



Build on foundations by linking skills training to jobs

After leaving school—whether as dropouts or graduates—many young people land jobs with limited prospects. But training offers a way out. How can successful job skills training programs be replicated? How can they be made available, affordable, and effective for the many young job seekers moving from school to work?

Young people around the world face substantial challenges in their transition from school to work. Many of them, especially youth from disadvantaged backgrounds, leave formal education prematurely, lacking the foundational skills needed to succeed on the job. In other words, the learning crisis manifests itself in the labor market. As a result, many become unemployed or stuck in low-wage, unstable, informal-sector jobs that offer them few opportunities to strengthen their skills. But the same can happen even to secondary school graduates, if they cannot fulfill labor market needs.

When young people leave formal education, they usually take one of three paths to employment. Some join the labor market without any further education or training. For them, workplace training is an important way to build skills. Others enroll in formal technical or vocational training programs that build the skills required for specific fields or occupations of interest.¹ These programs usually result in a formal technical qualification or an industry-recognized certification. Finally, a smaller group postpones looking for work or enrolling in further education and training. Three types of job training programs can help youth improve along these paths:

- Workplace training can benefit both workers and firms, yet it is not widely available to young adults.
- Short-term job training programs often have limited impacts, but careful program design could help improve outcomes.

- Technical and vocational education and training (TVET) offers a viable path, but only when programs are designed and implemented in partnership with employers.

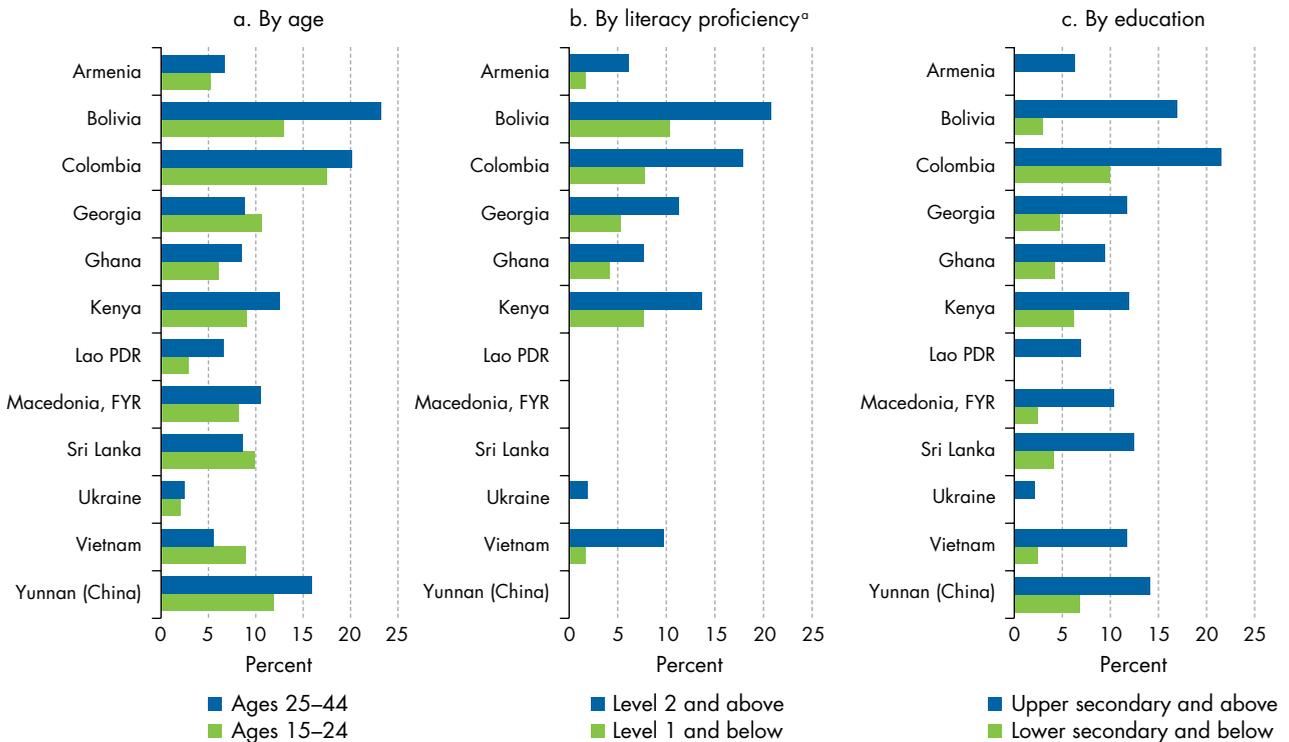
Workplace training can help young people develop skills, yet few benefit from it

