

Training and Mentoring TVET Staff: Lessons from the Field

Jill Elkins, Carl Nink, Martin Kenison and Chris Krzeminski

Management & Training Corporation, USA

#### Author Note

These are the authors' contact information requested by the Publication Guidelines:

Jill Elkins, 801-693-2714, [Jill.Elkins@mtctrains.com](mailto:Jill.Elkins@mtctrains.com)

Carl Nink, 801-693-2870, [Carl.Nink@mtctrains.com](mailto:Carl.Nink@mtctrains.com)

Martin Kenison, 801-693-2831, [Marty.Kenison@mtctrains.com](mailto:Marty.Kenison@mtctrains.com)

Chris Krzeminski, 801-693-2885, [Christopher.Krzeminski@mtctrains.com](mailto:Christopher.Krzeminski@mtctrains.com)

Management & Training Corporation is located at the following address:

500 N. Marketplace Drive

Centerville, UT 84014, USA

### Abstract

The authors address the challenges for TVET staff in a knowledge economy and discuss a four part model for assisting TVET institutions and instructors to move forward strategically. This report also describes the principles of a successful and effective TVET staff training program, offering suggestions for skill development, group dynamics, use of technology and social media, and techniques for establishing learning networks with employers. In an effort to apply theory in a practical situation, the authors provide insight into what one company (Management & Training Corporation) has done to assist governments and TVET institutions to develop demand-driven systems that meet the needs of industry and employers in their countries and regions.

## **Training and Mentoring TVET Staff: Lessons from the Field**

### **Introduction**

In his graduation speech to the Northern Virginia Community College in 2011, the President of the United States, Barack Obama stated that, *“If we could match up schools and businesses we could create pipelines right from the classroom to the office or the factory floor. This would help workers find better jobs, and it would help companies find the highly educated and highly trained people that they need in order to prosper and to remain competitive (Obama, 2011).”* This statement is true in many countries and could become a mantra for TVET programs worldwide.

As the world advances at an almost alarming rate through the use of technology, many developing countries lag behind and cannot keep up with the latest trends in education and training. Limited by a lack of funding, time, and knowledge, developing countries slide further and further away from being able to create an economy that is robust and sustainable, and driven by well established industries with a trained and skilled workforce. Many countries have a majority of small to medium enterprises where businesses employ family members and do not have the resources or knowledge to integrate new technology or knowledge of economics information into their operations. They are most likely not yet able to see the value in working with TVET Institutions through work attachments or employability partnerships. Therefore, their economies and the workforce stay stagnant. As a result, many TVET Institutions have very small enrollments, outdated/non-industry supported curricula and programs, which have not changed since probably the 60s and 70s.

Recognizing the rapidly expanding capability to bring standardized training to all parts of the world through various means and technological advances, accreditation of programs is very

near. It is increasingly important to be aware that funding groups (e.g. USAID) are or will soon begin to consider, as a part of the grant process, whether TVET programs, as well as Universities and Colleges are incorporating industry-recognized standards. Consistent with the global necessity and demand for higher levels of education, it is appropriate for these organizations to look toward program accreditation, professional certification of staff and at some point in time, there will be a set of *International Quality Standards* guiding training and work activities. The migration of the workforce and products designed, manufactured and shipped all over the world is partially responsible for driving some of the evolving vision and paradigms of TVET.

### **The Need for Advances in TVET**

TVET instructors in more developed countries complain that they also lack the funding and time to participate in continuing education and their limited financial resources don't allow them to upgrade their machinery or include the latest technology in their classrooms. For many decades, job training, leading to employment has been supply-driven, meaning that students went to academic or vocational schools for training, mostly to find a job, regardless if the job was in a viable occupation. The focus was not on developing a career, but just finding employment to earn a living. Instructors were only required to learn the curricula and memorize it, because it would never change. Even in the most developed countries, enrollment in institutions and universities was based on numbers and not demand in the labor market for specific skills related to an occupation. If a small number of students enrolled for a particular course, it might be cancelled if the number of students enrolled would not generate enough funds to pay the instructor and the overhead. Likewise, if 200 students wanted a course in a subject that was not related to a growth industry or sector, the institution would still hold the course as a matter of satisfying the numbers and making revenue.

