TRAINING MANUAL ON

DACUM

● DEVELOPING A CURRICULUM ●

Preface

This training manual on DACUM Facilitators' Training (DFT) is a guiding document to plan, prepare, and implement DFT for trainers who are involved in occupational analysis and curriculum development fields. With aim to establish an international standard of all occupational analyses facilitators using the DACUM model, this course is extremely important for those who wish to become expert in DACUM process.

It is prepared with the contents collected from different documents and especially designed to support trainers/instructors in practical and easy way to conduct DACUM facilitators' training.

This training manual provides a 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 DACUM facilitator training 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 skill and knowledge of its participants. It is developed in a way that it adopted a step-by-step process of conducting DFT as well as training contents, which makes it an easy and portable reference guide for target users such as teachers, trainers, students and administrators on TVET.

Due to the dynamic nature of DFT, this guide is designed for future trainers/facilitators to modify or amend this manual as per the need of present time and technology & methods enhancement. It is also worth mentioning that a few terms like "skill", "task" and "competency" are interchangeably used in different countries.

I hope that this manual will be useful to the you, dear trainer and our target audience. May you will fulfill its intended purpose and find value and reasons for its further use and dissemination.

Best of luck!

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Acknowledgements

This document is an output of CPSC's expertise in development of curriculum as one of the TVET initiatives and are a collection of various inputs, ideas and strategies derived from different organizations and individuals that have closely worked with CPSC and its stakeholders.

I would like to acknowledge therefore the contribution of the following people who made this training manual possible: Dr. Ram Hari Lamichhane, all CPSC academic board members particularly to Mr. Rae Emmanuel Echaveria (Research, Publications and Information Officer), Mr. Felix Sibal (ICT Officer) and Ms. Aba Bernadine Lim (Multimedia Artist). Their dedication, expertise and commitment to the advocacies and services rendered by CPSC to its stakeholders in its network of sixteen member countries are duly recognized and appreciated.
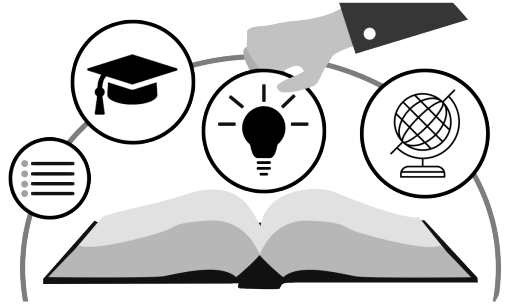
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INTRODUCTION

DACUM has been successfully used to identify skills and related knowledge that a worker needs to perform a job. It has been used extensively in the Technical and Vocational Education and Training (TVET) sector all over the world to develop technical curriculum.

DACUM is an acronym for Developing Curriculum and it is the most important stage of curriculum development process. The process usually starts in the occupational analysis phase. After the development of the curriculum exercise, stages such as validation workshop, management review, task analysis and finalizaton of the training curriculum for dissemination follow. Figure 1 illustrates the diagram that summarizes the stages needed to successfully implement a DACUM process.

Steps in the DACUM Process

1. Conduct Initial 2-Day Workshop
2. Conduct Validation Workshop
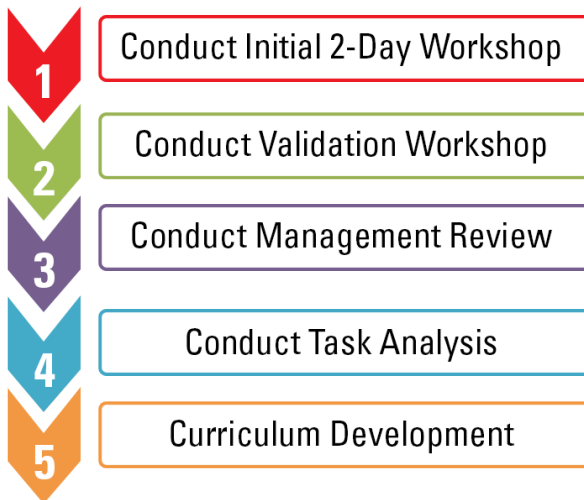3. Conduct Management Review
4. Conduct Task Analysis
5. Curriculum Development

Figure 1: Steps in the DACUM Process. Note: Diagram from Eastern Kentucky University (n.d.). Retrieved from: https:// facilitation.eku. edu /what- developing-curriculum-dacum.