Workplace training deepens workers' skills and raises firms' productivity.² It can increase workers' output by 10 percent or more, which is similar in magnitude to the payoff from investments in physical capital.³ In Latin America and the Caribbean, a 1 percent increase in the proportion of trained workers in large firms raised productivity by 0.7 percent.⁴ In Mexico, investments in training increased productivity and firm-level wages by 4–7 percent for manufacturing workers.⁵ Similarly, returns were 7.7 percent in Malaysia and 4.5 percent in Thailand for workers holding a secondary education qualification or more.⁶ In Kenya and Zambia, workplace training was associated with a 20 percent increase in the wages of manufacturing workers.⁷

Despite its potential benefits, young workers rarely receive workplace training. In developing countries, the percentage of working-age adults participating in work-related training ranges from 20 percent in urban Bolivia and Colombia to less than 10 percent in the Lao People's Democratic Republic

Figure 8.1 Few benefit from workplace training, and those who do tend to already have better literacy or education

Workplace training participation in last 12 months, participating countries (2011–14)



Source: WDR 2018 team, using data from World Bank’s STEP Skills Measurement Program (<http://microdata.worldbank.org/index.php/catalog/step/about>). Data at http://bit.do/WDR2018-Fig_8-1.

Note: Respondents were asked, “In the past 12 months, have you participated in any training courses, such as work-related training or private skills training, that lasted at least 5 days/30 hours (not part of the formal educational system)?” Low proficiency is defined as level 1 and below on the literacy assessments and indicates limited understanding of texts. Medium to high proficiency is defined as level 2 and above and indicates the ability to integrate, evaluate, and interpret information from a variety and complexity of text materials.

a. No literacy proficiency data available for Lao PDR; Macedonia, FYR; Sri Lanka; or Yunnan (China).

and Vietnam.⁸ Training participation is even lower for young people with incomplete education, limited skills, or short employment tenure.⁹ In Peru, fewer than one in five young workers receive training in their first year on the first job.¹⁰ Employers’ decisions to invest in training are affected by potential production improvements, worker turnover, and a firm’s overall management practices.¹¹ Training participation is lower not just for young workers generally (figure 8.1, panel a), but especially for young workers with limited literacy proficiency or education qualifications (figure 8.1, panels b and c). Yet workplace training can be especially beneficial for young adults. A cross-country analysis of 38 workplace training studies finds an average wage increase of 7.2 percent for workers under 35, compared with 4.9 percent for workers over 35.¹²

Informal apprenticeships, which can be thought of as informal workplace traineeships, offer young people

a way to upgrade their skills in a workplace setting. In these noncertification-granting arrangements, learning takes place while a young person works alongside an experienced craftsperson over a period of time.¹³ Though available in many parts of the world, informal apprenticeships are most common in Sub-Saharan Africa. For example, in Benin, Cameroon, Côte d’Ivoire, and Senegal, informal apprenticeships account for almost 90 percent of the training that prepares workers for crafts jobs, as well as employment in some trades (such as carpentry, welding, hairdressing, plumbing, tailoring, masonry, and weaving).¹⁴ Informal apprentices are more likely to be young people with limited formal education from disadvantaged socioeconomic backgrounds.¹⁵ These apprenticeships vary widely in their institutional setup, training content, working conditions, and financial arrangements. However, most are nested within community customs, norms, and traditions. Experimental evidence

on their effectiveness is scant. Evaluations from Senegal have shown positive effects on labor market outcomes, but limited effects on general cognitive skills.¹⁶ But early evidence from an apprenticeship program in Côte d'Ivoire that formalized part of the process shows improvements in the labor market outcomes and psychological well-being of disadvantaged youth.¹⁷

