# Developing and Implementing Learn and Work Task (LWT) in a Formal Learning Environment

## Guideline II

ProWoThai
Progressing Work-based Learning in Thailand

Federal Ministry of Education and Research

# CONTENT

# ABOUT THE GUIDELINES

This handout was created in the context of the BMBF project "Progressing Work-Based Learning in Thailand (ProWoThai)" as the second in a series. The handouts were developed, tested and further developed in a participatory manner. Colleagues from academia and practice from Thailand, Malaysia and Germany were involved.

The aim of the handouts is to provide VET practitioners with guidelines for the development, organization and reflection of work-based learning (WBL). WBL can take place either (i) at the company workplace and in real work or (ii) in simulated work processes in the integrated specialist rooms of a vocational school, a training workshop or in a laboratory.

Work-based learning combines work activities with learning processes in different forms at all learning locations. The following features characterize work-based learning:
1) The promotion of holistic skills development for learners with the aim of independent, appropriate and responsible action in the context of work, family and society.
2) The use of real work tasks and processes typical of the profession or company as the object of learning in conjunction with an orientation towards learning outcomes.
3) The didactic and curricular transformation of real work tasks into forms of learning, such as the learning and work task, and their use for holistic work- and action-oriented as well as problem-based examinations and validations.

This practical guideline aims at facilitating the development and implementation of Learning and Work Task (LWT). It addresses University lecturers, TVET teachers, TVET instructors or facilitators who intend to aim at competence-development and experiential learning in a formal learning environment located either at the university, at a vocational school and at an in-company or inter-company training centre.

Further information can be found at: www.prowothai.de

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# FOREWORD

This guideline on LWT is an instructional tool developed to support teachers and instructors to develop and implement holistic and processual learning environments in order to facilitate student competence development and to encourage students' self-reliant learning.

LWT is a work process-oriented, and a project based in vocational schools and inter-company training centers; where the structure of the LWT is derived from the work process in a vocational action field. In this guideline, the identified work tasks were didactically transformed into the LWT.

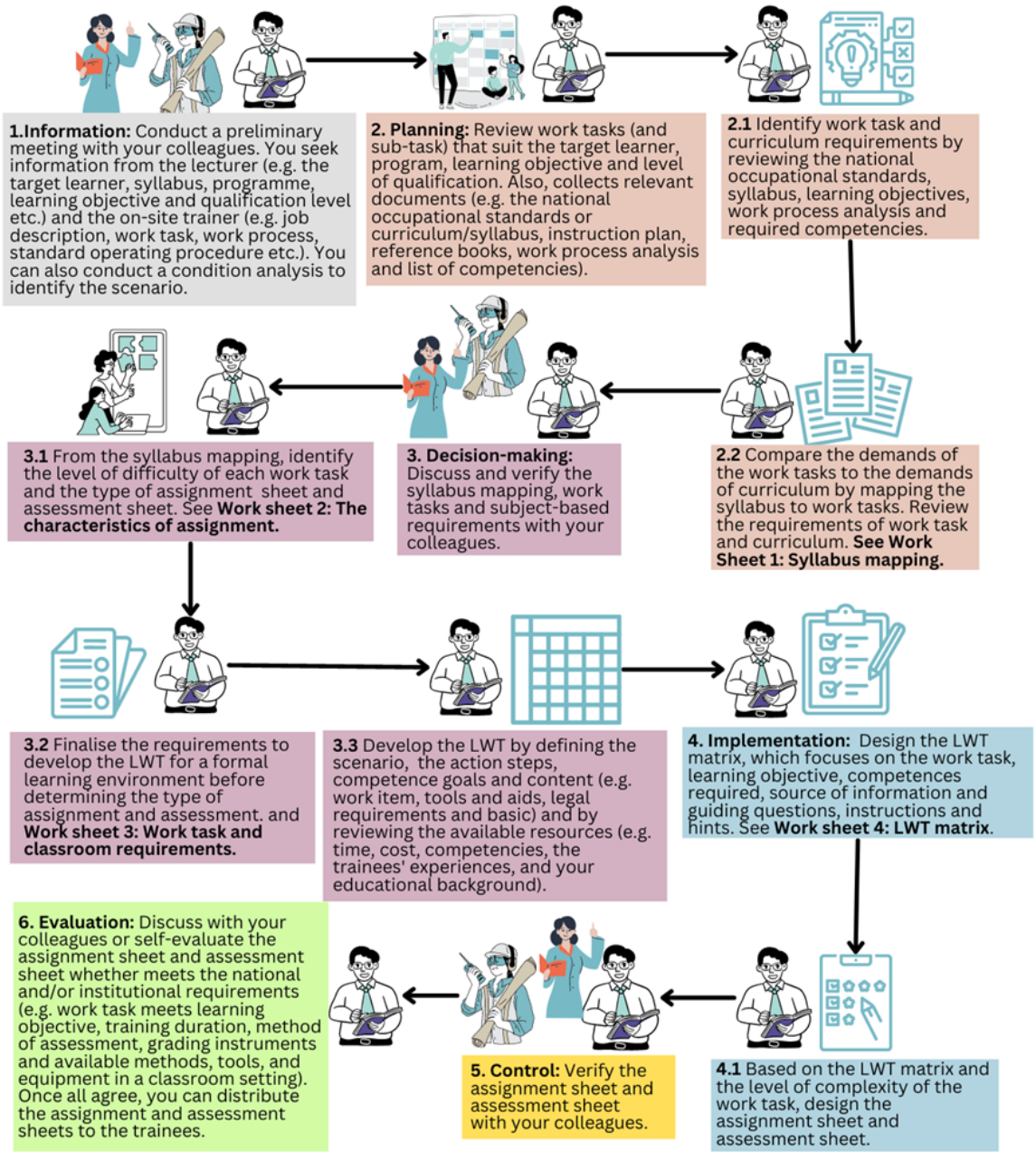
The implementation of the LWT is based on six steps of the Complete Action Cycle: 1. Information (also known as Setting Goals), 2. Planning, 3. Decision-Making, 4. Implementation (also known as Executing), 5. Control (also known as Monitoring) and 6. Evaluation. In this guideline, each step in the Complete Action Cycle is indicated by different colour.