The outcome of the DACUM process is the list of duties and tasks related to the analyzed occupation along with the supportive enablers such as knowledge, skills, tools, equipment, workers traits, and educational qualification etc. which will be shown in the chart called DACUM chart.

DACUM is based upon three principles (Norton, 1997):

1. Expert workers can describe and define their occupation/job more accurately than anyone else

2. An effective way to define a job/occupation is to describe the tasks workers perform

3. All tasks, in order to be performed correctly demand the use of certain skills, knowledge, tools, and positive workers behaviors.

OBJECTIVE OF TRAINING MANUAL

This training manual is developed with intention to guide trainers to conduct DACUM facilitators' training. It is envisaged that the trained DACUM facilitators will be able to conduct a workshop competently and professionally. However, it is advisable to certify DACUM facilitators first after their attendance to the training and certification on DACUM.

CONTEXT OF THE TRAINING

In the TVET sector, there is a high demand of experts for many functions from the development of a new curriculum, revision of existing curriculum, and review of courses. This training helps in meeting the demand of certified DACUM facilitators by contributing to the standardization of their strategies.

DACUM is a unique, low cost, and specialized method, thus having the expertise in conducting a workshop is rewarding and satisfying as this adds value to the organization.

TRAINING PLAN

The training plan is a tool used to plot the different aspects of its implementation. It should answer the following core questions:

- Who delivers the training?
- When it is going to takes place?
- Where will be the training venue?
- What the participants will be doing during the training?

The training plan encompasses other training elements like training design (Goals, objectives, intended outputs, and training strategies/ approaches). It also includes the information on logistics arrangements, day-to-day training activities, resource persons, training coordinator, course evaluation, participants' evaluation, and certification requirements.

DRAFTING THE TRAINING DESIGN

The training design gives an overall look of the training and it is a foundation for the successful implementation. It sets the pace the activities and provides clarifications on issues such as the venue (classroom, laboratory, workshop, etc.) or the method to be used (face-to-face, online courses, or blended learning).

It is usually based on training plan. This design is a guide for a trainer and participants also follow the design. It also helps in resource allocation and time management. An example of a training design is provided in the table below:

Table 1: Sample training design

Name of Training	DACUM Facilitators' Training
Goal	Produce DACUM facilitators who can conduct DACUM workshop
Objectives	Understand the concept of DACUM
	Define occupation, duty, tasks, step
	Establish an international standard of all occupational analyses facilitators using the DACUM model

Name of Training	DACUM Facilitators' Training
Objectives	Apply the skills required by a DACUM facilitators
	Produce a DACUM chart
Duration	5 days
Target Group	TVET professionals, facilitators, trainers, curriculum development specialists
Group Size	20 participants
Instruction mode	Classroom instruction

TRAINING APPROACH

A participatory training approach based on learning strategies intended for mature audiences, is required. This approach aims to make the training enjoyable, interesting and open.

The training approach is based on adult learning strategies. An active participation of all the participants is required during the program time. The participatory approach is applied in the training to make the instruction two-way and not only trainer-centered.

The following participatory methods are:

- Sharing of experiences, cases and real life examples
- Working in a team on practical tasks, projects and cases
- Asking open-ended questions and using probing techniques
- Encouragement of reflective learning and sharing
- Observation of the process and event in a team

ROLE OF TRAINER/FACILITATOR

A trainer plays a vital role in making the training environment active and participatory. He/she is responsible to make the training successful and achieve the objectives and its learning outcomes. Some major roles of a trainer are:

- Preparing training materials like visuals, assignment sheets, program book, training manual etc.
- Providing DACUM charts as examples for learning
- Conducting training in lively manner and make it participatory
- Demonstrating real applications of DACUM products with country examples
- Exhibiting simulated DACUM workshop professionally
- Discussing clear and concise concepts and definitions
- Leading to be a role model in conducting DACUM workshop
- Conducting, recording and monitoring pre- and post-tests and program evaluation
- Preparing program report and propose few improvement measures

COMPONENTS OF THE PROGRAM BOOK

INTRODUCTION

Hasalz and Reid (1994, Edited by Reid, 2003) defined the meaning of DACUM. According to them,

"(DACUM) is a quick yet highly valid job analysis technique. The DACUM process is used to determine the competencies that should be addressed in a training curriculum for a specific occupation. DACUMs are used to develop job profiles for all types of occupations, including top-level managers and specialized jobs. This cost-effective and efficient technique has been validated through research and compares very positively with other job analysis methods."

As it is crucial for job creation and developing job profiles, it is important that the TVET institution and industry should have in-house DACUM facilitators so that they need not search for a facilitator outside, which is cost effective and reliable.

RATIONALE

DACUM is a job analysis method used to create descriptions for new or emerging occupational areas and new education /training programs (Halasz, 1994). In DACUM, materials pertaining to a job is gathered from best practitioners in that field to derive the job definition, job flow, and job description, as well as to develop the education/training programs.

According to Hasalz (1994, as edited by Reid), the DACUM process is a necessary step in order to know the competencies that are needed in a specific job or trade. Thus, it is very important to delve into different inputs from the industry particularly the adoption of their standards in order to validate the findings of the research on job analysis. The elements include an analysis of the tasks, knowledge, outputs, skills, traits and attitudes necessary for job placement.

OBJECTIVES

At the end of the program, participants must be able to:

- Understand the concept of DACUM
- Define occupation, duty, tasks, step
- Establish an international standard of all occupational analyses facilitators using the DACUM model
- Apply the skills required by a DACUM facilitators
- Produce a DACUM chart

TRAINING CONTENTS

DACUM WORKSHOP

Figure 3: DACUM workshop. Note: Diagram from Robert E. Norton, PhD. Retrieved from: DACUM handbook, Year: 1997.

A DACUM workshop is unique specialized process for a job analysis and only trained and certified DACUM facilitator is allowed to conduct the DACUM workshop. It is conducted minimum for two day. It requires a DACUM facilitator, 5-12 expert workers from a same occupation, a recorder and panel members. An occupation is thoroughly analyzed for two day and the outcome- the duties and related tasks are compiled in a DACUM chart.

DACUM CHART

Figure 4. Diagram by Clint Smith. Retrieved from: https://www.careerplug.com/how-to-use-the-dacum-method-to-orga-nize-and-write-your-training-curriculum/. Date of Copyright: April 20, 2018.

The expert workers panel work under the guidance of a trained facilitator for two days to develop the DACUM Research Chart. The chart contains a list of general areas of competence called DUTIES and several TASKS for each duty. Brainstorming techniques are used to obtain the collective expertise and consensus of the committee. As the Panel determines each task, it is written on a card. The cards are attached to the wall in front of the Panel. The completed chart is a graphic profile of the duties and tasks performed by successful workers in the occupation.

The Panel also identifies the general knowledge and skills required of successful workers, the tools, equipment, supplies, and materials used, the important worker behaviors essential for success, and the future trends and concerns likely to cause job changes. The process produces superior results for all occupational levels.
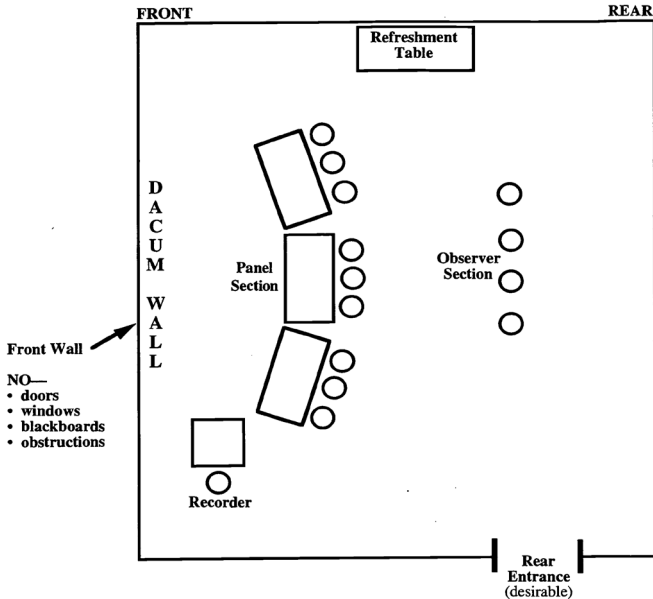
DACUM VENUE REQUIREMENTS