Unlocking the potential of informal apprenticeships requires up-to-date master trainers and recognition of apprentices' training tenure and performance. Too often, master trainers lack the information, capacity, and incentives to adapt to new workplace practices. This can lead to apprentices learning obsolete workplace practices.¹⁸ Also, because informal apprenticeships are rarely recognized by the formal training system, they offer limited labor market mobility.¹⁹ One way to mitigate this issue is to integrate informal apprenticeships into the formal training system, allowing for skills reengagement with further education and training. In Malawi and Tanzania, for example, competency-based skills certification offers a pathway for young workers who have been apprentices to be acknowledged for their skills.²⁰

Short-term job training offers opportunities, but most programs fail to deliver

Many short-term job training programs—which usually last between two weeks and six months—do not meet labor market needs. Meta-analyses of programs from around the world find that less than a third have positive, significant impacts on employment and earnings.²¹ Though the estimated effects of short-term programs are somewhat larger in developing countries, they remain small. Skills training that focuses on helping participants accumulate the human capital needed to transition to labor markets can generate positive returns, but, given their short duration and heterogeneous quality, these short-term programs rarely have impacts as large as the returns from completing a formal education.²² Many programs are poorly designed and implemented, or don't interest the hard-to-reach young people who might need skills upgrading the most.²³ The economic rationale for investing in training is often tenuous: in Liberia, for example, it can cost up to 50 times the resulting monthly income gain, meaning that recovering the investment would take 12 years.²⁴

But short-term training interventions do show some positive results when targeting disadvantaged groups, such as low-skilled women. In Uganda, the

Empowerment and Livelihoods for Adolescents program targeting young women shows encouraging impacts on graduates' employment prospects.²⁵ Similarly, Nepal's Adolescent Girls Employment Initiative increases nonfarm employment by 13–19 percentage points for participants.²⁶ In the Dominican Republic, evaluations of Programa Juventud y Empleo, a skills training program that targets low-income, low-skilled, out-of-school youth with less than a secondary education, increased both employment and earnings.²⁷ Promising results from interventions in Colombia, the Dominican Republic, Liberia, Nepal, and Peru are identifying effective approaches to improving young women's aspirations, socioemotional skills, and labor market outcomes.²⁸

