



MODULE PRODUCTION WORKSHOP FOR SKILLS AWARD IN HEAVY EQUIPMENT OPERATIONS

24TH APRIL TO 1ST MAY 2023

AT ZAMBEZI SOURCE LODGE IN KABWE



HITACHI

Reliable solutions



Contents

1. LIST OF ACRONYMS	3
2. WORKSHOP ATTENDANTS.....	4
3. INTRODUCTION	4
4. OBJECTIVES.....	4
5. STAGES OF MODULE DEVELOPMENT	4
5.1. COMPONENTS OF SCOPE AND SEQUENCE.....	5
5.2. CONTENT DEVELOPMENT	6
6. CHALLENGES.....	7
7. RECOMMENDATIONS.....	8
8. CONCLUSION	8
9. PHOTO FOCUS	8

1. LIST OF ACRONYMS

EIZ – Engineering Institution of Zambia

FQM - First Quantum Minerals

KVTC - Kitwe Vocational Training Centre

LKDF - Learning and Knowledge Development Facility

NORTEC - Northern Technical College

OEM - Original Equipment Manufacturer

OSHE- Occupational safety and Health Environment

PPDP - Public and Private Development Partnership

TEVETA - Technical, Entrepreneurial, and Vocational Education and Training Authority

TVET - The thematic area of Technical and Vocational Education and Training

UNIDO - United Nations Industrial Development Organization

2. WORKSHOP ATTENDANTS

No.	Name	Position	Institution
1	Mr. Ackim Kalikeka	Specialist – Learning Materials Design and Development	TEVETA
2	Mr. Mutale Mwamba	Specialist - Curriculum Development	TEVETA
3	Eng. Sydney Matamwandi	Mechanical Engineering Consultant	EIZ
4	Mr. John Mwansa	Lecturer	NORTEC
5	Mr. Samuel Mwale	Lecturer	Sino-Zam Vocational College of Science and Technology
6	Mr. Clay Chimbali	Senior Lecturer Heavy Equipment	Mopani Copper Mines
7	Ms. Kalenda Nankonde	Specialist - Curriculum Development	KVTC

3. INTRODUCTION

This report provides an overview of the Excavator handouts production workshop that took place from January 24th to May 1st, 2023, at the Zambezi Source Lodge in Kabwe, Zambia. The workshop was facilitated by TEVETA and various stakeholders from training institutions, regulatory organizations, and the industry participated.

The workshop was aligned with the output 2 of the project, which aims at establishing a regional centre of excellence for heavy equipment operators. This involves the development of training modules that will aid in the training of beneficiaries. The training modules are crucial in facilitating classroom training and providing trainers and students with detailed course information that is relevant for teaching and studying, respectively.

This module production workshop was a continuation and expansion of the initial workshop on module production held in Kitwe back in February 2023.

4. OBJECTIVES

The main focus of the workshop was to develop handouts for the Excavator operations skills award curricula. Despite the module development having many stages, the main focus of the workshop was on:

- I. Scoping and sequencing
- II. Content Development

5. STAGES OF MODULE DEVELOPMENT

Module Development consists of five stages namely:

- I. Scoping and Sequencing
- II. Content and Development- First Draft
- III. Content Review- Second Draft
- IV. Content Validation- 3rd Draft
- V. Content Evaluation- Approval status

However, during this workshop, we only focused on two stages which are Scoping and Sequencing, and Content Development.

Scoping involves determining the extent and depth of the material, while Sequencing focuses on organizing the content in a logical manner. It is essential to have a clear understanding of both Scoping and Sequencing before developing the content of the modules.

5.1. COMPONENTS OF SCOPE AND SEQUENCE

The following are the components of scoping and sequencing of a module:

- I. Unit Table
- II. Topics (Specific Outcomes)
- III. Sub Topics (Learning Activities)
- IV. Activities (Assessment i.e., Exercise, Assignments etc.)
- V. Teaching/Learning Resources (References)
- VI. Art Briefs (Tables, Pictures, and Figures etc.)

During the workshop, it was recommended that the development of the Excavator Operations module should be given priority, with the Front-End Loader module being a secondary focus. The first set of modules which was scoped was that of OSHE, which had seven topics. On the first day, the participants were provided with the first topic as a reference and guide. On the second day, the participants were divided into two groups, with each group focusing on three topics. The two groups managed to complete scoping for all six topics and made changes as necessary, everyone participated.