Figure 5: DACUM workshop room requirements. Note: Diagram from Robert E. Norton, PhD. Retrieved from: DACUM handbook, Year: 1997.

A DACUM workshop has to be conducted in a room which has 10 by 25 inch long wall. The room must have no doors, windows or gaps in between. Different color meta cards are required to provide color coding to job, duty, and task. The responses of expert workers are posted in the wall under the headings job, duty, and task.

ROLE OF DACUM FACILITATOR

It is essential for the facilitator to establish his or her role clearly and thereby establish his or her credibility as the DACUM process expert, at the same time clearly acknowledging the committee members as the occupational or content experts. The facilitator's job looks simple, but it is in fact a complex and demanding role. The DACUM facilitator's task is to orient the committee to the process, to guide them through the analysis, to draw out ideas, to question each proposed task statement, to gain consensus from the group on each item, and to keep the discussion on target and the process on schedule. The facilitator must be well trained in the DACUM process and must also have great skill in group dynamics.

SCHEDULE OF ACTIVITIES

The training schedule is a guide for a trainer as well as for the participants. It shows the overall picture of the training: sequence of activities, trainers and participants' roles, break times, activities, and timeframe. It also helps the management to participate and decide on supervision of the training and supply necessary materials. This training schedule is an example of a training aspect in which the coordinator can be creative and modify it according to the anticipated needs of their customers.

Table 2: Sample table of activities

Day/ Time	9:00-10:30 AM			10:45 AM-12:15 PM		1:30-3:00 PM		3:15-4:45 PM
Day 1	Registration Opening Program Expectation collection			Program Overview Registration on OnCOURSE Theme Paper 1 Concept of DACUM, DACUM principals, Job analysis,		Group Work 1 Identifying job, duty, task, step and differentiate above terms.		Theme Paper 2 Overview of DACUM workshop and Role of DACUM facilitator, expert workers, and recorder
Day 1	M I L Y	Theme paper 3 Planning the DACUM workshop	T E A B R E A K	Group Work 2 Formulate strategies on successfully conducting a DACUM workshop	L U N C H	Theme Paper 4 DACUM Quality Performance Checklist	T E A B R E A K	Group Work 3 Identify key success indicators for DACUM workshop
Day 1	M I L Y	DACUM workshop (Simulation)		DACUM workshop (Simulation)		DACUM workshop (Simulation)		DACUM workshop (Simulation)
Day 1	M I L Y	DACUM workshop (Simulation)		DACUM workshop (Simulation)		DACUM workshop (Simulation)		DACUM workshop (Simulation)
Day 1	M I L Y	Debriefing on DACUM workshop		Presentation of DACUM chart		Online Program Evaluation (Participants) Closing Ceremony Awarding of Certificates		Departure from Venue

TRAINING PROGRAM FRAMEWORK

The training program framework depicts the connection of different inputs, activities, and outputs. It normally gives a birds-eye view of the program and helps the reader understand about the training program. Below, is the training program framework shown as Inputs-Process-Outputs (IPO) model.