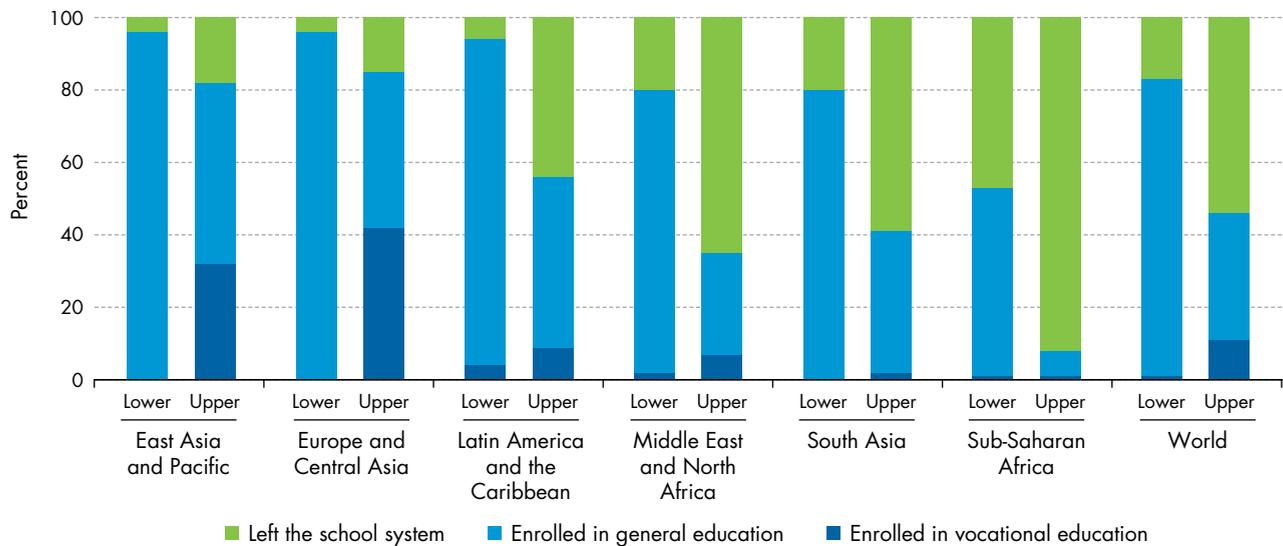
Successful short-term job training programs offer more than skills training. Programs that focus on developing multiple skills and that complement training with wraparound services such as career guidance, mentoring, and job search assistance have better odds of success.²⁹ For example, comprehensive training schemes that emphasize technical skills, life skills, and internships show positive effects in Kenya, Brazil, and Nepal.³⁰ In Kenya, the Ninaweza Youth Empowerment program, which integrates information and communication technology (ICT), life skills, internship training, and job placement support for youth, shows positive impacts on labor market outcomes.³¹ Similarly, in Brazil the Galpão Aplauso program has improved outcomes through a combination of vocational, academic, and life skills training.³² In Nepal, the Employment Fund prioritizes comprehensive training programs for youth who are underemployed or unemployed.³³

TVET can prepare young people for work, but early sorting into TVET can limit career growth

TVET can yield wages on par with equivalent levels of general education. Usually lasting from six months to three years, TVET can be delivered in the dedicated streams of lower secondary, upper secondary, or tertiary schools.³⁴ In Brazil, workers with upper secondary TVET earn wages about 10 percent higher than those of workers with a general secondary education.³⁵ In Indonesia, returns to public TVET are positive for all, and greater for women.³⁶ But despite encouraging results, TVET programs in many developing countries remain an unattractive alternative

Figure 8.2 Most vocational training students enroll during upper secondary school

Gross enrollment rates in general education and technical and vocational education and training (TVET), lower and upper secondary students (circa 2010)



Source: WDR 2018 team, using data from UIS (2016). Data at http://bit.do/WDR2018-Fig_8-2.

for young people, with often poor program quality or labor market relevance.

Putting students on a technical track too early can limit their career opportunities for a lifetime. Young people need to master foundational skills—reading, writing, numeracy, critical thinking, and problem-solving—to participate meaningfully in TVET. They also need to be mature enough to express career preferences that might have long-term consequences. Countries that have delayed streaming into TVET have shown that such changes can lead to improvements. In Poland, delaying vocational education by a year improved students' academic performance.³⁷ Problems with early tracking are exacerbated in systems that do not allow students to go back and forth between general and technical education, leaving technical graduates with limited opportunities to reengage in further education or training.³⁸ Despite such concerns, most enrollment in TVET occurs at the start of upper secondary school (figure 8.2). Of equal concern is that, in most regions, more young people are leaving formal education than are continuing in either general education or TVET—a fact that underscores the importance of acquiring robust foundational skills early on as a basis for learning on the job and throughout life.

Developing narrow vocational skills can expedite workers' transitions into the labor force, but broader general skills can help them adapt more easily to technological change. Evidence from advanced economies indicates that narrow technical education

conveys early advantages in the labor market, but the advantages dissipate over time. Some workers end up outdated in their occupation-specific skills, making them more vulnerable to job loss.³⁹ Though the appropriate balance is bound to be country-specific, TVET should not lock participants into narrow occupations that are likely to change in unanticipated ways.

