering very high-quality education and training with strong participant success rates and robust linkages to the job market. Government agencies with a mandate to ensure access to high quality education and training may be missing opportunities to partner with such providers to better Increase such access. Similarly, it is likely that some of these alternative programs are offering very low-quality programs marketing themselves with dubious claims.

As the pandemic recedes, there will still be key questions about the value of different types of credentials, with little clarity for government regulators or potential students or trainees themselves about the quality of these offerings and the opportunities they convey. Proposals at the federal level to provide Pell Grants for training programs as short as eight weeks may increase the visibility of this issue since these programs would be subject to oversight and accountability through the provisions tied to the receipt of federal financial aid dollars. However, there are many critics who question whether those provisions are sufficiently strong to serve as an effective bulwark for quality. And there may still be a significant number of providers using fraudulent marketing and recruiting techniques and engaging in predatory lending practices.. Beneath the surface, there are still substantial questions about these programs.

A framework to provide oversight, quality assurance and consumer protection can give students and, importantly, employers some assurance about the different types of programs on offer. This framework — which need not necessarily be led by government entities — will likely look different from those overseeing workforce training programs and longer-term higher education credentials.

This brief will provide background on the current environment for alternative providers of education and training programs that largely fall outside of the current regulatory regimes as well as short-term credentials offered within those regimes. Then the brief will detail the potential

benefits to participants of such opportunities as well as the potential pitfalls, before concluding with possible recommendations for establishing a productive and protective approach to ensuring innovation and protection.

For the purpose of this paper, the focus is on those providers that fall outside of existing workforce training and postsecondary education frameworks as many of the alternative credentials offered by traditional providers fall within existing regulatory structures. Because the lines in this domain are blurry at best, there can be alternative credentials offered by traditional providers alone or in partnership with alternative providers.

WHAT IS AN ALTERNATIVE PROVIDER AND AN ALTERNATIVE CREDENTIAL?

There is no consensus definition of what constitutes an alternative credential and/or an alternative provider. For the purposes of this brief, alternative credentials have the following characteristics:

• They are offered outside of existing regulatory frameworks, such as WIOA, the Higher Education Act, or state laws on education and training;

• They are generally short-term programs;

• They have an explicit career orientation, promising to provide attendees with highly marketable skills;

• They provide students with some documentation of completion, such as a badge, certificate, or other credential.

• They charge tuition or fees.

Alternative credentials can be offered by entities within existing regulatory frameworks, such as higher education institutions partnering with new providers to offer joint boot camps. To confuse matters further, the same program could fall under this definition for some participants and be excluded for others as in the case of Massive Open Online Courses, where a subset of students may pay substantial tuition to receive documentation of completion.

Many — though certainly not all — alternative providers offer novel financial approaches for students to pay for these programs. Income Share Agreements (ISAs) are a common approach, especially for IT-related boot camps. Through these approaches students agree to pay a percentage of their salary once they obtain a job at a benchmarked salary level. While these financing vehicles may provide opportunities for students, the details can vary substantially and have enormous implications for the overall cost of such programs.

Although in some states alternative providers may face similar licensing requirements as other private providers of postsecondary education, they do not participate in other, complementary quality oversight efforts such as institutional accreditation and federal oversight as criteria of receiving financial aid dollars.

BACKGROUND

The current regulatory environment for providers of education and training programs after high school generally revolves around the Workforce Innovation and Opportunity Act (WIOA) for workforce training programs, and a mix of approaches known as the "triad" in higher education — consisting of federal oversight (primarily exercised through eligibility criteria for institutions to participate in federal financial aid programs), approval from institutional and program-specific accreditors (who themselves are subject to oversight by the federal government), and states' own authorization to offer programs and credentials. Oversight of apprenticeships is generally carried out through either federal or state action, with ultimate responsibility resting with the federal government through the National Apprenticeship Act, but being delegated to state agencies in some cases.[1]

In each of these cases, statute (whether state or federal) and copious regulations provide a general framework under which these programs operate. The explicit goals of these frameworks vary, but include promoting quality opportunities, protecting students/participants, ensuring effective use of public funds, and attempting to ensure quality.[2]

It is crucial to recognize the mechanism through which these oversight frameworks operate. To oversimplify, these regimes are based on two principles: either providers receive substantial Incentives (primarily financial) for agreeing to operate under a certain set of conditions (that may include adherence to quality standards, reporting data and outcomes, and/or providing linkages to the workforce), or they are subject to relatively straightforward requirements for operation in a command-and-control approach.