The result of a supply-driven system is that a country will end up with an excess number of graduates and limited jobs in those sectors. Ultimately the unemployment numbers are high enough to create a crisis, and idle, unemployed workers turn to other options such as crime and insurgency. Or, at a minimum, citizens are discouraged and become unenthusiastic about working in less glamorous jobs than they prepared for. Instructors do not have the resources or encouragement to upgrade their skills and change the content of courses. Further, governments do not want to take on the arduous task of revamping their TVET programs. Many governments don't see TVET as part of the education system, but more as an alternative placement for students who couldn't *make it* in the formalized education system. The economy and the emerging and incumbent workers both suffer.

Many TVET institutions recognize that they need to upgrade their courses, instructor efficacy and training venues. However, multiple challenges keep them from advancing their programs and thus they are not able to build programs for career and technical training that are seen as viable or competitive. Most are severely lacking in the use of technology. Some TVET institutions have donated computers that are housed in computer labs that students only use for accessing the internet and are only used during “free time” or in non-instructional activities. Technology integrated into the curricula is unheard of.

The challenges for TVET staff in a knowledge economy include five factors:

- Skill deficiencies of teachers
- Non-supportive regulatory systems
- Lack of funding
- Lack of employer integration
- Lack of informed and strategic plans for moving institutions forward

The authors address the challenges for TVET staff in a knowledge economy and discuss our four part model for assisting TVET institutions and instructors to move forward strategically. This report also describes the principles of a successful and effective TVET staff training program, offering suggestions for skill development, group dynamics including a cultural context, use of technology and social media, and techniques for establishing learning networks with employers. In an effort to apply theory in a practical situation the authors provide insight into what one company (Management & Training Corporation) has done to assist governments and TVET institutions to develop demand-driven systems that meet the needs of industry and employers in their countries and regions.

### **Meeting the Needs of the Knowledge Economy**

The TVET system in the United Kingdom (UK) is seen as one of the most progressive systems for vocational training in the world. However, in 2004 when the Skills Commission in the UK reviewed the technical and vocational system, they made the following observations, supported by Lucas in the Journal of Further and Higher Education:

“The further education (FE) sector has traditionally been the leading protagonist in the delivery of vocational education. The history of teacher training in the sector has been described as one of ‘benign neglect’. Indeed the professionalization of the teaching workforce is a relatively recent phenomenon. Prior to 1999 there were not statutory requirements for teachers in the sector to have a teaching qualification; it was accepted that relevant vocational and occupational experience was a sufficient qualification to teach (UK Skills Commission (Hall, C.), 2008, p. 19).” The report goes on to say, “The current system of FE teacher training does not provide a satisfactory foundation of professional development for FE teachers at the start of their careers. While the tuition

that trainees (teachers) receive on the taught elements of their courses is generally good, few opportunities are provided for trainees to learn how to teach their specialist subjects, and there is a lack of systematic mentoring and support in the workplace (Lucas, 2004. 28.1, 35-51, as cited in UK Skills Commission, p. 20).”

Recently, when MTC was working in the West Bank with the VET-NGO League of TVET Institutions, they observed that the instructors were well versed in the skills and attributes needed in their specific vocations, but very few had ever had training or college level instruction on teaching approaches and methodologies. As a result, MTC provided capacity building to each institution and assisted them in developing a *Whole Center Plan*, including the upgrade of instructor’s teaching skills. One of the member institutions, Palestine Polytechnic University, offered college level courses in Strategies for Teaching in the Classroom. This lack of skills in teaching methodologies was also apparent when MTC assessed the skills and abilities of TVET instructors, institutions and employers in Mongolia, Iraq, Jordan, China, Indonesia and Southern Sudan, as well as the U.S.

