

TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING

This report examines four approaches to technical and vocational education and training (TVET) employed by USAID between 2007 and 2012. Projects in South Africa, Indonesia, Georgia, and Morocco are used as case studies, and briefly analyzed according to nine practices deemed highly effective for workforce development as described in the USAID-funded publication *Compass to Workforce Development* (Aring, 1996).¹

The report begins with background information on TVET, followed by a description of four TVET methodologies employed by USAID on four different projects and a table comparing the projects in terms of the nine effective workforce development practices. This is followed by recommendations on how USAID investments in TVET can be sustained and replicated. The report closes with recommended resources and references.

The USAID-funded Educational Quality Improvement Program 3 (EQUIP3) was a nine-year program designed to improve earning, learning, and skill development opportunities for out-of-school youth in developing countries. EQUIP3 operated under a Leader-with-Associates Cooperative Agreement that included 25 Associate Award projects in 26 countries. EQUIP3 comprised a partnership with USAID, a consortium of international partner organizations, and host country public and private institutions. The EQUIP3 consortium of international partners included Education Development Center, Inc. (EDC), as the prime, and other organizations, such as the International Youth Foundation and FHI 360 (formerly the Academy for Educational Development).



BRIEF BACKGROUND ON TECHNICAL AND VOCATIONAL EDUCATION

A worker who lacks skills that are valued in global and local economies faces limited job opportunities and income growth. Good, demand-driven TVET is an important tool for skilling young people both in and out of school. However, TVET looks very different in the nations of the Organisation for Economic Co-operation and Development (OECD) compared to developing nations. In OECD countries, TVET plays an important role in preparing people for productive livelihoods. Although each OECD country takes a different approach to TVET, most of these approaches benefit from close communication and linkages with the private sector and the education system; substantial private-sector investment; industry-wide skill standards; a collaborative process of curriculum development for learning at schools and workplaces; high-stakes exit exams leading to well-paid technical jobs; and deeply rooted industries, trade associations, and other intermediaries that bring the various stakeholders together to hold one another accountable and share the costs and benefits of training. Most important, with the exception of the United States, most European and other OECD economies tend to have relatively small internal markets and use TVET as one of several strategies to ensure high-quality exports to grow their economies.²

In contrast, developing countries generally have few, if any, of the conditions found in the OECD nations. Most have scant history of collaboration among or between employers and education providers; indeed, most developing countries lack a strong and well-organized private sector. There are usually few, if any, intermediaries that can effectively connect both education and employers, and few resources available to purchase and maintain expensive state-of-the-art equipment for learning globally competitive skills. Moreover, developing countries often have no economic growth strategy linked to

vocational education.

Parents and students alike often view TVET in a negative light because much of the training in the past was not well linked to the demands of the labor market. Students would graduate and find that their new skills were outdated or in low demand, leading to unemployment or underemployment. TVET was thus broadly perceived as a poor investment, providing a second-rate education to underachieving students, serving as a holding area for students waiting for university spaces, and warehousing unemployed youth. This reputation is somewhat deserved: even today, curricula are often narrow or out-of-date; relevant technologies and equipment are often absent; infrastructure is poor; skill standards, if they exist, are obsolete and not well aligned to a sector's current and future skill needs; and teachers are poorly paid and their social status lags behind that of teachers in schools with a more academic orientation.