Under WIOA, for example, training providers follow the requirements of the law as well as regulations adopted by the U.S. Department of Labor, and in return, they can enroll participants who use federal dollars to pay for their training. Higher education exhibits both principles, with institutions following federal law and regulation to access federal financial aid dollars, but also working within requirements established by accreditors and state governments (or, in the case of public institutions, operating under some governance arrangement established in state law), with substantial overlap (i.e. accreditation being a requirement of state authorization and participation in federal financial aid programs). Apprenticeship programs provide tax incentives to providers that meet certain federal or state requirements.

A few states have taken steps to address these new providers, usually through existing frameworks meant to provide oversight and consumer protection for traditional higher education institutions. As one example, California has been at the forefront of efforts to provide oversight of coding bootcamps by requiring them to register with its Bureau of Private Postsecondary Education.[3] Minnesota is another state that has challenged alternative providers, suggesting that programs offered by Udacity under "nanodegree" branding may fall under existing state regulations governing the provision of distance education.[4] New York has also shown willingness to address these providers, famously fining Trump University; although much of the case against

that entity revolved around fraud allegations by students, one component of the settlement involved the failure to register with the state as a postsecondary education provider, particularly triggered by use of the word 'university'.[5] Where alternative providers are subject to state oversight frameworks, it is important to recognize that such frameworks are generally not designed to operate independently. Rather, they are meant to function in complementary fashion with federal regulations and quality assurance provided by institutional accreditors.

The federal government has tried pilot programs to allow alternative providers to partner with existing higher education institutions to offer new programs. The idea was that these alternative providers would develop innovative programs at lower costs while maintaining quality. The initiative, carried out under the Department of Education's experimental sites program, relaxed rules that prevent alternative providers from providing more than half of an online program and allowed them to access federal financial aid dollars.[6] Under this program, alternative providers partnered with an accredited higher education institution and a third party to carry out quality assurance and attempted to deliver new and innovative programs, including coding bootcamps, web development certificates, and even traditional postsecondary associates degrees.[7]

This program was widely viewed as a pilot effort to potentially open federal financial aid programs to alternative providers — offering both the promise of access to federal financial aid dollars and new requirements on operations.[8] The effort is generally viewed as a failure in hindsight, as only one of the eight selected partnerships successfully launched a program, and that one instance has not sustained its operations.[9] The reasons for the programs' failure to move forward vary, but a consistent theme appears to be that — although significant flexibility regarding federal financial aid provisions was part of the experimental program — the stringent requirements for disbursing financial aid dollars, such as having clearly defined beginning and ending dates and consistent program lengths, did not work well with some of the innovative program designs that were attempting to participate.[10]

Although there is significant interest in allowing federal higher education dollars to flow to short-term programs, the results — or lack thereof — from this experimental initiative seem to have reduced the likelihood of providing financial aid dollars through a completely new paradigm. One highly touted "innovation" under the program was a new approach to quality assurance, which is traditionally provided by institutional accreditors in the higher education space. By allowing partnerships to work with new third-party quality assurance entities, the project aimed to spawn new approaches that would be replicable elsewhere. Initial efforts seemed promising as one third party quality assurance entity developed a new framework that it claimed would be applicable throughout the education and training space in addition to meeting the requirements of the experimental project.[11] However, at this point, the various materials produced outlining the quality assurance standards do not appear to be available online.

Higher education has also seen other efforts to develop new and innovative models of quality assurance. QA Commons is working to supplement existing oversight of postsecondary institutions with standards focused on graduate employability.[12] Separate from this work, voluntary accountability frameworks developed by two- and four-year institutions report student data and institutional metrics.[13]

SUMMARY INFORMATION ON ALTERNATIVE PROVIDERS

It is not an easy challenge to determine whether these providers should receive public support and how to best subject them to appropriate levels of oversight. One of the core problems is gathering basic data about the providers and their students. Because there is no clear and consensus-based definition of what constitutes an alternative provider — and there is no common oversight — there is no common collection of data. This clearly leads to somewhat of a circular problem. To be fair, many providers themselves recognize the issue and are working on voluntary efforts to collect and provide basic information about their programs.

