

TRAINING MANUAL ON

INDUSTRY INSTITUTION PARTNERSHIPS IN TVET



PREFACE

This training manual is a guiding document for a trainer in conducting training activities related to strengthening industry institution partnerships in TVET sector. It is prepared with the contents collected from different documents and especially designed to encapsulate the needs of the TVET leaders, managers and faculties/instructors in practical and easy strategies to strengthening TVET Quality and Relevance through Institute-Industry Partnerships for sustainable development.

The purpose of preparing this document is to provide a fundamental and step-by-step process for the guidance of the TVET trainers, administrators and academics, which are the target users of this manual.

This training manual recognizes the dynamic nature of the topic and thus, can be edited or changed as the authors see fit. It is designed to build the capacity of TVET practioners on understand the principles, challenges, dynamics of IIP and its innovative approaches that the trainers can apply to the present training context or to the scenario of their respective countries and localities.

This training manual does not guarantee the success of the training as it is up to the trainers and administrators to manage the activities during the training proper and derive the best outputs from their participants. However, it provides clear, concise and informative strategies that were adopted from CPSC's own experience on the subject as well as from my own knowledge and expertise.

As CPSC successfully implemented IIP in TVET programs in the past, this is a testament of CPSC's continued commitment to provide a simple, applicable and innovative publication that is targeted to increase the knowledge of its trainees.

We hope that this manual will fulfill its intended purpose and may you be able to find inspiration and ideas for its use and dissemination.

Best of luck!

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INTRODUCTION

The Technical Education and Vocational Training (TVET) has globally been recognized as the most effective tool for increasing employment and poverty reduction. In contrast, TVET sector is facing many challenges related to quality and relevance to produce skilled workforce according to the demands of the industry. These challenges are skills mismatch, shortage of trained staff, lack of labour market data and high level of bureaucracy in the system etc. These factors are also limiting employment growth, and a major constraint on reducing In order to address poverty.

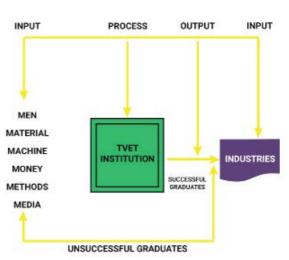


Figure 1: Output of TVET are the inputs of industries, (Singh & Tolessa, 2019)

these above factors, UNESCO and ILO emphasize the need to forge closer links between training and the labor market for the improvement of training systems systematically. Therefore an active role of the private sector in planning, designing and delivery of technical and vocational education and training is a pre requisite for producing skilled workforce according to the demands of the labour market. In countries with better TVET system, the private sector engagement is essential for access to quality skills training through various modes including on-the-job training and cooperative vocational training. There is a greater realization of the fact that a close collaboration and sharing of responsibilities between public and private sector is essential to build a demand-driven TVET system in Asia Pacific region.

For example If a country is trying to ensure that the training it delivers in its TVET system actually meets the needs of employers, then it needs to get feedback from its industry. The least useful feedback is companies simply saying 'you have got it wrong'. The best way to get industry input is through active engagement. Traditionally in many countries that took

the form of asking for input into the design of aspects of the training system – particularly curriculum. This often did not work well, as it was hard to get employers and industry organisations involved in a process where they only provided advice

- which could be ignored or over-ruled - and they did not see enough benefit for the time and cost involved in participation. As training systems have sought to be 'demand led' rather than 'supply driven' the approach has been to seek industry ownership. Typically this has involved giving employers and other industry bodies a formal decision making role in establishing key aspects of the training system such as competency/skill standards.

The purpose of this training manual is to provide detailed guidance on how to engage industry in TVET context for sustainable development. IIP refers to a broad range of TVET activities, including collaborative curriculum development, training needs assessment, training plan, OJT etc which are carried out by institution in collaboration with industry. This training manual also covers the methodology and techniques necessary for developing effective industry institution partnerships (IIP). The manual will also cover all the important activities and interventions to engage industry in training delivery process.