Given these issues, it is not surprising that by the 1980s TVET had fallen out of favor when rate-of-return studies showed that returns to general education were higher. And where TVET was of high quality, these studies showed that low-income students were crowded out by elite students who attended vocational and technical schools because of their high quality and links to the labor market.³ Since the mid-1990s, however, TVET and technical vocational skill development (TVSD) have been regaining momentum, largely because of their role in East Asia and their continuing importance in OECD countries.⁴

A close examination of the East Asian approach to technical and vocational education is illuminating. In Singapore and Penang, Malaysia, for example, leaders offered their low-skilled workforces to foreign multinational corporations for assembly work and built special office parks to house the companies. Skill development training centers were typically located in the center of each park.⁵ This placement reflected a deliberate strategy, as country leaders recognized that the best way to grow their economies was to learn how to make the products they were assembling. They insisted

that the foreign companies provide them with the training manuals for their products. The manuals were then used in the skill development centers to train the workforce, transferring the knowledge to local companies.⁶ Funds were set aside for local companies that wanted to upgrade the skills of their workforces.⁷ South Korea followed a different strategy with similar results: After independence from Japan, the South Korean National Assembly passed a law limiting Japanese firms to no more than 49 percent ownership in South Korean businesses, a measure that helped retain intellectual capital within the country. Furthermore, South Korea required all of its colleges to teach skills based on the country's economic growth export strategy.⁸

Effective approaches to TVET vary significantly. To better understand what works, USAID commissioned EDC to conduct a 2-year, 20-country study (1995–1997) on best practices in workforce development and TVET.⁹ The study concluded that the most effective programs shared nine characteristics:

1. **Leadership and accountability:** The underlying philosophies, values, and strategies that drive the design, implementation, and evaluation of a TVET program must be defined and communicated to all partners and stakeholders.
2. **Demand-driven design:** TVET programs can only be successful if they are tightly aligned to local, regional, national, and/or international economies and if the flow of information between stakeholders is open and transparent.
3. **Open access:** Barriers to entry—including information and practices that provide access—must be low enough to ensure that populations who have traditionally been excluded from education and training programs, such as women, girls, the disabled, and other marginalized groups, are able to participate and gain skills for employability.
4. **Portable skills:** Successful workforce development projects should allow for geographic mobility, as jobs or work opportunities may not be physically close to where learners have acquired skills and knowledge. Additionally, because work changes over time and workers change jobs and occupations over their lifetimes, transferable skills and soft skills, such as learning how to learn, plan, and communicate, are in great demand.
5. **Continuous improvement:** A commitment to continuous improvement encourages TVET programs to measure and evaluate students and programs throughout the process to ensure the quality of training and links to the labor market.
6. **Public-private partnerships:** A key success factor for effective workforce development systems is the degree to which the program links the demand side of the labor market (employers or entrepreneurs) with the supply side (learners). Developing multiple partnerships that bring together resources from the private and the public sectors appears to be the most sustainable approach for workforce development initiatives.
7. **Sustainable financing:** If TVET programs are to continue to innovate, change, expand, and reach their goals, it is crucial that they be linked to multiple and flexible financing sources.
8. **Replicability:** It is important to identify the factors that influence successful and sustainable replication, such as alignment to national needs, social mores, and labor laws, if programs are to serve as models for providing and delivering training.
9. **Economic and social impact of the program or system:** Successful TVET programs benefit not just the individual but contribute, in varying degrees, to economic growth and democratic processes.

The table on pages 5 and 6 compares the four USAID programs used as case studies in terms of how they fulfilled the nine criteria for effective workforce development and TVET programs.

TVET SYSTEM DESCRIPTIONS

TVET systems differ from country to country and are delivered at different levels in different types of institutions, including technical and vocational schools (both public and private), further education colleges, polytechnics, diversified secondary schools, enterprises, and apprenticeship training centers. What follows is a brief description of four TVET models employed by USAID in South Africa, Indonesia, the Republic of Georgia, and Morocco.

1. Further Education Colleges

In **South Africa**, USAID is helping to introduce TVET best practices into the country's further education and training (FET) college system by partnering with highly effective U.S. community colleges. Given their tight links to local employers and their ability to quickly adapt programs to the demands of the economy, community colleges can be critical pathways to learning technical skills that lead to employment. The effectiveness of this approach depends on the extent to which the colleges link to the needs of the private sector and the extent to which the skills taught are portable and reflect international quality standards.