A first, very elementary question is the number of participants using alternative providers to advance their education and training goals. This is a surprisingly difficult question to address. Looking at the different options, here are a collection of data points and context:

- In 2019, one source suggested there were about 34,000 coding bootcamp graduates.[14] This represents substantial growth in a relatively short period of time, as 2012 saw fewer than 1,800 graduates.[15] These programs are largely concentrated in major metropolitan areas, but many are available through distance education.[16]

- Estimates on MOOC enrollment are broader and the best data available are international. The COVID-19 pandemic also appears to have driven a massive enrollment boost as 2020 saw more than 60 million new students (excluding China) enroll in MOOCs.[17] MOOCs offered more than 16,000 courses, almost 1,200 "microcredentials", and 67 MOOC-based degrees.[18] MOOCs pose a particular challenge in identifying which students are "credential seeking" compared to those that are simply auditing a course. Estimates for Coursera, the largest provider, are that under five percent of participants are paying tuition (meaning they receive a credential for course completion).[19]

- A 2016 analysis of bootcamp participants suggested nearly 80 percent of those participants already possessed a bachelor's degree or higher.[20] This suggests that for many participants, these represent reskilling or upskilling opportunities that build on their existing credentials, rather than an initial credential to use in the workforce.

Again, without these providers existing within a regulatory framework requiring consistent disclosures with clear definitions, it is difficult to provide summary data, but the limited research that exists suggests that some types are significantly more expensive than existing higher education programs. As one example, a survey of coding bootcamps found (using information from program websites) a median price of just under $12,000, with variation by the length and intensity of the program.[21] The median price per week of a full-time program was $1,050.[22] Programs also typically aim to address cost through private loans, government grants, and Income Share Agreements, also known as ISAs.[23]

Other programs, such as those delivered through MOOCs, have substantially lower costs, requiring payment only for receiving a credential acknowledging completion.[24] Microcredentials — which can represent a single course or a bundling of multiple MOOCs into a credential — provide another option for students and often have names trademarked by providers such as Coursera, EdX, and Udacity.[25] Prices of major credentials vary based primarily on the length and expected effort estimated to be involved, and range from less than $100 to nearly $20,000.[26] Analysis of seemingly similar microcredentials shows substantial variability across providers with little information for potential participants to distinguish between them.[27]

Outcomes information, particularly employment data and salary information, are crucial for understanding the potential individual and societal benefit of these programs. But there are no good sources of comprehensive and relevant data for alternative providers (it should be noted that this is also true for traditional providers, although data are generally more prevalent for them). One voluntary reporting framework developed by a group of coding bootcamps publishes data on approximately 20 U.S.-based alternative providers, which represents a fraction of current operations.[28] These data are also not structured in ways to make it easy for students to compare programs or identify particular opportunities that are consistent with their own backgrounds and training.

BENEFITS AND PITFALLS

Alternative providers tout numerous benefits to their programs, which may vary depending on the approach. MOOC-based programs, for example, regularly emphasize the quality of their programs and comparability to existing higher education opportunities, but at substantially reduced costs, as well as connections to high-profile employers.[29] Coding bootcamps focus on the relevance of their offerings, the speed of potential completion, and the skills-based approach.[30]

From policymakers' perspective, there is substantial overlap to these presumed benefits. With education and training generally considered a public good in our society, it makes clear sense that if alternative providers can deliver on these presumed individual benefits, there would be substantial public gain as well. Finding programs that can reskill and upskill individuals quickly to meet rapidly developing workforce demands can benefit local, regional, and state economies. Subsidizing individuals' participation in such programs (again, if their claims are warranted) could also be a more efficient use of public dollars than longer term higher education programs or other public training options.

But without clear data, or an overarching structure to oversee and support programs offered by alternative providers, there are several gaps affecting current and potential students. As innovation continues to outpace policy and oversight, numerous potential problems include:

Unexpected Closures. Alternative providers are no different from traditional providers in that they may unexpectedly close. The difference is that when institutions of higher education close, there are concerted efforts by states and accreditors to carry out plans developed by the closing institution to provide teach-out opportunities to students so they can finish their course of study. This includes provisions to obtain student transcripts and the other necessary information to transfer to a new institution as easily as possible. Certainly, this does not always work perfectly, but the process ensures some attention to reducing the impact of a closure on students who are caught partway through their programs.

With the shorter time frame to complete credentials, there are likely to be fewer students that cannot complete their credential with shutdowns timed around course completion, but there are still other negative implications from abrupt closures.[31] Thus, some consideration ought to be paid to providing students the opportunity to complete their course or program should the alternative provider close. Even if closures are timed and drawn out so that students are able to complete their programs, the value of a credential from a closed provider is likely to carry substantially less weight in the job market, not to mention the potential added challenges of having their credit recognized.

