

TRAINING AND MENTORING TVET STAFF: LESSONS FROM THE FIELD



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Management & Training Corporation (MTC) is an international corporation dedicated to helping people realize their learning potential. MTC creates nurturing environments in which education is encouraged and rehabilitation is recognized. MTC is involved in the management and operation of 24 Job Corps centers or satellites in 18 states for the U.S. Department of Labor, preparing disadvantaged youth for meaningful careers. MTC also operates 20 contracted correctional facilities across the US with approximately 26,000 beds under contract. In addition, MTC has expanded its education and vocational expertise into the international arena, working in countries such as Palestine, Iraq, Sudan, Mongolia, Jordan, and China. The MTC Institute is the research division of MTC, which is dedicated to promoting innovations and exemplary practices and projecting trends that are relevant to job training and corrections. The work of the Institute is geared toward a broad audience including policy makers, educators, researchers, practitioners, state and federal officials, workforce development entities, correctional agencies, Job Corps centers, international donors and operators.

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.

INTRODUCTION

In a graduation speech given at Northern Virginia Community College in 2011, U.S. President Barack Obama spoke on the need to develop relationships between schools and businesses. He said, “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 Technical Vocational Education and Training (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. Developing countries also struggle with creating economies that are driven by well established industries made up of a trained and skilled workforce. Many countries have a majority of small to medium enterprises where businesses, for the most part, employ family members. These countries and businesses do not have the resources or knowledge to integrate new technology or economic 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 their workforce stay stagnant. As a result, many TVET institutions have very small enrollments and outdated/non-industry supported curricula and programs, some of which have not changed since the 1960s and 1970s.

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 considering or will soon consider whether TVET programs, universities, and colleges are incorporating industry-recognized standards. Consistent with the global necessity and the demand for higher levels of education, it is appropriate for these organizations to look toward program accreditation and professional certification of staff. At some point in time, there will also be a set of International Quality Standards that will guide training and work activities for these organizations. The migration of the workforce and products designed, manufactured and shipped all over the world are 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 of the lack of funding and the lack of time to participate in continuing education. Due to limited financial resources, TVET instructors can't upgrade their machinery or include the latest technology in their classrooms. For decades, job training leading to employment has been supply-driven—meaning students were trained in academic or vocational schools, mostly to find a job, regardless of whether the job was in a viable occupation or in demand. 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 necessarily on demand in the labor market. 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 reach a point that is high enough to create a crisis. Idle, unemployed workers turn to other options such as crime and insurgency. At a minimum, citizens are discouraged and become unenthusiastic about working in less glamorous jobs for which they prepared. Instructors do not have the resources or encouragement to upgrade their skills and change the content of courses. Furthermore, 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 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

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career and technical training that are seen as viable or competitive. Most TVET institutions 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.

TVET, as a whole, has its challenges. 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

This paper addresses the challenges for TVET staff in a knowledge economy and discusses 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, for group dynamics development in a cultural context, for the use of technology and social media in the classroom, and for the establishment of learning networks with employers. In an effort to apply theory in a practical situation this report provides 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. 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. 19 - 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, including the upgrade of instructors’ teaching skills and assisted them in developing a Whole Center Plan, a comprehensive action plan for the total upgrade and further development of a TVET center. 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, beyond 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. If instructors have the opportunity to create innovative, short term training, they will be encouraged to modify and upgrade curriculum. This short-term training should enhance their knowledge and skills learned in previous courses or activities (using interactive technology when possible).

PRINCIPLES OF SUCCESSFUL/EFFECTIVE TVET STAFF TRAINING

In addition to understanding the role and place of TVET staff in a knowledge economy, it is essential that TVET staff are educated and trained to effectively function in this type of economy. There are four (4) principles of successful and effective TVET staff training in a knowledge economy:

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

MTC has used an array of approaches to employ all four principles. The following sections will describe in greater detail the four principles, as well as MTC's approaches.

1. SKILL DEVELOPMENT OF TEACHERS/TRAINERS

Pedagogy is the study of being a teacher, the process of teaching and generally refers to strategies of instruction, or a style of instruction. Many TVET instructors do not come from an academic background, rather they come from backgrounds where 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 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 in learning 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 offers curricula in modules or online where

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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 and modules for their courses. This iterative approach encourages participation and the development of individual teaching styles and approaches.

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, curricula, as well as the module guide and outcomes.

Field Operations Support

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, offers training to supervisors, and facilitates the professional development of teachers through the targeting of materials to meet specific customer needs (Management & Training Corporation, 2011).

West Bank Project

In 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 National Center for Construction Education and Research (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 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 this training.

The Instructor Certification Training Program (ICTP) credential enables instructors to teach the NCCER Contren Learning Series and to 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
- 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. After training and certifying the Palestinian instructors with the NCCER's learning program, the instructors provided positive feedback of the whole experience emphasizing the benefits they received from this type of 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.

2. 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, understanding and managing the group dynamics of a classroom can be an area of significant challenge for instructors. 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. MTC has focused on creating this culture in their Job Corps program. Job Corps is a technical and vocational training program aimed at educating and training at-risk youth and young adults throughout the US (Job Corps, 2011). 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, p. 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 (8) Trust Levels 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 as positive, neutral, or negative. Force Field Analysis is simply an identifying tool.