Upgrading the skills of TVET instructors requires a four-part strategy where all four aspects must be included:

- **Evaluate the current context:** Understand the viable and growth industries and employment sector in a specific country. Conduct a Gap Analysis of the industry and cultural needs and the ability of the TVET institutions to address those needs through training. Develop a Capacity Building Plan and strategies for implementation. Include instructors in the process to obtain *buy-in*.
- **Provide professional development for teachers/trainers:** Include skill sets and certification for both instructors and students. Evaluations should address mastery of

- skills and quality of work and be validated by industry and employer advisory councils. When possible, training should include the use of technology and creative approaches such as online, interactive software or the use of social networks. Technology should be integrated into the curricula, not as a *free-time* activity.
- **Provide Instructor/Trainer support:** Provide support through various methods in a continuous process. Training, and/or support should not be a one-time effort. Instructors and trainers should be encouraged to embrace life-long learning and purposeful education that helps them to be better instructors. Mentors are an integral part of the process for encouraging current instructors and providing a good foundation for new teachers.
  - **Design ongoing Targeted Learning Activities:** Provide targeted learning activities that address identified gaps in instructor/trainer approaches and curricula should be used as an incentive for instructors to engage in short-term training that enforces their knowledge and skills learned in previous courses or activities (Using interactive technology when possible).

### **Principles of Successful/Effective TVET Staff Training**

There are four (4) principles of successful and effective TVET staff training:

1. Skill development of instructors/trainers
2. Group dynamics in the classroom
3. Use of technology and social media
4. Development of Learning Networks with industry and stakeholders

Following are some approaches MTC has used to employ all five principles:

#### **Skill Development of Teachers/Trainers**

Pedagogy is the study of being a teacher or the process of teaching. The term generally refers to strategies of instruction, or a style of instruction. Many TVET instructors do not come from an academic background. They were content experts who spent multiple years learning and refining their skills in a specific occupation. They typically have substantial knowledge of their craft, but have never developed a pedagogy or strategies of instruction.

According to Frank Bunning and Zhi-Qun Zhao, as cited in the TVET Teacher Education on the Threshold of Internationalisation, there are areas of competence that all TVET instructors and trainers should have (Bunning & Zhao, 2006):

- An understanding of occupational profiles and content of the occupational field;
- An understanding and analysis, shaping and organization of work processes, providing methodological competencies which are needed and the changes that occur in the occupation;
- An understanding of the object of professional work. Instructors must understand the processes and nature of the work and work environment, not just the subject area;
- An understanding and analysis, shaping and organization of occupation-related learning processes. The TVET instructor must use their knowledge of the culture, economy and context to develop learning environments which are appropriate for the occupational field. The competencies include the definition of educational goals, the selection of content and methods of teaching, and the ability to apply appropriate procedures for examination and assessment.

MTC has used a comprehensive approach to train TVET staff in the U.S. and developing countries. Subjects have included such areas as, *adult learning theories, classroom management, teaching strategies and planning, development of learning objectives, working with specific*

*cultures or at-risk students, and the use of instructional aides.* To assist teachers to learn the processes quickly and efficiently MTC divided instructors into similar cohorts by trade sectors such as construction trades, hospitality trades, medical trades, etc. Teachers who share similar interests and skills feel more comfortable learning in a cohort environment with their peers. Cohort learning also allows for offering the curricula in modules or online where teachers can access peers and courses on their own time. Pairing instructors with others who teach in their same vocation allows for customization of curricula to include vocation specific topics and materials.

Course and Module Outcome Guide templates were provided and instructors were taught how to organize their training and their methodologies. With each new subject, instructors worked in groups or individually to develop their own guides for their courses and each module within a course. This iterative approach encourages participation and development of individual styles and approaches to teaching.

In MTC training sessions, they also used the adult learning approach called ADDIE, meaning Assess, Design, Develop, Implement and Evaluate (Educational Theories.com, 2011). Cohorts were required to identify and develop each step in their process for developing modules and training activities. This technique helped to show teachers how one element builds on the previous. It is not wise to implement a training program before carefully assessing the needs, cultural context, goals, program design and curricula, as well as module guide and outcomes.