LEARNING OBJECTIVES OF THE TRAINING MANUAL

This training manual focuses on developing the capacity of TVET practitioners and trainers on strengthening TVET Quality and Relevance through Institute-Industry Partnerships (IIP). This training manual is the first step towards improvement of academic and industry partnerships by adopting innovative interventions. The manual equips managers, trainers, instructors, curriculum developer with a set of competencies and tools that allows them to:

- Explore current theories, principles, methodologies, and techniques of IIP;
- Demonstrate an ability to link target group(s) and content with their choice of presentation format and communications;
- Gain strong knowledge and skills to design IIP activities that increase effectiveness of IIP in TVET:
- Understand, consider and systematically implement the most important steps of a IIP training plan;
- Apply ICT tools and techniques in class delivery;

CONTEXT OF THE TRAINING

The competitiveness of a country is increasingly being measured by the human skills which it can offer. In Asia Pacific region, as with the majority of South Asia, the area of skills at a vocational and technical level is underdeveloped due to lack of partnerships between industry and institution. It is important to mention that partnerships between TVET institutes are missing due some barriers from both institute and industry side, due to which sustainable partnerships are yet not formed (Umair Ashraf et al., 2018). The question is how to build strong industry partnerships in TVET? Therefore to share the barriers with TVET practitioners and build the capacity, we have develop this training manual to overcome the gap between industry and institution.

In this context, this training manual will facilitate and support trainers to build the capacity of TVET Managers, trainers, facilitators, technical staff from CSOs, NGOs and other civil society on industry institution partnerships.

TRAINING PLAN

A training plan is a detailed document that guides the planning and delivery of training. Whether training people one-on-one or in groups, in person or online, a well-developed training plan allows you to prepare for and deliver thorough and effective classes.

The objective of training plan is to identify most appropriate training



Figure 1: Output of TVET are the inputs of industries, (Singh & Tolessa, 2019)

activities required to achieve the desired goals of the training program. The training plan also provides a clear understanding and outline the following information.

- Who will deliver the training?
- When the training happen? and
- Where will the participants convene to receive the structured component of the training?

It is flexible enough to meet the needs of trainers and trainees. It includes training design (objectives, components/competencies, schedule, training modes/methods),

training resources, and roles of trainer, trainees, organization and resource person. Some training plans also include assessment and certification arrangements. In addition, it should have a contingency plan that will outline all the possible scenarios.

TRAINING METHODS

Many methods of training and techniques are available to conduct a training program. In this manual, most effective methods are recommended for industry institution partnerships such as Technology-Based Learning, Simulators, Coaching/Mentoring, brainstorming, lecture, audio visual, group work, exposure visit and others. However, resource person's are free to device their own strategies depending on the objectives of the training.

TECHNOLOGY-BASED LEARNING

(Open, 2011) states that technology based learning is common now a days. It includes number of methods and ways to deliver training with technology. A trainer gets more of the learner's involvement than in any other environment and trainees have the benefit of learning at their own pace. There are many Content Types focused on technology-based learning.

Those are totally based on the need analysis and the type of learners as shown in figure 3. Here are the most common examples:

• Basic PC-based programs with CD Rom (offline).



Figure 3: Technology Based Learning methods. Source: https://elearningindustry.com/choosingright-elearning-methods-factors- elements

- Web-based training programs for example Zoom, Google meets etc.
- Mobile Learning
- Online Discussion
- Synchronous and Asynchronous Learning
- Blended eLearning /Instructor-led (ILT)
- Interactive video using a computer in conjunction with a VCR

COACHING/MENTORING

Coaching and mentoring gives TVET professional a chance to receive training oneon-one from an experienced professional in IIP.

This usually takes place after another more formal process has taken place to expand on what trainees have already learned. For example, Set up a formal mentoring program between senior and junior TVET managers.

LECTURE

(Lamichhane, 2018) states that a lecture is an oral presentation intended to present information or teach people about a particular subject. It is useful Technology Based methods. Source: to apply for knowledge delivery part. In this manual, training lectures are used to convey the following information to the participants: (1) background, (2) concepts, (3) elements, (4) examples, (5) critical information, (6) trends, (7) theories, and other relevant information to design and develop and build strong partnerships between TVET institution and industry

AUDIO VISUAL METHOD

In order to trained participants on present day need such as innovation in industrial revolution, Audio visual method is very important in teaching-learning process. The audio visual method has great significance, interesting and impact full on new digital era such as simulator like online industry labs at Studio Automaton). Audio literally means 'hearing' and visual means that which is found by seeing. So, which endeavor to make the knowledge clear to us though our sense are called audio visual techniques.



Figure 4: Audio Visual Aid

Currently, TVET professional are looking to become better and to further develop his/her skills and knowledge to develop and introduce audio video tools. However, we need a mechanism to understand the needs of new industry linkages material in line with institution requirements. Therefore audio visual methods is only way to simulate the future industry needs and provide the real sense of use of ICT in workplace environment.