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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.

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

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 an organized timetable. Web conferencing, for example, 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.

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 technological approaches to international training are outlined in an MTC white paper, co-authored with USAID’s former administrator, Andrew Natsios, entitled “Critical Elements of International Workforce Training.” The article can be accessed on MTC International’s website.

There are several software packages that support online 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 online 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. This system tracks data such as scheduled classes, instructor contact hours, test scores, accomplishments (i.e. certificates earned) and notes that can help identify additional student needs.

4. TRAINING NETWORKS

TVET institutions usually do not have access to the latest technology, machinery for hands-on training, or content experts from the 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 that work in partnership to leverage resources, to inform each other of strengths and weaknesses at each level and to 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 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 rather than focusing on 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 such as communication, sociability, responsibility, integrity, etc.
- 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).

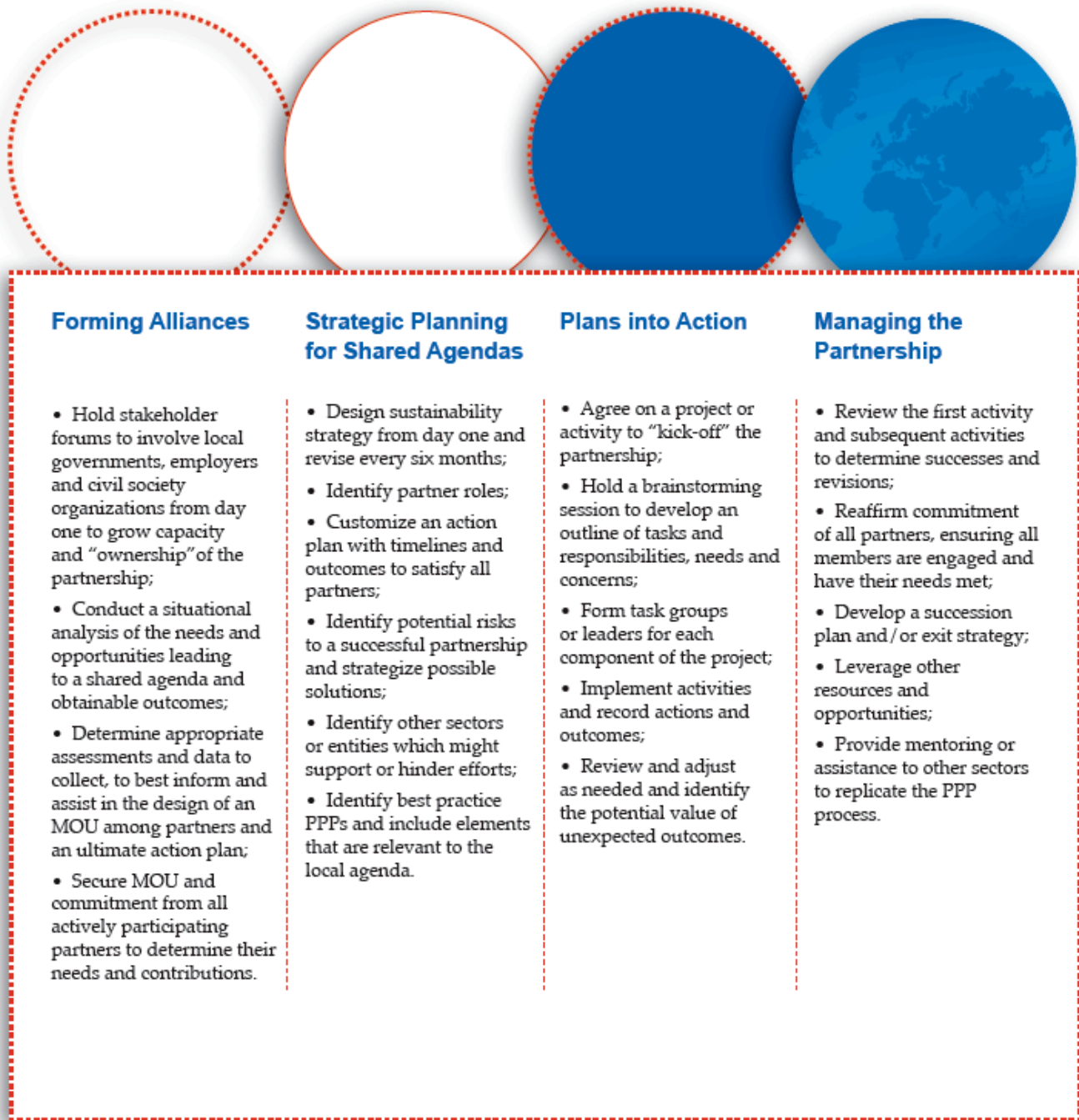
CONCLUSION

In this paper, the authors explored the need for training and mentoring TVET staff and introduced approaches for instructors to meet the needs of the knowledge economy. A four part strategy for upgrading educator skills and principles of effective TVET staff training was also presented. A training network model was presented for use in supporting and upgrading instructor 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, educators would benefit from supportive mentoring, industry-recognized certification (e.g. NCCER), and ongoing training. Finally, schools and instructors would also benefit from curricula and programs that integrate technology at all levels and in all vocational sectors.

APPENDIX A

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



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