**Supporting Field Operations.** MTC has developed a research Institute and a Corporate University to support the field staff and their operational needs. The Institute provides the research needed to maintain a knowledge base of the promising teaching techniques, use of social media, and educational models that accelerate learning (Management & Training

Corporation, 2011). The Corporate University supports the development of curricula to train supervisors and facilitate the professional development of teachers through the targeting of materials to meet specific customer needs (Management & Training Corporation, 2011).

While working in the West Bank with four (4) different TVET Centers, all offering courses in the construction trades, it became apparent to MTC that most of the teachers were tradesmen who had worked for years as welders, plumbers, and carpenters, but few had ever had formalized instruction in teaching methods. It was decided that the NCCER instructor certification training program would be an excellent training match for the West Bank TVET centers instructors.

It was also clear that the low enrollment in courses across the four schools was partly attributable to the poor image of TVET and technical/vocational courses and institutions. This observation is in part due to the Palestinian culture pushing students to achieve advance tertiary degrees, where jobs are not available...

To address both issues at one time, MTC provided an Instructor Certification Training Program through the National Center for Construction Education and Research (NCCER) to 24 teachers. With an *industry-recognized certification training program* (i.e. NCCER), the TVET program will have credibility, boosting the image of TVET within the West Bank and the region. The movement to connect industries with education and vocational education is evolving rapidly. NCCER, one of the world's largest non-profit groups is developing the standardization for construction education.

NCCER was created in 1996 to develop standardized construction, maintenance and pipeline curricula with portable credentials and help address the critical skilled workforce shortage in the U.S. NCCER is headquartered in Gainesville, Florida, and is affiliated with the

University of Florida's M.E. Rinker, Sr. School of Building Construction. (National Center for Construction Education and Research, 2011) The certification program is primarily offered in the U.S. and is expanding in such areas as Saudi Arabia, South America, and the Caribbean at this point. (Prevatt, 2011) The Palestinians were very anxious to be one of very few places in the Middle East to receive the training.

The Instructor Certification Training program (ICTP) certification allows instructors to teach the NCCER Contren Learning Series and certify students in the construction, maintenance and pipeline industries (NCCER Contren Learning Series, 2010). NCCER's training process of accreditation, instructor certification, standardized curricula, national registry, assessment and certification is a key component in the industry's workforce development efforts.

The NCCER instructor certification manual (NCCER Contren Learning Series, 2010) describes the training which is beneficial for all instructors in all sectors and includes topics such as:

- How Learning Occurs,
- Communications,
- Classroom Management,
- Leadership and Group dynamics, and
- Teaching Strategies.

The NCCER training sessions are designed to assist instructors in their transition from craftsman to instructor and develop the knowledge, skills and abilities of new and experienced instructors to engage students in the learning environment (NCCER Contren Learning Series, 2010). In addition, it is a great refresher course for seasoned instructors. The feedback from even the

experienced Palestinian instructors was positive and as evidenced by their exit evaluations, they also benefited from the training.

The four TVET Centers in the West Bank are members of a VET-NGO League of TVET Centers. The League plans to obtain approval as a certifying body for NCCER and offer training and certification to all TVET instructors in the West Bank. This four day course provided training for instructors, including certification of 18 of the instructors. This was viewed by all as a credible activity and helped the League to build their reputation as well as serve as a potential money maker for the organization of institutions. MTC plans to offer this training in other countries. The league hopes to work with NCCER to translate the curricula into Arabic.

### **Group Dynamics in the Classroom**

While some instructors are well versed in their subject matter and may even have developed some of the operational skills of managing a classroom, one area that is always difficult is understanding and managing group dynamics in a classroom. With over 30 years of experience in the classroom, MTC has learned and implemented group dynamics management through what is known as positive normative culture. The Job Corps Positive Normative Culture Training Guide describes positive normative culture as:

*“...a way of behaving rather than a system of rules.* It uses peer group pressure in a positive way among students and staff to create shared expectations regarding attitudes and behavior. Unlike a rules-based approach where rules differ according to the situation, Normative Culture’s guidelines never change. The goal is to develop group norms that support a positive pro-social culture and create an environment where social, educational and vocational growth can take place. Normative Culture looks to use the power of the

group as the main tool to change the behavior of staff and students (Management & Training Corporation, Positive Peer Section, 2009, 1).”