**Disclaimer:** The information provided in this practical guideline is for general use only.

# 1. BEFORE THE LEARNING SESSION - STEPS IN THE LWT DEVELOPMENT

Based on the identified work tasks (from the work process analysis), this is a preparatory stage where you should plan and prepare your assignments for work tasks. Below are the steps that should be conducted before the learning session.

**Important note:** The development of a LWT takes at least one day or even weeks, depending on the complexity of the work task. The development of learning and work tasks lies mainly in the competence of trainers and teachers.



# 1.1 WORK SHEET 1: SYLLABUS MAPPING


Kindly tick* the box that applies to the work task and syllabus below. You can compare the work tasks and syllabus by mapping the work task to the topic and sub-topics (of the syllabus). Based on the mapping process, you will be able to identify the work tasks that match the syllabus. If the work task does not meet the syllabus, kindly justify the reason (e.g. outdated syllabus) and state further action that should be taken. If the work task meets the syllabus, then we proceed to identify the level of frequency, importance, and difficulty of the work task.

| **Syllabus/work task:**<br><br>**Controlling system** | **Topic 1: Working principle of pneumatic system** | | **Topic 2: Skill training in connecting the circuit of a pneumatic system** | **Justify reason and state further action** |
|---|---|---|---|---|
| | **Sub-topic 1: Explain Working principle of pneumatic system** | **Sub-topic 2: Explain Maintenance principle of pneumatic system** | **Sub-topic 1: Skill training in connecting the circuit of a pneumatic system** | |
| Printing letters on the sidewall of the tire | ☐ | ☐ | ☐ | |
| Controlling direction of the tire collector | ☐ | ☐ | ☐ | |
| Replacing damaged pneumatic equipment | ☐ | ☐ | ☐ | |
| Installing new pneumatic equipment | ☐ | ☐ | ☐ | |

* The ticked box indicates the work task matches the topic and sub-topic (syllabus)
** The examples were adapted from the Competency of Diploma in Mechatronics: SiF LMC/MMS (Fongkhao, 2022)
*** Disclaimer: This is an example only. The overall content is subject to your work task, work process and workplace requirements.