MANAGEMENT GAMES

(Open, 2011) describes that management games simulate real-life issues faced in the workplace. They attract all types of trainees including active, practical and reflective employees. Some examples of management games could include:

- Computer simulations of business situations that managers play
- Board games that simulate a business situation
- Games surrounding thought and creativity to help managers find creative ways to solve problems in the workplace, or to implement innovative ideas.

GROUP WORK

(Lamichhane, 2018) stated that the best way to explore new ideas in training is through group work. It is an effective method in imparting knowledge, skills and attitudes to a large number of participants. In order to maximize its benefits, the trainer can explore assigning a project task for two or more participants in one group. They can create an action plan, revise existing TVET industry engagement concept, or initiatives, or other possible interventions. As it is a group activity, the trainer has to ensure that the contents of the outputs will be applicable to all trainees.

PROJECT WORK

Project Work is a learning experience which aims to provide trainees with the opportunity to synthesize knowledge from various areas of of teaching and learning, and critically and creatively apply it to real life situations such as industrial revolution needs. This process, which enhances trainees' knowledge and enables them to acquire skills like collaboration, communication and independent learning, prepares them for lifelong learning and the challenges ahead.

BRAINSTORMING

Brainstorming is a method for generating ideas to solve a design problem. It usually involves a group, under the direction of a facilitator. The strength of



Figure 5: Brainstorming

brainstorming is the potential participants have in drawing associations between their ideas in a free-thinking environment, thereby broadening the solution space.

EXPOSURE VISIT

In this method, the participants will visit TVET institute, local industry which are implementing TVET programs or initiatives in their operations and other organizations. This is to inspire and motivate the participants to adapt these practices or develop their own initiatives by showing them the real scenario. Exposure visits enable participants from different regions to interact with and learn from each other, allowing them to view practical examples of successful adaptation of industry engagement in TVET. It is hoped that the participants will be able to replicate any successful models to the benefit of their own institutes, communities and industry.

ICE BREAKERS

An ice breaker is an activity, game, or event that is used to physically motivate the participants to listen and participate by warming up the conversation or introduce stretching exercises that are simple but fun. Ice breakers are "any event that requires people to comfortably interact with each other and a trainer is an opportunity to use an ice breaker" (Heathfield, 2017).

THE PROGRAM BOOK

The program book is an important part of training. It is a printed guide of a plan of action aimed at accomplishing a clear training objective or objectives. It describe that what work is to be done, by whom, when and what means or resources will be used including other important pertinent information pertaining to the conduct of the training.

COMPONENTS OF THE PROGRAM BOOK

INTRODUCTION

This is the introductory part of the program book which provides information on what the book is going to be about. It gives scope, context, and background information by simply giving brief understanding about industry institution partnerships It talks about why the book is important, and gives an overview of the contents. It's also including main purpose of the program highlighted and potential outcomes.

A good introduction should identify your topic, provide essential context and indicate your particular focus in the training session.

RATIONALE

In developing the rationale, a clear explanation of the reason for the IIP program's organization or a general statement about the program's relevance in addressing the challenges is recommended. Include diagrams, pictures and illustrations if necessary.

INDUSTRY ENGAGEMENT CONCEPT

The original concept of industry institution partnerships (IIP) is based on sustainable development. IIP refers to a broad range of TVET activities, including collaborative curriculum development, training needs assessment, training plan, OJT etc which are carried out by institution in collaboration with industry.

The key concepts of linkage between industry and institution in the TVET system might be defined, as a linkage is any arrangement between TVET institutions and industries that requires mutual coordination and/or exchange of resources and activities (Khambayat, 2018). This is a very general definition. Many of the activities that TVET programs have been engaged in for years would fit within this definition. For instance, conducting field trips in local industries, on the job training (OJT), curriculum development, etc. would be the result of a linkage activity. It is defined as:

"Collaboration between industry and institution is crucial to deliver on our shared vision for the future of technology and education," Gates said. "Microsoft remains committed to deepening its relationship with academia, because only by working together can we create the next generation of computing technology"

Industry engagement in TVET; being the missing link, has been one of the major focus areas of TVET providers in Asia Pacific region. The main objective of CPSC is categorically emphasize on providing an enabling environment to the private and public sector to implement training for skills development for enhancing the socioeconomic profile of the member country. The same has been added in the strategic plan of CPSC; 'Increasing the role of private sector', for providing relevant skills for industrial and economic development. Subsequently, efforts have been made through the regional program, in-country program and customized programs to enhance the industry engagement in TVET. The figure 6; provides an overview of the TVET activities where in one way or the other, the Industry has been engaged.