MTC instructors are trained on how to develop and manage student interactions, classroom norms, as well as local cultural norms and group dynamics through a positive normative culture. This development and management of a positive normative culture is done primarily through observation using specific tools and techniques. One specific tool instructors use is known as the Eight Process Points for Group Observation tool.

Instructors learn that in order to identify and create a positive normative culture they must observe (1) Norms, (2) Leadership Struggles, (3) Sub-groups, (4) Non-verbals, (5) Communication Flows, (6) Hidden Agendas, (7) Leadership Styles, and Trust Levels (8) within groups and within their classrooms (Ibid, 9). These eight points help instructors understand what to look for in their classrooms. They also help instructors begin the process of evaluating and analyzing what is happening in their classrooms. Instructors are also trained to identify and manage group dynamics and create a positive normative culture by using other tools such as the Diamond Analysis, the Force Field Analysis, and Guided Group Interaction (GGI).

The Diamond Analysis created by Dr. Howard Polsky in 1962 is a tool used to look at the power hierarchy in a classroom. This tool seeks to eliminate any negative structures and dynamics in a group by changing the flow of negative power away from students that may be aggressive and manipulative while at the same time empowering positive students (Ibid). Students that take on negative roles are identified and the negative issues surrounding those roles are confronted and addressed.

Force Field Analysis is similar yet different to the Diamond Analysis tool. As the Job Corps Training Guide states, “Force Field Analysis is a tool used to identify students’ behavior and how it is influencing the center culture as positive, neutral, or negative (Ibid, 33).” Instead of focusing more on eliminating negative influences as the Diamond tool does, Force Field Analysis is simply interested in categorizing behavior in three areas. Force Field Analysis is an identifying tool.

Finally, GGI occurs where staff monitors group discussions held in student dormitories. Staff is trained to have students meet in small groups where the students can discuss their behavior and receive peer feedback.

Positive Normative Culture has proven to be a valuable asset not only in a classroom, but throughout an entire center. MTC staff is trained extensively in the importance of creating a positive normative culture with the hopes that by doing so an environment is created that is most conducive to effective instruction and learning by students and staff.

### **Use of Technology, Social Media**

The use of technology in TVET training has been limited due to lack of funding and lack of knowledge on the part of administrators and instructors. In some cases, the use of technology goes beyond the classroom and the use of interactive software has expanded to the use of social media.

The types of available technologies for pod casts and webinars, etc., used in distance communication or training are divided into two groups, synchronous and asynchronous (Mui, 2010). Synchronous technology allows online delivery where participants are “present” at the same time, requiring a timetable to be organized. Web conferencing is synchronous. Asynchronous technology is a mode of online delivery where participants access information

on their own schedule. Message board forums, e-mail and recorded video are asynchronous. MTC has used both synchronous and asynchronous techniques to inform, adapt, train and communicate on various international development projects.

Recently it was noted that “Chinese telecom equipment maker Huawei has sold around 400,000 Internet-capable Smartphone’s in Kenya (Bloomberg Businessweek, 2011, 56).” It is certainly reasonable to believe that the use of Smartphone’s to transfer training curriculum will expand.

When using technology for training several issues need to be considered such as distance between entities, learning abilities, prior information, outcomes and results, best ways to archive information, communication with indigenous populations, internet capacity, cultural differences, communicating with rural and remote areas where access is limited, etc. Several approaches to international training are cited in MTC’s white paper, co-authored with USAID’s former administrator, Andrew Natsios. For more details, please see article at [www.mtctrains.com](http://www.mtctrains.com).