# 1.2 WORK SHEET 2: THE CHARACTERISTICS OF ASSIGNMENT OF WORK TALS


Next, kindly fill out the questionnaire* below and indicate the characteristics of the assignment of your work task. The characteristic of each assignment is listed below. For example, the 'Closed' type of assignment contains routine activities, structured guidance, guidance at the early stage of training and specific guiding questions and hints. If your answers are "not sure" or vary within the same type of assignment (e.g., yes for routine activities but no for the structured guidance for the characteristics of a closed assignment), you need to revisit your work tasks and cross-check its level of complexity and difficulty.

| **Characteristics of assignments**<br>**Closed assignment/Specific Work Instruction** | **Yes** | **No** | **Not sure** |
|---|---|---|---|
| Routine activities | ☐ | ☐ | ☐ |
| Structured guidance | ☐ | ☐ | ☐ |
| Guidance at the early stage of training | ☐ | ☐ | ☐ |
| Specific guiding questions and hints | ☐ | ☐ | ☐ |
| **Open assignment/Rotating Job tasks** | **Yes** | **No** | **Not sure** |
| More complex (non-routine activities) | ☐ | ☐ | ☐ |
| Some general guiding questions | ☐ | ☐ | ☐ |
| Less guiding questions compared to Closed type | ☐ | ☐ | ☐ |
| Requires the trainees to identify alternative ways to solve their assignment | ☐ | ☐ | ☐ |
| **Open, Innovative assignment/Problem Based Learning/training** | **Yes** | **No** | **Not sure** |
| Requires the trainees to conduct a feasibility study | ☐ | ☐ | ☐ |
| Requires the trainees to seek alternatives | ☐ | ☐ | ☐ |
| Requires the trainees to provide innovative solutions through a teamwork approach | ☐ | ☐ | ☐ |
| Requires the trainees to establish decision-making and evaluation criteria by themselves | ☐ | ☐ | ☐ |

Understanding the characteristics of work task and formal learning environment enable you to determine the type of assignment and assessment. There are three types of assignment known as 'Closed', 'Open' and 'Open, Innovative'. The 'Closed' type of assignment contains detailed guiding questions and hints suitable for beginners. Whereas the 'Open' type has some general guiding questions and hints. Meanwhile, 'Open, Innovative' has no guiding questions and it is a highly complex assignment which only can be solved on a highly specialised level (experts).

# 1.3 WORK SHEET 3: WORK TASK AND CLASSROM REQUIREMENTS


Finally, the following questionnaire* can be used to assess whether the LWT follows work task and classroom (or formal learning environment) requirements.

| **Work tasks requirements** | **Yes** | **No** | **Not sure** | **If no or not sure, kindly justify the reason** |
|---|---|---|---|---|
| The core task includes the content of work (e.g., inspection of functional reliability…). | ☐ | ☐ | ☐ | |
| The core task includes the list of tools (e.g., technical drawings, part lists, sketches, machine tools…). | ☐ | ☐ | ☐ | |
| The core task includes the methods/procedures (e.g., reading and producing technical documents, manual production methods…) | ☐ | ☐ | ☐ | |
| The core task includes the organisation of work (e.g., group work, third-party contractor…) | ☐ | ☐ | ☐ | |
| The core task includes the requirements to be met by performed work (e.g., executing customer orders in accordance with technical documents/models, following safety regulations, environmental protection regulations…) | ☐ | ☐ | ☐ | |
| **Classroom requirements** | **Yes** | **No** | **Not sure** | **If no or not sure, kindly justify the reason** |
| Lecturers and facilitators in the classroom promote the application of theories to real practices through the method of discussion and sharing experience. | ☐ | ☐ | ☐ | |
| The use of formative (e.g. weekly oral presentation) and summative assessment (e.g. written test) in a classroom practice. | ☐ | ☐ | ☐ | |
| Appropriate use of classroom assessment such as written tests, oral tests, practical tests, and standardised tests. | ☐ | ☐ | ☐ | |
| Appropriate use of instructional materials in the classroom (e.g., reliable, and high-speed internet access for online learning/virtual learning in a classroom, appropriate classroom layout…) | ☐ | ☐ | ☐ | |

* The questionnaire is based on the information (work task) from Hoepfner and Koch (2015) Self-reliant learning in Technical Education and Vocational Training (TEVT), Practice and Working Paper-4, Regional Association for Vocational Teacher Education, pp. 23 and information (classroom) from Earl, L.M. (2003). Assessment as learning: Using classroom assessment to maximize student learning. Thousand Oaks, CA: Corwin Press.