THE COLLABORATION INITIATIVES

The following collaboration initiatives of TVET-industries may consider enhancing employability skills in Asia region. The Industry-institution collaboration program can bridge the technological gap. The appropriate knowledge and skill required for handling modern technologies all around the world. The modern industries are equipped with sophisticated technologies that are most of the time unfamiliar by the TVET students in Asia. To set up the collaboration criteria is essential for the country. Institutions too are facing a challenge in finding suitable industries. In general the programs have been rather successful as the numbers of students securing work after graduation as a result of their training are quite high. Students returning to universities or polytechnics after industrial training often feel more confident in their ability to learn and undertake vocational-related tasks. (Singh & Tolessa, 2019).

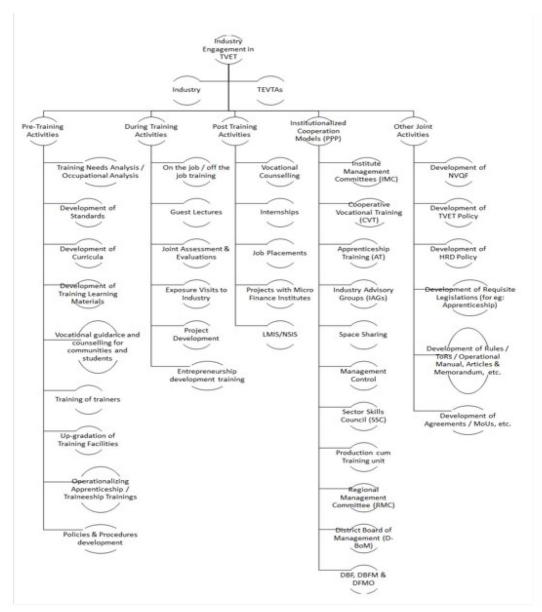


Figure 6: Industry Engagement activities in TVET

The above figure describe the four quadrant in which different TVET institutions fall and found majority of teaching-focused institutions, capable of offering good education in a diverse range of academic specializations and providing an adequate pool of flexible human resources (Ferje, 2000).

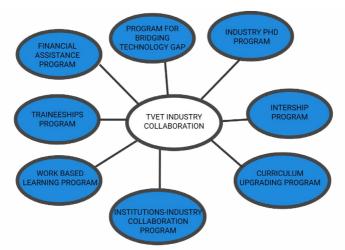


Figure 7: Institutions Industries Collaboration (Singh & Tolessa, 2019).

ENGAGEMENT EXAMPLES

1. EMPLOYER ENGAGEMENT INITIATIVE: DON BOSCO MONDO IN THE PHILIPPINES

Don Bosco Mondo is a global network of vocational training institutes focused on providing training to underprivileged youths, many of whom do not have good basic education.

The Don Bosco Technical Institute in the Philippines forms partnerships with a number of employers who effectively "sponsor" these youths. These companies provide equipment for the laboratories and workshops and have industry specialists who assist with training and assessment. Training involves a curriculum adapted to the needs of partner companies. With this model, the school can guarantee competencies that meet employer standards, which is why the Institute has a 98% employment rate for graduates (Asia, 2016).

The German auto company Porsche is one of the institute's stakeholders through the Porsche Training and Recruitment Center Asia (PTRCA). PTRCA offers students

full training scholarships and jobs at Porsche dealerships in the Middle East upon completion of the training.

2. EMPLOYER ENGAGEMENT INITIATIVE: INDUSTRY-LED CURRICULUM DESIGN AT KIOSC

Classroom learning that is supplemented with apprenticeships, internships, and other work-based learning programs promote invaluable experiences for students. The Knox Innovation, Opportunity and Sustainability Centre (KIOSC) in Melbourne, Australia, collaborates with industry to give students access to high quality, relevant training and technology (Asia, 2016).

Curricula are developed in consultation with companies and geared towards subjects that have practical applications. The school has two programs that allow students to significantly engage in industry:

- The "Your Future at Work" Program that embeds students in workplaces to be guided by mentors.
- The "Industry Pathways Program" that requires students to complete industry-based workplace projects.