There are several software packages that support on-line communication and training. *Angel Learning Management Suite* allows for online assessment, content information, email and threaded discussions (Angel Learning, 2011). *Wimba Collaboration Bundle* facilitates instruction, voice to video, from pod casting to content authoring to instant messaging (Wimba , 2011). Hand held transmitters, such as the ones developed by *Turning Point*, can be used for audience responses (Turning Technologies, 2011). These are just a few examples of open learning methods.

MTC developed their own tracking system for student data and have been able to collect statistics through an on-line system their IT department developed several years ago.

At any given time, 20+ training sites can report through this system. The system is built for use by a web browser. It provides each site access to the data on any of the site computers, enabling the central repository site to store the data and monitor performance by site.

Tracking of data such as scheduled classes, instructor contact hours, test scores, accomplishments (i.e. certificates earned) and notes that can help identify additional student needs.

### **Training Networks**

TVET Institutions usually do not have access to the latest technology, machinery for hands-on training, and content experts from industry. While TVET institutions may know their country's context and culture, as well as possess an understanding of the needs of students, they lack the opportunities that in-house industry training can provide. Small businesses developed by a family may never have had training and are typically working without the proper skills and knowledge to produce quality products.

A successful TVET training model would include a tiered approach where both institution-based and worksite-based training were coupled with more sophisticated industry training provided within a company. Approaches for small, medium and large enterprises could all be integrated into the tiered approach.

The best models for delivery of demand-driven workforce training include strong national frameworks from the government and partnerships of training institutions and employers. This type of model is often referred to as a Public-Private Partnership.

Training Networks include employers, industry associations, government and TVET institutions working in partnership to leverage resources, inform each other of strengths and weaknesses at each level and provide opportunities for emerging and incumbent workers to be

better prepared for the world of work. Instructors are able to *shadow* actual workers in the worksite and be mentored by an industry partner.

Training Networks focused on vocational skills development and strengthened knowledge and skills of employees, have the advantage of being a low cost option for strengthening the curriculum programs and profile of TVET Centers. The partnership does not involve the funding of work attachments as the only training system, and is based on structured workplace learning at the worksite with existing workplace learning systems and industry trainers, all with access to equipment, machinery and tools owned by the employer. This is a way to save funding for other training that is needed and use technology that is more up-to-date or at least relevant in the world of work.

As a partnership involves curriculum planning between enterprise trainers and TVET instructors and trainers, there is the added benefit of TVET institution staff undergoing professional development based on real work situations. Training partners participate in skill building with current workers, as well as emerging employees.

All partners in a training network focus on creating a better workforce and not competing with each other for funding or resources. All partners see the value of upgrading each other's systems so that workers are skilled at all levels, at all entry points into the workforce and are academically prepared to learn new skills as required.

A successful Training Network (Partnership) includes:

- Relevance to the Labor Market
- Access for trainees and current workers

- Quality of delivery with curricula that is adaptive and relative with instructors that are well trained and current in their occupational knowledge as well as informed on teaching methodologies
- Standardization with skill set validation
- Inclusion of *Soft Skills*
- Leveraging funding to make networks secure and uninterrupted

MTC developed a training network design which worked in a variety of circumstances to achieve effective implementation of TVET training (see Appendix A).