# 1.4 WORK SHEET 4: THE LEARN AND WORK TASK MATRIX


After you identify the requirements of your LWT (which refer to Work Sheet 1-3), kindly fill in the LWT matrix below. Here, the LWT matrix is the adapted version from Höpfner and Koch's (2015) guideline. The LWT matrix consists of the work tasks, learning objectives, required action competence, information sources and instructions, guiding questions and hints. You can use this LWT matrix as a reference in your teaching process and enables you to plan your teaching in a systematic way.

| Work task | Learning objectives | Professional, social, individual, and methodical competences | Information sources | Instructions, guiding questions, and hints |
|---|---|---|---|---|
| | | | | |

# 1.5 SELF-REFLECTION: BEFORE LEARNING SESSION— LWT DEVELOPMENT


Here, the list of guiding question is provided to support your self-reflection process to develop LWT before the learning session. Below are the guiding questions* for you to analyse the prerequisites and general conditions. Kindly filled in the answer in the provided box.

| | |
|---|---|
| **Personal requirements (about the learning group, the trainees)** | |
| **How big is the group** | |
| What is the composition of the group (age, gender, nationality, training companies)? | |
| What knowledge and skill are relevant to the occupational field? | |
| What experiences have the trainees already gained in the relevant professional field of activity? | |
| Which work processes belonging to the professional field of action do the trainees already know? | |
| **Teamwork** | |
| Who is involved in the learning and work task? | |
| What special expertise can the team members bring to the tasks? | |
| When and for how long are the team members involved in the task? | |
| **Organisational and institutional general conditions** | |
| What is the estimated time frame for the learning and work task? | |
| How should the learning and work task be organized in terms of time (e.g., in blocks or part-time)? | |
| Should different learning locations be integrated for the learning and work task (e.g. learning location cooperation between companies and vocational schools)? | |
| Which rooms, workshops, etc. available? And at which learning location? | |
| How are the various rooms equipped (number of workstations, technology, tools, materials, media)? | |
| **Scenario** | |
| What is the name of the learning and work task? | |
| Which product should be manufactured as part of the learning and work task, or which service should be provided? | |
| How did the task on which the learning and work task is based come about? | |
| Who is the client? | |
| What is the scope of the time and budget? | |

*The questions were adapted from Howe & Knutzen (2021) Lern-& Arbeitsaufgaben entwickeln: E-books für die Ausbildungs- und Unterrichtspraxis, pp.29 - pp.32