The US–South Africa Partnership for Skills Development (PSKD) program is a three-year program that supports 12 of the 50 South African FET colleges. USAID has invested \$6.7 million to improve the quality of technical and vocational training in 12 colleges in the three provinces of Limpopo, Mpumalanga, and the Northern Cape. Virtually all USAID funding goes to support building the capacity of FET college personnel. The American Council on Education manages the project, which includes several additional partnerships between U.S. community colleges and nonprofit organizations. PSKD is expanding access to information on best practices in skills training and workforce development in both the United States and South Africa. The program assists participating FET colleges in developing closer ties with

employers and enhances the employability of their graduates. The program has succeeded in developing several guides and toolkits for the colleges in areas such as student support services, career counseling and employment creation, and HIV/AIDS programming.

2. Standalone Technical & Vocational Schools

With assistance from USAID through a Global Development Alliance with Chevron and the government of the Aceh region, **Indonesia's** exemplary, state-of-the-art technical college, Politeknik Aceh, is providing students with highly transferable skills that are in demand by local employers. High-quality standalone technical schools provide an effective way to deliver TVET, provided they are tightly linked to the private sector and to an entire industry sector rather than to just one or two companies. These alliances allow students to gain portable skills so they are not captive to a specific firm or small group of firms.

The Politeknik Aceh (PA) is the product of a \$12 million, three-way Global Development Alliance between USAID, Chevron Corporation, and the government of Aceh. The Politeknik was established as a private institution to equip youth and adults ages 16 to 30 with postsecondary, technical education to meet local and eventually international labor demand, generate employment opportunities, and contribute to post-tsunami reconstruction and long-term economic development. USAID funded the technical assistance to develop the Politeknik curriculum, train and hire staff, and establish linkages with industry and government through a \$4.9 million contract with Swisscontact. Parallel investments were made by the two other GDA partners in land and road-bridge construction (government of Aceh) and construction of the PA building (Chevron Corporation). By the end of the project, Swisscontact will shift control of operations—including financial and academic management—from the project staff to the Politeknik's staff. Governance of the institution is similarly shifting from the three-donor GDA model to an independent foundation (Yayasan Politeknik Aceh) that legally owns the institution and is responsible for oversight.

Comparison of Four USAID Investments in TVET Across the Nine Criteria of Effective Workforce Development and TVET Programs				
Description/ Criteria ¹⁰	South Africa	Indonesia	Georgia	Morocco
USAID Investment	\$6.7 million	\$5.4 million	\$4.1 million + \$1.4 million	\$28 million
Period of Performance	3/09–3/12	2/07–9/12	5/08–7/11	1/05–9/09
Primary Approach	Further Education Colleges	Standalone Technical & Vocational Schools	Government-Run Vocational Centers	Middle Schools & Agricultural Institutes
1. Leadership and accountability	<ul style="list-style-type: none"> Ongoing efforts to establish project ownership at the national level 	<ul style="list-style-type: none"> Local governance structure is highly effective 	<ul style="list-style-type: none"> Leadership from government, particularly on awareness campaign and national certification 	<ul style="list-style-type: none"> Degree of local ownership and leadership unclear
2. Demand-driven design	<ul style="list-style-type: none"> Industry not consulted ahead of time except in one college However, progressive collaboration with industry during implementation, with steady increase in job placement 	<ul style="list-style-type: none"> Industry is a strong local and regional partner 	<ul style="list-style-type: none"> Very tightly focused on local employment opportunities 	<ul style="list-style-type: none"> Local employers partner with schools and agri-institutes Focus on high-demand skills, strong focus on soft skills
3. Open access	<ul style="list-style-type: none"> Very flexible and oriented to meet students where they are Scholarships available for students from low-income and rural communities 	<ul style="list-style-type: none"> 21% of students receive student loans, which are open to all who pass entrance exam 	<ul style="list-style-type: none"> Open to anyone, priority given to applicants who appeared most motivated 	<ul style="list-style-type: none"> Open to students in middle school and those in agricultural programs
4. Portability of skills	<ul style="list-style-type: none"> Focus is on teacher training and industry specific skills via partnerships with U.S. community colleges and one with local industry 	<ul style="list-style-type: none"> Highly portable skills Curriculum based on analysis of master workers in multiple sectors Unclear if there is a strong focus on soft skills 	<ul style="list-style-type: none"> Highly portable skills in construction and tourism but not at higher levels Soft skills are learned in teamwork and as students form own contracting companies 	<ul style="list-style-type: none"> Portable due to participation of employer councils at middle school level Portable at agri-institutes as students learn on learning farms
5. Continuous improvement	<ul style="list-style-type: none"> Challenging, due to ongoing government modifications to criteria for FET colleges 	<ul style="list-style-type: none"> Criteria for measuring performance are in place and are used to track past performance and guide planning 	<ul style="list-style-type: none"> Criteria for measuring performance are in place and are used to track past performance and guide planning 	<ul style="list-style-type: none"> Criteria for measuring performance postponed by ministry until final year, and unclear if they are being used