3. EMPLOYER ENGAGEMENT INITIATIVE: THE COMBINED SCHOOL-FACTORY MODEL, CHINA

Shuanglou Vocational School in Hai'an, Jiangsu Province serves as a strong example of this model. This agricultural vocational school has adapted to changes in the new market economy by incorporating new agricultural technology into its curriculum and by reforming its school management. To describe further, the school's principal is appointed as a plant director in each plant to ensure that the school is able to administer the plant's technology properly, and the plant in turn provides new technology to the school. In time, the school successfully creates a research and development group on the campus; simultaneously, they also establish cooperative networks with external work units (Joo, n.d.).

4.EMPLOYER ENGAGEMENT: SUPPLY- AND DEMAND-ORIENTED TRAINING SYSTEMS

(ADB, 2009) described that TVET providers have to take following steps to move from a supply-oriented to a more market demand oriented training system.

- Make managers and institutions accountable for results to boards of governors dominated by employers.
- Require that all or some of the budget has to be earned in the marketplace.
- Make institutions autonomous, able to make their own decisions, with proper safeguards and accounting controls.
- Sign contracts after competitive bidding for private companies to manage public training centers; pay them for performance (meeting specified standards).
- Rent premises and equipment.
- Put instructors on (short-term) contracts.

GROUP WORK

To reinforce the industry engagement attitude, knowledge and skills, the group work tasks are very important in this type of training program. The group work will involve participants actively on set of tasks, either in or out of the training venue.

Group work include any assignment or task that require participants to work in group. Thus, it is important to arrange a co-facilitator during the group discussion as part of the circle. Small group work may be used within the training program.

Small group work may be used within the workshop. There are three characteristics that need to be present for small group work to be effective.

- There should be active participation from all the members of the group
- There needs to be specific task
- There needs to be reflection

Example:

GROUP WORK

Conduct SWOT analysis on TVET in line with IIP and identify the key strengthen, weakness, opportunities and threats.

Objectives

After the group activity the participants will be able to:

- Understand the concept of IIP and how it is apply in practice by TVET providers.
- Know the key elements of IIP and Principles of IIP.
- Recognize the IIP value proposition to institute.

Input

- Special Lecture
- Theme Papers
- Discussion and deliberations of issues and concerns

Instructions

- List down the key strengthen, weakness, opportunities and threats.
- Establish priorities from the SWOT analysis.
- Develop a strategy to address the issues identified in SWOT and how to address the TVET needs.
- Present SWOT analysis to plenary

Output

SWOT Analysis report

TRAINING SCHEDULE

It is another important element of a training program which plan the list of activities, task and events. It is a sequence of events/activities in the chronological order in which such things are intended to take place.

An example is shown below (see Table 2). You might like to design your own training schedule depending on your creativity. The important thing is to mention the activities, names of the people responsible, time allocations, dates, topics and other additional information or note in the schedule that should be communicated to the participants.

Table 1: Sample Schedule of Activities

TENTATIVE PROGRAM SCHEDULE										
Day/ Time	9:00-10:15 AM	10:30 A	M-12:30 PM		1:30-3:30 PM		4:00-5:00 PM			
Day 1	Opening Ceremony Program Orientation OnCOURSE Registration	TV Technopi new		L U N	Theme Paper 1 Building Industry- Institution Linkages in TVET System: Concepts and Principles (Resource Person)	T E A B R E A	Group Work 1 Undertake SWOT analysis for industry- institution collaborations in the TVET system (Participants)			
Day 2	M Theme Paper 2 Interventions to I enhance TEVT- Industry Linkages L (Resource Person) Y	Develop enhanci institut B system S R (Part E Prese Group V	p Work 2 strategies for ing industry- ion linkage in the TVET sector cicipants) entation of Vork 1 and 2 ticipants)	H B R	Study Visit		Study Visit			
Day 3	M Theme Paper 3 Innovative Models I and Approaches in TVET Industry- Institution Linkage (Resource Y Person)	Identify s employ TVE	p Work 3 kills for youth ability in the :T sector icipants)	K	Theme Paper 4 Dual Training System: Concept, Benefits, and Challenges (Resource Person)	κ	Group Work 4 Review and analyze the implementation of Dual Training System (DTS) and suggest possible steps for Nepal TVET system (Participants)			
Day 4	TVET International Conference "Strengthening of Industry Institutions Linkages"									
Day 5	Orientation and Preparation of Action Plan for building industry- institute linkages in the TVET system (Participants)		ntation of on Plan ticipants)		Program Evaluation Closing Ceremony Awarding of Certificates					
*MILY: Most Important Learning of Yesterday										

TRAINING PROGRAM FRAMEWORK

Generally speaking, training program framework is managing training to enhance the overall operational performance and moving towards the final output. It is provide outline/skeleton of interlink items which supports a particular approach to a specific objective/s. It can be modified as per requirement by adding or deleting items. Usually, the program framework is represented graphically using the Input-Process-Output model.