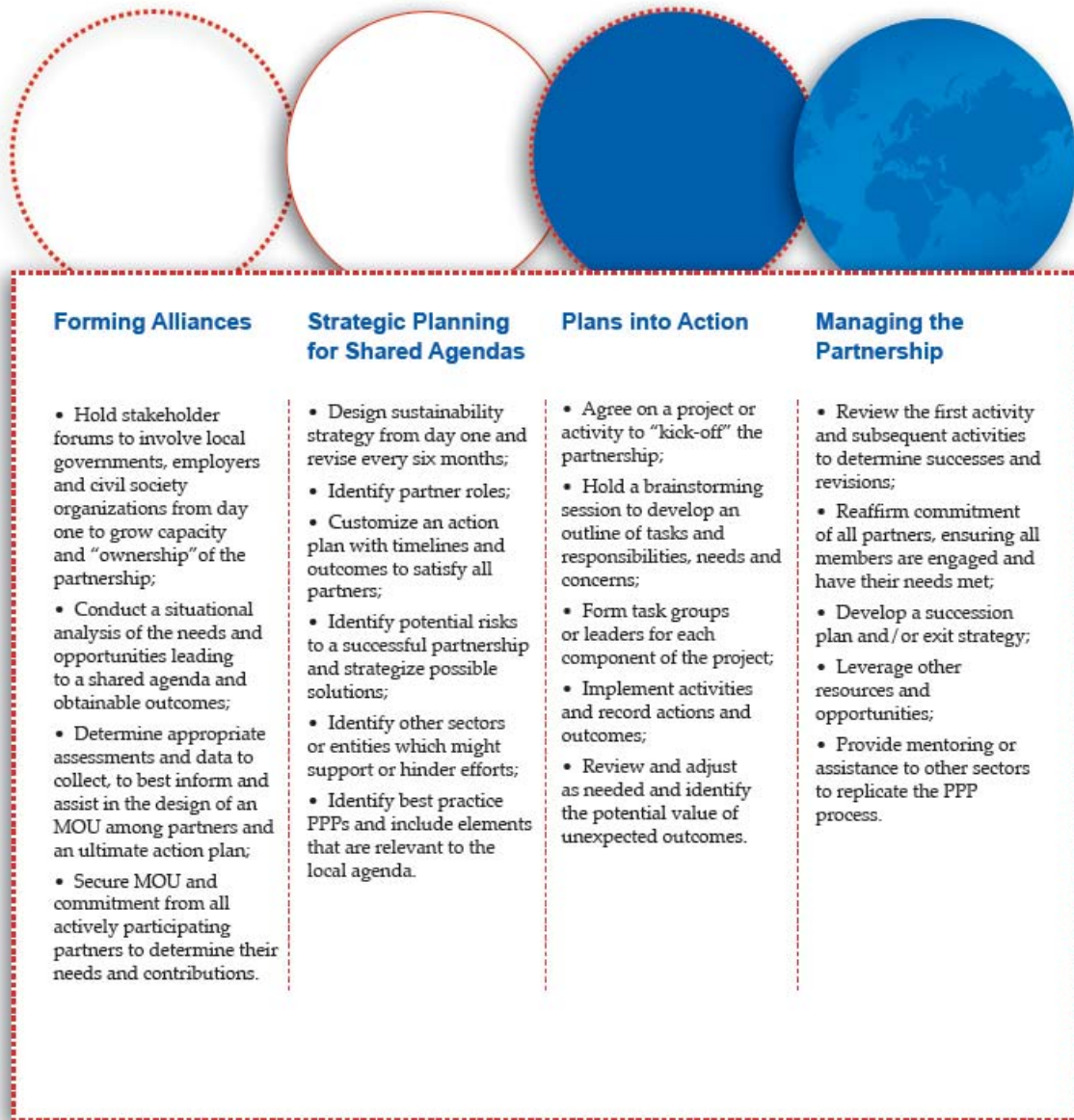
### **Conclusion**

In this paper, the authors explored the need for training and mentoring TVET staff and introduced approaches for teachers to meet the needs of the knowledge economy. The authors also reviewed a four part strategy for upgrading teacher skills and presented the principles of effective TVET staff training. A training network model was used to support and upgrade teacher skill development.

To increase the effectiveness and pedagogy of TVET instructors in the future, systems and approaches will need to include constructive learning activities. In addition, instructors would benefit from supportive mentoring, industry-recognized certification (e.g. NCCER), and ongoing training. Finally, while some schools are well equipped, it's vital, from a public policy perspective, that curricula and programs integrate technology at all levels and in all vocational sectors.

Appendix A

MTC model for developing a training network (Management & Training Corporation (USAID:Elkins), 2011 p.22).