Successful job training programs share several features

Though the evidence available on workplace training and job training interventions—whether short-term or long-term—is limited, some features are consistent across successful programs. To the extent possible, the principles discussed in this section are distilled from experimental evidence. But because of the shortage of rigorous research on interventions in developing countries, this section also integrates relevant findings from different types of studies (non-experimental, systematic, qualitative).

Establishing partnerships before training is designed

Sectoral training programs⁴⁰ partner learners with employers early and sustain their commitment.⁴¹ These programs set up partnerships between intermediary institutions—usually network aggregators

or nonprofits with industry-specific expertise—and employers in an industry to anticipate job openings, design program content, and maximize potential placement. Sectoral programs focus on supporting individuals to enter careers rather than jobs. To do so, programs integrate information on career pathways to help participants identify the credentials that are needed for an occupation and that can be pursued to move from an entry-level job to a longer-term career.⁴² Success factors include having high-quality intermediaries, along with comprehensive recruitment services, to generate good matches among prospective participants, programs of study, and targeted occupations.⁴³

Sectoral training programs can improve labor market outcomes, raise productivity, and reduce employee turnover. Among three U.S. sectoral training programs—Wisconsin Regional Training Partnership (Milwaukee), Jewish Vocational Service (Boston), Per Scholas (New York City)—participants saw 18 percent higher average earnings over a two-year period.⁴⁴ Similarly, the Year Up program, which targets vulnerable youth in several U.S. states, has produced high levels of completion, participation in internships, employment, and earnings.⁴⁵ Finally, the Generation program—focusing on low-skilled youth in India, Kenya, Mexico, Spain, and the United States—has resulted in high job placement and employer satisfaction.⁴⁶ Other potential approaches to engaging employers in training include entering into public-private partnerships with multinational corporations, establishing effective national workforce development initiatives, and fostering workplace training provision through mechanisms such as training funds and tax incentives.⁴⁷

Combining classroom with workplace learning

Formal apprenticeships are a common way to combine classroom with workplace learning; such programs are often referred to as “learning while earning.” Formal apprentice programs can last from one to three years and take place at the secondary or postsecondary level or as an alternative to upper secondary education, giving students the opportunity to engage in industry-supervised workplace practices.⁴⁸ For programs targeting secondary students, special attention is required to ensure apprentices hone foundational skills, as well as occupation-specific skills, to avoid overly narrow specialization.⁴⁹ Formal apprentices are typically paid less than the market wage.⁵⁰ Good-practice apprenticeships offer structured training, a professional trainer to oversee apprentices, a written contract that stipulates training

arrangements, and an assessment to verify acquired skills.⁵¹ A strong partnership between the education system and industry is crucial to integrate firm resources, share risk burdens, develop industrywide skill standards, and deliver apprenticeship training at scale.

Studies show positive results for both firms and the individuals who complete formal apprenticeships.⁵² In the United States, a study looking at gains from secondary TVET, postsecondary TVET, and apprenticeship programs in the states of Virginia and Washington found positive gains from all three—especially apprenticeships.⁵³ Studies in Canada, Germany, Switzerland, and the United States find that employers recover initial apprentice costs in the short to medium term.⁵⁴ In Brazil, graduates of a large formal apprenticeship program (Lei do Aprendiz) are more likely to find permanent, higher-paying jobs, with larger gains for less educated workers.⁵⁵ In Malawi, an innovative formal apprenticeship program targeting young women broadened their opportunities to serve as assistant schoolteachers; graduates gained higher skills and community standing.⁵⁶

Identifying capable teachers

Successful approaches to training depend on capable teachers⁵⁷ with industry expertise who can tailor training to meet job requirements.⁵⁸ Students’ gaps in foundational skills and lack of motivation intensify the complexity of teachers’ roles and responsibilities.⁵⁹ The global shift toward competency-based standards in training, assessment, and certification amplifies the importance of capable, involved teachers.⁶⁰ A study of 10 polytechnics in Ghana highlights the importance of having teachers able to offer constructive feedback as students work through competency modules.⁶¹ However, often teachers lack industry qualifications or up-to-date pedagogical expertise, especially when it comes to teaching using a competency-based skills approach. A study of teaching practices in technical vocational colleges in Malaysia highlights the difficulties that teachers face in moving from assessing a student’s knowledge to assessing occupational and task-specific competency.⁶²