An graphical example of training framework based on input-process-output is illustrated below in table 3.

TRAINING PROGRAM MANAGEMENT

Training management is an action to carry out direction, coordination and transformation of activities to achieve output by personalities involved in the training program from planning to implementation.

The personalities involve in the training management are program supervisors, program coordinator, local coordinator, international and national resource persons, and logistic staff to manage training effectively and efficiently. It is important to include their picture, name, designation/ office and contact details (email addresses or office/business numbers). This is to provide a record in case the participants would seek additional clarification on the topics delivered or interested in establishing connections with them.

ANALYSIS OF TRAINING OB JECTIVES FOR RELEVANCE

It is another important exercise of training program which ensure that the training program is well-prepared and ready to use for delivery of training. Following are the questions that will aid you in the analysis:

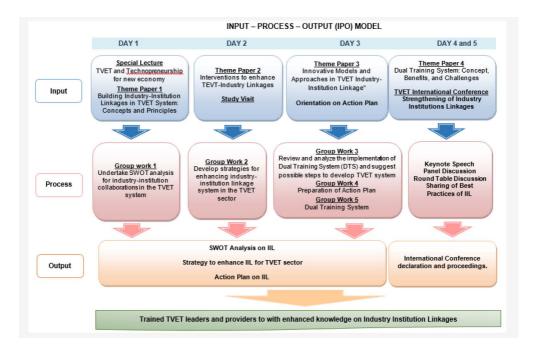


Table 2: Example, Input - Process - Output

- How objectives of the training is to be achieved? Usually, learning builds on learning. It may be useful to learn certain areas of knowledge and skills before learning new areas.
- Do I communicate my objectives effectively to my intended audiences?
- Will the objectives achieve the overall training goal(s)?
- What are the best learning activities to achieve the objectives?
- Do the methods match the participants' particular learning styles?
- Do the methods stretch their styles, too? Are the methods readily accessible? Do the methods take advantage of real-life learning opportunities?
- Do the activities include ongoing reflections about learning? The learners will benefit from regularly taking time to stand back and inquire about what is going on in the training, what are they learning and what, if anything, should be changed.
- What costs will be associated with developing and implementing your plan?

- How will you evaluate the competencies of participants?
- Think about facilities, technologies, personnel, special expertise, etc. You may want to update the "Budget".
- How will learners' manage time and stress during the learning?

PROGRAM/COURSE EVALUATION

The training program evaluation is the final step of the training plan. It is a continual and systematic process of assessing the value or potential value of IIP training program and it will be done before certificates of participation are handed out to the participants.. In his training manual (Rajput, 2019) define training program cycle into following three steps:

- Step 1: Planning of training
- Step 2: Implementation of the training; and
- Step 3: Evaluation of the training.

The evaluation is the The method of evaluation of the program is online through on Course website of CPSC. The result of the training evaluation is used to further improve the training program as shown in figure (JICA, 2010). The evaluation covers both administrative and academics aspects of the program.

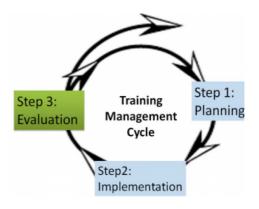


Figure 8: Training Program Cycle

CLOSING CEREMONY

Similar to all other training programs, the industry institute partnerships training program has opening and closing ceremonies. In the closing ceremony, participants received training completion certificates. It is expected that training is conducted

in an organized and professional manner, as it is considered a semi-formal event. Special remarks can be given by chief guest and remarks followed by participants' representative and program coordinator. It is important to ensure that the trainees have gained a substantial knowledge on best practices, context and needs of IIP.

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Shared Vision 2023

The Inter-governmental TVET Leader for Sustainable Development

Mission

Transforming TVET towards Sustainable Societies through Outcome-Based Quality Training, Accreditation, Research and Image Building for stakeholders





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