Data and Privacy Protections. Programs falling under oversight of the federal government through workforce training laws and regulations, or the Higher Education Act all have additional protections placed on student data. The Family Educational Rights and Privacy Act, known as FERPA, governs how education providers can use and share individuals' data and information. Data generated through participation in workforce training also carries special protections

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enshrined in the Workforce Innovation and Opportunity Act.[32] Providers operating outside of these frameworks are not obligated by any specific legislation related to data protections. Although most states have general data protection regulations under the broad heading of consumer protection, the data protection issues specific to providing skills-focused education and training have not been explored in depth, but the justification behind FERPA and prohibitions on sharing workforce training data would likely apply.[33]

Lack of Quality Assurance and Misreported Outcomes Data. Although some alternative providers have developed and agreed to voluntary standards, there is still a lack of a common underlying accountability framework.[34] Other providers have released their own externally-validated outcomes data.[35] Additionally, some funders are providing financial assistance and loans for these programs, but only to those that meet certain standards.[36] These efforts are a promising step forward, but underscore a key problem with some alternative providers: the job placement data that are trumpeted on websites and in recruiting material have included outright fabrications and misleading or cherry-picked data, raising concerns about which information can be trusted. Particularly for bootcamps, there are numerous instances where state regulators have fined providers for misrepresenting student outcomes data.[37]

Additionally, alternative providers have faced allegations that curricular promises and representations about student engagement with faculty have proven overblown and inaccurate.[38]

One can convincingly argue that existing data sources for more traditional providers are also lacking, both in completeness and relevance. Further, there is limited evidence to support the notion that improving available data on education and training programs leads potential students — particularly low-income and underrepresented students — to make different choices from among their available options.[39] But such weaknesses do not obviate the need for highly career focused programs to provide accurate information that represents, as nearly as possible, actual experiences of students.

Outcomes information is a crucial piece for potential students (and the organizations and programs working with them) as well as policymakers looking to identify the best possible uses of limited public dollars. The whole premise behind these programs is that they can deliver the skills desired by employers quickly and efficiently, leaving students with a positive return on investment. While the voluntary, provider-led efforts to improve the reliability of data are laudable, it seems unlikely that prospective students would be able to make fully informed decisions about their options based on the information available.

THE PATH FORWARD

There are multiple possible approaches that could lead to a more productive and effective oversight approach focusing on quality assurance and student protection. Although there are different ways of thinking about this, it is possible to conceive of a spectrum, ranging from a "laissez faire" approach on one end, with providers regulated by consumers essentially voting with their feet, to the "copycat" approach of developing a highly-regulated approach similar to existing higher education and workforce training systems. Somewhere in the middle might be an approach that builds from the existing voluntary efforts and borrows the best parts of both ends of the spectrum, while limiting those components that stifle innovation or leave students without any protection.

As approaches for providing oversight develop — even different approaches in different states or regions — it is clear that good consumer information will be necessary (but not sufficient). In all of the potential approaches discussed below, information about participant success and outcomes are crucial for providers themselves, students, and policymakers.

This analysis begins by looking at both extremes, with the strengths as well as gaps briefly described, then focuses on what a middle ground might look like, drawing the best components from each.

Laissez Faire. The primary issues here are those laid out above. Philosophically, the idea that the "market" may serve as the regulator for non-traditional providers is appealing. It would provide freedom from cumbersome regulations and foster the ability to innovate to deliver new services and skills quickly and nimbly. However, basic economics drives home the fundamental importance of providing high-quality information so that those participating in a market (i.e. potential students) can make informed choices. Even looking at the best collections of voluntarily submitted data on alternative providers' programs leaves one unsure about their true effectiveness.

Even without a formal oversight system focused on alternative providers, there are usually existing general purpose state laws that will apply, but it remains an open question whether prohibitions against fraud and consumer data protection requirements are sufficient to address issues among alternative providers.

Using Existing Frameworks. As described above, previous attempts to adapt the federal framework from postsecondary education to address issues with alternative providers proved to be unworkable. These frameworks have rigid requirements and rely on consistent approaches across multiple providers, which runs counter to the innovative nature embedded in bootcamps, MOOCs, and other alternative providers.

Both frameworks from workforce training and higher education would provide some consistency for students and potentially include external quality assurance elements. It is not readily apparent that inclusion in these frameworks would dramatically improve data availability for potential students as there are still numerous data gaps on programs and providers operating within those approaches.

These approaches do provide some guardrails for the expenditure of substantial public funds through workforce training programs and federal financial aid programs for higher education. While there are still regular examples of deception and fraud, the regulatory frameworks do provide recourse in those instances as well as protections against them.[40]

A Blended Approach. Identifying the specific nature of a perfect approach is difficult, with the details becoming exceedingly important (and nearly impossible to lay out in a brief such as this). But it is feasible to establish some general principles under which to build an approach. Possible principles include the following:

1. **Public support for effective programs is warranted.** At the national, state, and — in some cases — local level, society has long agreed that education and training programs, though they convey private benefits to the individual, are public goods worthy of taxpayer support. If alternative providers can demonstrate that they, too, are contributing to the public good, it seems logical that they should receive some form of public subsidies that are common to higher education and workforce training. But with public support comes certain requirements.