Description/ Criteria ¹	South Africa	Indonesia	Georgia	Morocco
6. Public-private partnerships with industry or companies	<ul style="list-style-type: none"> Some FET colleges developed partnerships with public and private companies 	<ul style="list-style-type: none"> A GDA with Chevron plus partnerships with over 30 local employers 	<ul style="list-style-type: none"> PPPs established with at least 8 firms to set skill standards and provide internships and on-the-job training for students 	<ul style="list-style-type: none"> No partnerships per se; employer councils were established, no data as to whether these are being maintained
7. Sustainable financing	<ul style="list-style-type: none"> Partnerships established with well-known local institutions, which can assist with securing additional government funding. Not clear at this time if funding from government will continue at project level 	<ul style="list-style-type: none"> Appears to be sustainable via revenues from tuition, short courses, production units, services, sponsorships, and local government 	<ul style="list-style-type: none"> Transferring costs to GoG and instituting public-private partnerships 	<ul style="list-style-type: none"> There is no evidence of sustainable financing
8. Replicability	<ul style="list-style-type: none"> Highly replicable Replicates best practices in the U.S. 	<ul style="list-style-type: none"> Highly replicable, but dependent on strong founding partner 	<ul style="list-style-type: none"> Highly replicable, focusing on immediate job and skill needs and quick delivery 	<ul style="list-style-type: none"> Elements of program are replicable, such as employer councils, learning farms, twinning arrangements with Ministry of Education
9. Social and economic impact	<ul style="list-style-type: none"> No data as yet 	<ul style="list-style-type: none"> No data as yet 	<ul style="list-style-type: none"> Significant number of graduates 67% job placement rate among graduates despite economic turmoil and war 	<ul style="list-style-type: none"> Minister of education states ALEF reforms are being integrated into the national system

3. Government-Run Vocational Centers

In the **Republic of Georgia**, government officials did not understand the needs of the private sector, and consequently youth received training that was not well linked to employability. USAID partnered with government-run vocational centers in Georgia to rapidly train thousands of young Georgians who were unemployed as a result of the country's conflict and economic collapse.

USAID's Vocational Education Project (VEP) in Georgia was a three-year, \$5.5 million workforce development project designed to develop and expand vocational education and training to meet labor market demand in tourism and construction in seven vocational education centers across the country.

A total of 4,723 students in the field of construction and 820 in tourism completed the courses, and of those, 65% of the graduates in construction and 79% of those in tourism found employment. Key factors in the success of the program include engagement of the private sector in partnership with the vocational centers for curricular input, training and internships, job fairs, marketing, and an employment database for cross-referencing trainings with job openings.