Yet in many countries, structured professional support is not available to ensure that TVET teachers remain current on curriculums and industry changes.⁶³ But they could: a review of vocational education systems in 10 countries in the Middle East and North Africa (MENA) finds active experimentation with innovative models to build career structures that reflect common norms, values, and standards to

professionalize TVET teaching. Six of the 10 countries have developed occupational standards for technical teachers to recognize career progression, though it is too early to tell whether or how the new standards are influencing student outcomes.⁶⁴ Other countries, such as Ethiopia and Lao PDR, are experimenting with introducing standards and expanding the qualifications for technical training instructors. But getting robust information on program effectiveness is difficult because most interventions are not evaluated for impact.⁶⁵

Making student support services and comprehensive information available for decision making

Career information is an important part of training programs, helping students identify opportunities, stay on course, and transition into a career.⁶⁶ Career information interventions are usually grouped into *career education programs*, which might include providing direction on coursework selection, and *career planning*, which is usually provided on an individual basis.⁶⁷ Career information can be especially useful for students who lack family or social networks that can provide meaningful direction. Since the early 2000s, countries in the European Union have been experimenting with mechanisms to integrate career guidance with national lifelong learning strategies in order to align with the Lisbon Strategy and the strategic framework for European cooperation on education and training.

Still, evidence is limited on how career information initiatives affect students' choices, training

trajectories, and outcomes.⁶⁸ Career guidance policies are a priority across 28 European countries, yet the scope and depth of programs vary substantially, highlighting the need for a well-articulated vision, cohesive strategy, and robust quality assurance mechanisms linked to funding.⁶⁹ Few member countries of the Organisation for Economic Co-operation and Development have program standards to monitor the quality of services, especially for programs delivered by private providers. This results in an overreliance on staff qualifications as indicators of quality.⁷⁰

Successful career guidance programs have clear objectives and outcome measurement to track program performance. They also have different pathways for participants from a diversity of backgrounds, so skilled career guidance staff can tailor skills development trajectories according to need.⁷¹

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Successful job training programs are typically based on strong ties with employers, with curriculums taught by teachers who have both industry experience and up-to-date pedagogical expertise. These programs also tend to reinforce foundational skills, integrate classroom instruction with workplace learning, and offer certifications that can be further built on. These features keep career paths open for graduates. Though job training programs can yield positive outcomes, a key lesson is that trainees still need strong foundational skills—cognitive and socioemotional—before moving into specialized streams.

Notes

1. Pre-employment job training programs can be grouped into (1) short-term programs of less than six months that focus on vocational subjects and (2) longer-term technical and vocational education and training (TVET) programs of more than six months that are mapped to formal education system levels.
2. Formal workplace training refers to supervised skills development activity that links knowledge gained in the workplace with the needs of business firms (see ILO 2010). A comparison across workplace models is difficult because of the heterogeneity in design, implementation, and effectiveness of training schemes. See Acemoglu and Pischke (1996); Almeida, Behrman, and Robalino (2012); Almeida and Carneiro (2009); Bassanini and others (2005); Blundell and others (1999); Dearden, Reed, and Van Reenen (2006); and Haelermans and Borghans (2012).
3. Dearden, Reed, and Van Reenen (2006); De Grip and Sauermann (2012); Konings and Vanormelingen (2015); Saraf (2017).
4. González-Velosa, Rosas, and Flores (2016).
5. Tan and López-Acevedo (2003).
6. Almeida and de Faria (2014).
7. Rosholm, Nielsen, and Dabalén (2007).
8. Roseth, Valerio, and Gutiérrez (2016).
9. Almeida and Aterido (2010); Cabrales, Dolado, and Mora (2014); Sousounis and Bladen-Hovell (2010).
10. Caveró and Ruiz (2016).
11. Saraf (2017).
12. Haelermans and Borghans (2012).
13. ILO (2012).
14. ILO (2012).
15. Adams and others (2009); Darvas, Farvara, and Arnold (2017); ILO (2012).