Table 3: Sample Training Program Framework Using the Input-Process-Output Process

Inputs	Process	Outputs	Outcomes
● Resources ● Trainer ● Untrained facilitators	● Conceptual Inputs (Theme paper 1,2,3,4) ● Group works (GW 1,2,3) ● Observation (DACUM Workshop) ● Active participation ● Questioning	● Trained DACUM facilitators	● Consistence TVET curricula meeting international standards

TRAINING PERSONNEL MANAGEMENT

Training personnel management refers to the training coordinator, facilitator, resource person, logistic officer, and expert workers. Their names, designation, address and telephone numbers should be shared with each other so that connection can be made and questions/queries can be answered. In return, possibilities of corruption can be identifed.

ANALYSIS OF TRAINING OBJECTIVES FOR RELEVANCY, ALIGNMENT, SEQUENCE, AND EVALUATION

This is an exercise which is not a component of the program book but is essential to be done to make sure that the training program is well-prepared. Here are questions that will aid you in the analysis (Lamichhane, 2018):

1. What sequence should the objectives be achieved? Usually, learning builds on learning. It may be useful to learn certain areas of knowledge and skills before learning new areas.

2. Will the objectives achieve the overall training goal(s)?

3. What are the best learning activities to achieve the objectives?

4. Do the methods match the participants' particular learning styles?

5. Do the methods stretch their styles, too? Are the methods readily accessible? Do the methods take advantage of real-life learning opportunities?

6. Do the activities include ongoing reflections about learning?

7. 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

8. What results, or evidence of learning, will be produced?

9. Who will verify that each of the learning objectives was reached? Ideally, the learning is evaluated by someone who has strong expertise in the areas of knowledge and skills required to achieve the training goals.

10. What costs will be associated with developing and implementing your plan?

11. Think about facilities, technologies, personnel, special expertise, etc. You may want to update the "Budget".

12. How will learners' manage time and stress during the learning?

13. Participants' evaluation can be done both pre and post program. It will help to measure the effectiveness of training programs.

COURSE/PROGRAM EVALUATION

Program evaluation is one of the key activities of the training. It is normally conducted after the training, before certificates of participation are handed out to the participants. It helps to redesign course, scheduling, apply appropriate training methodologies and assign competent resource persons. Training program evaluation can be done on training design, contents, methodologies, resource persons and logistics. A standard format for the evaluation has to be developed by the trainer and adopted by the management before implementation. The sample form is as follows (Lamichhane, 2018).

Training Evaluation Form for Participants Date: Title: (Instructions: Please indicate your level of agreement by ✓ with the statements listed below :)					
Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The objectives of the training were clearly defined.					
2. Participation and interaction were encouraged					

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3. The topics covered were relevant to me					
4. The content was sequentially organized and easy to follow					
5. The materials distributed were helpful					
6. The learning of this training will be useful to my work					
7. The training objectives were met					
8. The time allotted for the training was sufficient					
9. Training environment were comfortable.					
10. Training facilities and materials were adequate					
Resource Person 1:					
1. The trainer was knowledgeable on training topic					
2. The trainer has demonstrated accurate presentation skills					
3. The trainer was well prepared					
4. The trainer was humorous and joyful					
Resource Person 2:					
1. The trainer was knowledgeable on training topic					
2. The trainer has demonstrated accurate presentation skills					
3. The trainer was well prepared					
4. The trainer was humorous and joyful					

Overall Impressions:
1. What did you like most about this training?
2. What aspects of the training could be improved?
3. How do you hope to change your practice as a result of this training?
4. What additional trainings would you like to have in the future?
5. Would you like to give additional feedback to resource persons? Please give with their name.
6. Please share other comments or expand on previous responses:

Thank you for your feedback!

THE CLOSING PROGRAM

The closing program is conducted at the last day of the training program. It can be conducted in formal or informal setting depending upon the host organization requirement, however it is conducted in an organized and professional manner. It is designed to wrap up the training activities and give due recognition to those who have participated. Special remarks can be given by chief guest and remarks followed by participants' representative, program coordinator and lead trainer. During the closing program, certificates will be distributed as a proof of training participation to those participants who successfully met the training criteria and gained a substantial knowledge on DACUM workshop facilitation.

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Shared Vision 2023

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Mission

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