## References

- Angel Learning. (2011, September). *ANGEL Learning Management Suite*. Retrieved September 23, 2011, from Angel Learning:  
[http://www.angellearning.com/products/lms/whats\\_new\\_74.html](http://www.angellearning.com/products/lms/whats_new_74.html)
- Bloomberg Businessweek. (2011). *In Kenya, Keeping Cash Safe on a Cell Phone*. Bloomberg Businessweek, p. 56.
- Bunning, F. &. (2006, August). *TVET Teacher Education on the Threshold of Internationalisation*. Retrieved September 23, 2011, from ENEVOC:  
[http://www.unevoc.unesco.org/fileadmin/user\\_upload/pubs/TVET\\_Teacher\\_Education.pdf](http://www.unevoc.unesco.org/fileadmin/user_upload/pubs/TVET_Teacher_Education.pdf)
- Learning-Theories.com. (2011, September). *ADDIE Model*. Retrieved September 23, 2011, from Learning-Theories.com: <http://www.learning-theories.com/addie-model.html>
- Lucas, N, The FENTO Fandango: national standards, compulsory teaching qualifications and the growing regulation of FE college teachers, *Journal of Further and Higher Education*, 28:1, 35-51 (2004) as cited in UK Skills Commission (Hall, C.). (2008). *Teacher Training in Vocational Education*. London: UK Skills Commission.
- Management & Training Corporation (USAID:Elkins). (2011). *Report on Most Feasible Delivery System to Implement Recommendations in Partnership with the Private Sector*. Centerville, UT, USA: Management & Training Corporation.
- Management & Training Corporation. (2011). *Job Corps Positive Normative Culture Training Guide*. Centerville, UT, USA: Management & Training Corporation.
- Management & Training Corporation. (2011, September 23). *MTC Corporate University*. Retrieved September 23, 2011, from management & Training Corporation:

- <http://www.mtctrains.com/about-mtc/mtc-corporate-university>
- Management & Training Corporation. (2011, September 23). *MTC Institute Overview*. Retrieved September 23, 2011, from Management & Training Corporation:  
<http://www.mtctrains.com/mtc-institute-industry-research/mtc-institute-overview>
- Mui, C. Y. (2010). Transforming Online Learning in TVET Using Blackboard . *International Journal of Vocational Education and Training (18:1)* , 44 - 62.
- National Center for Construction Education and Research. (2011, September). *About Us*. Retrieved September 23, 2011, from National Center for Construction Education and Research: <http://www.nccer.org/about>
- NCCER Contren Learning Series. (2010). *Instructor Certification Manual*. Gables : NCCER Contren Learning Series.
- Obama, B. (2011, June 8). *Office of the Press Secretary*. Retrieved September 23, 2011, from Whitehouse.gov: <http://m.whitehouse.gov/the-press-office/2011/06/08/president-obama-and-skills-americas-future-partners-announce-initiatives>
- Office for Standards in Education, Children's Services and Skills (2009). The initial training of further education teachers, as cited in UK Skills Commission (Hall, C.). (2008). *Teacher Training in Vocational Education*. London: UK Skills Commission.
- Prevatt, E. (2011, May 23). NCCER Director, Workforce Development. (M. Kineson, Interviewer)
- Schochet, P. Z. (2008). Does Job Corps Work? Impact Findings from the National Job Corps Study. *American Economic Review*, 98(5) , 1864-1886.
- Turning Technologies. (2011, September). *Audience Response Rentals*. Retrieved September 23,

2011, from Turning Technologies:

[http://www.turningtechnologies.com/audienceresponserentals/audienceresponsesolutions/responsecardanywhere/?search=hand held transmitters](http://www.turningtechnologies.com/audienceresponserentals/audienceresponsesolutions/responsecardanywhere/?search=hand%20held%20transmitters)

Wimba . (2011, Septemeber). *Wimba Collaboration Suite*. Retrieved September 23, 2011, from

Wimba: [http://www.wimba.com/products/wimba\\_collaboration\\_suite](http://www.wimba.com/products/wimba_collaboration_suite)