4. Middle Schools & Agricultural Institutes

In **Morocco**, the middle school years are often the time when students and their parents choose to opt out of further education, especially in the case of girls.¹¹

To counteract this trend, USAID introduced an employability skills program to middle schools to improve student retention as well as the quality and relevance of middle school education. A focus on bringing soft skills—time management, teamwork, problem-solving, and communication skills—and employers to middle schools was a good strategy to keep youth engaged and enrolled in school. The program also helped several agricultural trade centers deliver better-quality learning experiences and create “teaching farms.”

Advancing Learning and Employability for a Better Future (ALEF) began in February 2005 and ended in September 2009, covering a span of five academic years, with total funding of approximately \$28 million. The ALEF program worked in both basic and vocational education. In basic education, ALEF helped promote initiative and creativity in teachers and students to achieve greater quality and relevance of classroom education. In vocational education, the project worked with agricultural institutes to provide work-based learning experiences and vocational competencies.

On the basic education side, the ALEF model has been extended to over 2,000 primary schools and almost 700 junior secondary schools, reaching up to 1 million students. ALEF has succeeded in “flattening” many of the traditionally highly hierarchical relationships between official authorities and the frontline implementers (teachers, trainers, directors, associations, etc.) and instilling attitudes of collaboration and collegiality to accomplish many conventionally top-down activities, such as program design, training, and assessment.

RECOMMENDATIONS

Identify and address existing inefficiencies.

Before investing in a country’s TVET system or structures, explore opportunities to make better use of existing resources. Inefficiencies are typically associated with existing budgetary practices and weaknesses in planning, management, and oversight at macro and micro levels. Identify these inefficiencies based on reliable

data and in the light of strategic plans for TVET development in a country. Without data on existing weaknesses, innovative and well-managed programs (such as those discussed here) will have only limited impact and little hope of being sustainable. The South Africa project is a good example of how to create sustainability. It is actively building connections between South African FET colleges and U.S. institutions that, if continued over time, may provide positive externalities that can be sustained far beyond the life of the project.

Ensure stakeholder buy-in. To help ensure success, the programs need to be deeply integrated into the country’s own growth strategy or institutional capacity. Access to the top levels of ministries is critical for a successful partnership.

Build capacity of intermediating organizations.

An intermediating organization is a local organization (chamber of commerce, trade or business association, NGO committed to economic growth, etc.) that is able to connect the different stakeholder groups. Intermediating organizations play a very important role in sustaining successful TVET systems. The ALEF project demonstrates how building the capacities of these organizations strengthens TVET results and helps sustainability.

Provide long-term support. Technical and vocational programs require deep linkages among industry, government, and educational institutions. Because new expectations, habits, conversations, and relationships between previously disconnected stakeholders have to be built, nourished, and resourced, it takes far longer than a typical five-year project time horizon to see real results.

Focus on sustainability. Project conceptualization and design should be approached through the lens of sustainability while taking into account each country’s environment, institutions, and cultural context. Project planners and leaders must forge alliances that consider the private sector’s need for talent and the government’s need for economic growth.

Improve system management and coordination. Establish and build the capacity of an effective umbrella organization to achieve

greater policy coherence, better overall management and oversight, and additional efficiency and equity. This step is particularly important in resource-tight environments. Such bodies should encourage public as well as private providers and other stakeholders to manage the TVET system as partners rather than competitors. Important roles for an apex body include resource allocation, information sharing, and regular monitoring and evaluation of system performance. This approach can help build and maintain linkages around employer needs as well as support strong linkages with key U.S. partner organizations. It may also create sustained, long-term public-private partnerships.

RECOMMENDED RESOURCES AND REFERENCES

Recommended Resources

1. TVET Portal – a community of practice <http://www.tvet-portal.net/index.php?id=20&L=0>
2. Technical Education. UNESCO. <http://www.unesco.org/new/en/education/themes/education-building-blocks/tvet/>
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7. Aring and Corbitt. *Compass to workforce development*.
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