   Public support should focus on ensuring equity in access and outcomes, with attention to low-income and unemployed individuals, as well as those individuals from racial/ethnic groups that have been poorly served by postsecondary education and workforce training programs. This public support may look different from existing financial aid models and workforce training accounts given that many alternative providers are attempting to implement innovative financing models such as ISAs.

2. **Information on outcomes must be available.** Although, as noted above, there is not clear evidence that providing better and more clear information about outcomes will lead potential students to "vote with their feet" and select high-quality programs, having clear publicly available information is a crucial starting point for assessing program quality. For programs that have a laser-focus on providing students with highly-marketable skills it does not seem too burdensome to ask that they are able to demonstrate the effectiveness of their work. This is an area where there can be significant complications in obtaining necessary data, but such issues are resolvable. Clearly, if the aims around equity laid out above are to be met, then data and information must have the necessary disaggregations. Such information must also allow for valid comparisons of different credentials through comparable metrics, though previous efforts in higher education have shown that developing these is difficult.

   Two states involved with the Data for the American Dream effort have worked to incorporate data from private providers into state-developed career navigation tools. This would be an important leap forward, particularly where data show that short-term programs may provide substantial benefits to completers.

3. **Students and taxpayers should be protected from bad actors and ineffective programs.** As detailed in earlier sections of this brief, there are numerous examples of alternative providers committing — or being alleged to commit — fraud or misrepresentations that harm students. Some may argue that because students attending programs under ISAs — a highly popular bootcamp financing model — do not pay for their course until they receive a job in the field providing income above a certain benchmark, students are inherently protected. This neglects the value of an individual's time, however, which is likely worth far more than tuition costs.

   These protections should ensure a basic level of quality and that instruction meets certain standards, or at the very least, that programs are fully transparent about their curricula and learning opportunities. This component of the oversight framework can include "nuts and

bolts" protections like data privacy and security, processes to address unexpected closures, and opportunities to redress student complaints.

Higher education accreditation — which plays the role of external quality assurance — is likely not the appropriate model here, as it is generally considered cumbersome, slow to adapt, and far from perfect. One could envision, however, a set of standards developed jointly by the industries that would employ completers and providers themselves, with employers offering some degree of external validation. This would borrow from existing voluntary approaches, but could become a requirement for those receiving subsidies. Further integration of industry employers into standards development would increase their utility.

4. **Providers must be able to innovate, experiment, and adapt to new circumstances.** One of the fundamental tenets of alternative providers is that they are able to fill a niche that existing workforce training and higher education programs cannot because they are more nimble and less constrained by their regulatory frameworks. Such innovative programs can — in theory — quickly develop new offerings to meet need, adjust rapidly to labor market demand, and reskill and upskill students more quickly than traditional programs. Rapid opportunities to gain new marketable skills that can lead to well-paying careers could be a crucial piece of national, state, and local talent development strategies, complementing existing workforce training and higher education programming.

Although these four principles seem parsimonious, operationalizing them into a realistic and effective oversight framework would be a huge undertaking. Multiple different approaches could make progress toward that end. One option would be continued evolution of existing voluntary approaches. Although they lack teeth and suffer from data gaps and shortcomings, they can represent a useful starting point, but suffer from the fact that few potential students are likely to make a determination to participate in a program based on its standing within one of these industry-led vehicles. One difficulty would remain attracting public investment, but having a sound framework in place could ease the path should additional opportunities arise.

An additional option would be to learn from the apparent failures of the experimental federal initiative and develop a new pilot program. The lessons from that work should not be that it is impossible to provide federal support for alternative providers in exchange for some agreed-upon external validation, but rather that the way the program was designed simply did not work.

Above all, such work will require substantial collaboration among diverse stakeholders, including federal agencies, state and local policymakers, industry and student representatives, and many more. Oversight approaches regularly lag behind the activities they mean to support and regulate, but this is no excuse for inaction. Meanwhile, the proliferation of alternative providers and credentials continues to accelerate. These will be marketed disproportionately to populations who are most in need of workforce-aligned skills and abilities, but who may be most vulnerable to exploitation. These give urgency to the need for education and training stakeholders to develop a workable approach that meets the needs of providers, help build the workforce of the future, and, perhaps above all, provide students with high-quality training and education opportunities that unlock a better life. But these stakeholders can only meet this challenge with a significant and sustained effort that must start now.

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