16. Aubery, Giles, and Sahn (2017).
17. World Bank (2016).
18. ILO (2012).
19. ILO (2012).
20. Aggarwal, Hofmann, and Phiri (2010); Nübler, Hofmann, and Greiner (2009).
21. Kluge and others (2016); McKenzie (2017).
22. McKenzie (2017).
23. Blattman and Ralston (2015); Kluge and others (2016); LaLonde (2003); McKenzie (2017).
24. Adoho and others (2014); Blattman and Ralston (2015); McKenzie (2017).
25. Bandiera and others (2014).
26. Chakravarty and others (2016).
27. Card and others (2011).
28. Fox and Kaul (2017).
29. Eichhorst and others (2012); Fares and Puerto (2009); Kluge and others (2016).
30. Fox and Kaul (2017).
31. IYF (2013).
32. Calero and others (2014).
33. Chakravarty and others (2016).
34. OECD (2014); Tan and Nam (2012).
35. Almeida and others (2015).
36. Newhouse and Suryadarma (2011).
37. Jakubowski and others (2016).
38. Biavaschi and others (2012).
39. Hampf and Woessmann (2016); Hanushek and others (2017).
40. Sectoral training programs are defined as partnership arrangements between the government, employers, and nonprofit organizations set up to train unemployed or underemployed adults. They usually target young adults who have incomplete upper secondary or tertiary education qualifications whose skills are relatively low, as well as disadvantaged young workers seeking skills upgrading programs to reenter the labor force or move into higher-quality jobs.
41. CED (2015); Conway and Giloth (2014); King (2014); Martinson (2010); NGA (2013).
42. Bragg, Dresser, and Smith (2012).
43. King (2014); Maguire and others (2010).
44. Maguire and others (2010).
45. Roder and Elliott (2011).
46. Mourshed, Farrell, and Barton (2013).
47. Dunbar (2013); Tan and others (2016).
48. Fazio, Fernández-Coto, and Ripani (2016); Mieschbuehler and Hooley (2016); Neumark and Rothstein (2006).
49. OECD (2010).
50. Biavaschi and others (2012); Smith and Kemmis (2013).
51. Cumsille (2016); Fazio, Fernández-Coto, and Ripani (2016); Smith and Kemmis (2013).
52. Dietrich, Pfeifer, and Wenzelmann (2016); Hollenbeck (2008); Lerman (2014); Smith and Kemmis (2013).
53. Hollenbeck (2008).
54. Lerman (2013, 2014).
55. Corseuil, Foguel, and Gonzaga (2014).
56. Safford and others (2013).
57. Here *teachers* is defined broadly to include teachers (secondary education), instructors (postsecondary education), and trainers (workplace training). See Axmann, Rhoades, and Nordstrum (2015) and Stanley, Adubra, and Chakroun (2014).
58. Axmann, Rhoades, and Nordstrum (2015); Biavaschi and others (2012); Grollmann (2008); Maclean and Lai (2011).
59. Hodge (2016).
60. Guthrie and others (2009); ILO (2010). Experimental studies evaluating the impact of different approaches to training and supporting the professional development of vocational teachers are extremely rare.
61. Boahin and Hofman (2014).
62. Azmanirah and others (2014).
63. Axmann, Rhoades, and Nordstrum (2015).
64. OECD (2010, 2014); UNESCO (2014).
65. Gerds (2009); Kingombe (2012); Soysouvanh (2013).
66. OECD and EC (2004); Watts and Sultana (2004).
67. OECD (2010).
68. Hooley (2014); Hooley and Dodd (2015); Kluge and others (2016); OECD (2010); Sultana and Watts (2008).
69. Watts, Sultana, and McCarthy (2010).
70. OECD and EC (2004).
71. OECD and EC (2004).

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