The participants were then divided into two groups again, with the aim of completing the scoping and sequencing for the other two main topics: Excavator Operation and Excavator Inspection. The first group focused on Excavator Operation, with six sub-topics, while the other group focused on Excavator Inspection, with six sub- topics.

The first group focused on the following topics:

- I. Organizing work station
- II. Demonstrating safety practices in the workplace
- III. Applying Environmental Awareness

The second group did the following Topics:

- I. Demonstrating safe working practices
- II. Observing fire safety in excavator operations
- III. Applying wellness practices

Scoping and sequencing for both the Excavator Operation and Excavator Inspection topics were completed. The importance of module scoping and sequencing cannot be disregarded, as it helps to arrange the information found in a syllabus in a logical and coherent manner, which aids in the flow of information.

On the following day the participants suggested ways in which they could work on and develop the modules faster. The team believed that the knowledge gained on scoping and sequencing of the OSHE module would help them to move faster in scoping and developing the other two pieces. Hence advised that they focus on Content Development.

5.2. CONTENT DEVELOPMENT

After completing the scoping and sequencing of the Excavator modules, the workshop participants proceeded with content development. The guidelines for developing the module were displayed and the chairman emphasized the importance of creating self-learning materials suitable for both distance and full-time learning. The main objective was to guide learners on what to expect in the modules, including studying, training, exercises, assignments, tests, and final examinations.

When developing a module, it is important to consider the coverage, preliminary pages, outcomes, content, purpose, summary, activities, and recommended materials for further information.

To be specific every unit structure should have the following:

- I. Unit title
- II. Unit introduction
- III. Unit learning outcomes
- IV. The learning contents
- V. Activities
- VI. Summary
- VII. Evaluation (Unit exercise)
- VIII. Recommended Reading

The chairperson also stressed the need to include a copyright and acknowledgements, as well as the certification board, which is TEVETA in this case.

In addition to the recommended reading materials, websites, and supplier manuals, OEMs are acceptable as resourceful materials, especially for identifying component or parts of an Excavator.

During the fourth day of the workshop, the participants directed their attention towards module development. The attendees were divided into two groups, where one group worked on developing Unit 2 while the other group focused on Unit 3.

The first group focused on unit 2 which was about organising a workplace and the main topics were:

- I. Carrying out housekeeping duties
- II. Organising physical workplace for productivity and functionality.

The second group focused on unit 3 which was about demonstrating safe working practices in a work place, this unit had the following topics:

- I. Applying risk assessment in Excavator operations
- II. Identifying hazards in the workplace
- III. Using personal protective equipment

The work done was assessed, and adjustments were made to improve the quality of units 2 and 3. The development of units 4 and 5 began, with the same approach of assigning each group to a specific unit.

Unit 4 was about demonstrating safety practices in the workplace. The topics under unit 4 were:

- I. Identify workplace layout
- II. Applying first aid in a work place.

Unit 5 main topic was on observing fire safety in excavator management and it had the following topics:

- I. Discuss elements of fire
- II. Identify causes of fire
- III. Carry out fire fighting
- IV. Apply fire prevention measures

Since some of these topics contained a lot of subtopics the first group couldn't finish designing Unit 4 but remained with just the summary, exercise, recommendation of materials and one sub topic that was yet to be researched still had to research on. The other group finished developing unit 5.

6. CHALLENGES

The challenges were as follows:

- I. Low turnout of experts
- II. inadequate reading resources to do research from
- III. Inadequate time for preparation

7. RECOMMENDATIONS

- I. Invite experts two weeks before the actual workshop commences
- II. Find more resources to use when developing the module
- III. Hold the next workshop soon to conclude on the remaining items.

8. CONCLUSION

The participants expressed their gratitude to TEVETA for organizing this workshop and acknowledged that it would be a beneficial opportunity to develop the modules that are relevant to the field of training and the workshop also provide an opportunity to enhance skills and knowledge on module production.

Drafts of the modules to undergo further review and be shared upon completion.

9. PHOTO FOCUS



Workshop team during a preliminary session



Participants in the module production workshop