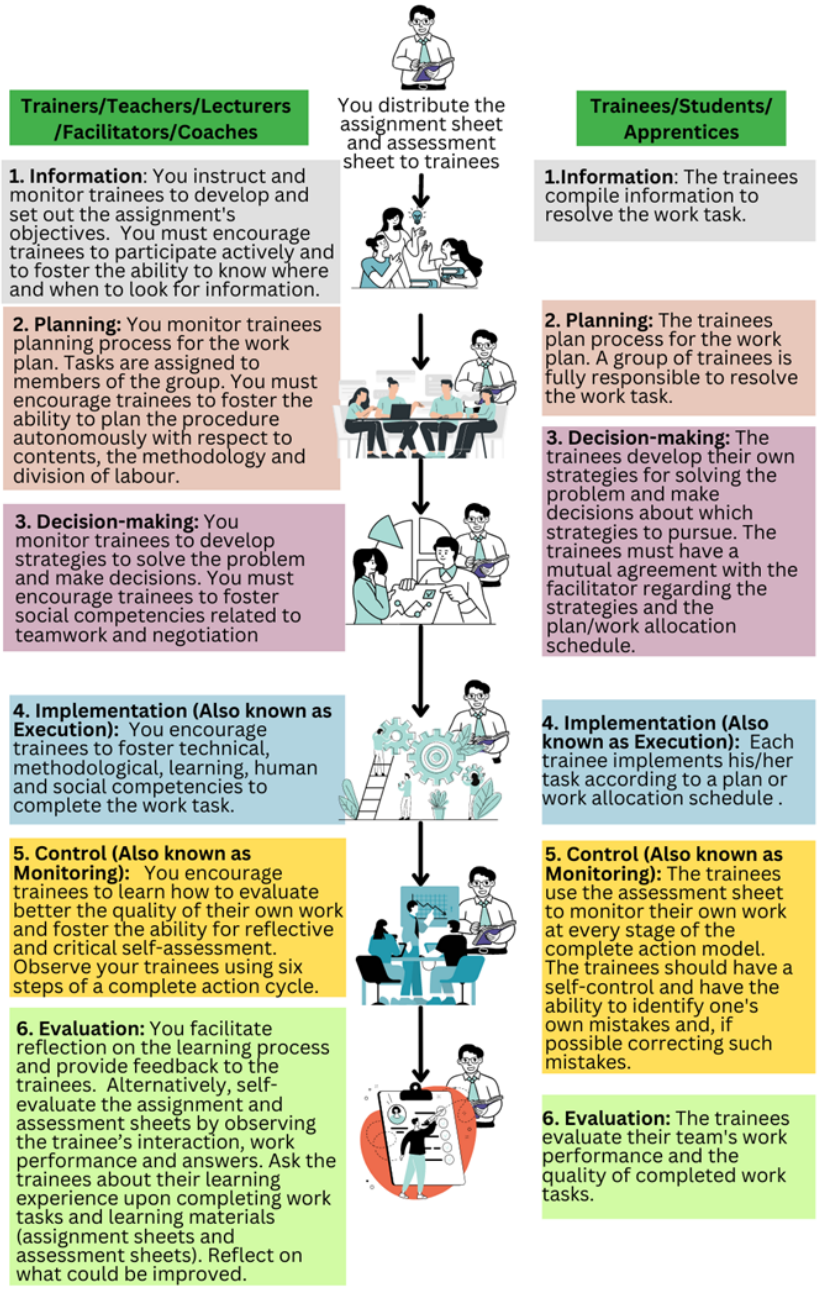

Below are the guiding questions* for **you when designing the LWT matrix**. Kindly fill in the answer in the provided box.

| **When writing the learning objectives** | |
|---|---|
| What do I intend to teach the apprentices? | |
| Which objectives should they achieve with their learning and work activities? | |
| **When formulating the guiding questions** | |
| What are the possible sources of information? | |
| What prerequisite knowledge do they need to complete the assignment? | |
| How can the guiding questions/orders/advice induce the trainees to think in advance before making decisions or performing actions? | |
| Which action context should the new information be assigned to? | |
| Which system of knowledge do the trainees apply to integrate the new information? | |
| How can the trainees be guided towards obtaining the knowledge for the execution of the assignment? | |
| What do they have to do to acquire the knowledge? | |
| How can the apprentices be motivated to monitor themselves? | |
| How can the monitoring take place during the performance of the assignment? | |

*The questions were obtained from the NDTS Document - Development and Application of LWAs, pp.9 and pp.11.

# 2. DURING THE LEARNING SESSION: STEPS IN THE LWT IMPLEMENTATION

This is the implementation stage where you should distribute your assignment sheets and assessment sheets to your trainees. Below are the steps that should be conducted during the learning session.
**Important note:** The transition role of coach or instructor from being a central role to taking on a supportive role. You could play the role of instructor when providing the instruction and/or the role of advisor when giving the advice to the trainees. Also, you could play the role of moderator when observing the trainees making a decision and/or the auditor when evaluating the trainees' performance. Please stay in the background as long as you think it is appropriate, do not answer every question, offer tips for independent activities, challenge the trainees to find their own way/solutions, accept trainees' way of

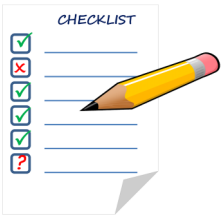


# SELF-REFLECTION: DURING LEARNING SESSIONS— LWT IMPLEMENTATION


Below are the guiding questions* for trainees, which shall help you to guide the trainees during the learning session. Kindly filled in the answer in the provided box.

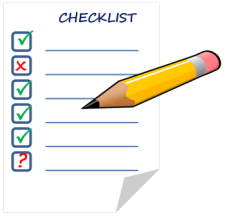
| | |
|---|---|
| **Information** | |
| What needs to be done? | |
| What purpose does the assignment serve? | |
| **Planning the pathway for the action** | |
| How to go about it? | |
| What operations or steps are required? | |
| By what means can the task be carried out? | |
| Why does it have to be done in this way and no other way? | |
| Where can the task be carried out? | |
| How long does it take to solve the task? | |
| **Decision-making regarding the utilisation of plans and resources (Establishing decision-making criteria)** | |
| Which requirements have been described for the product? | |
| Who prescribes these requirements for the product? | |
| Which criteria can be used to assess whether or not the product complies with the prescribed requirements? | |
| Which criteria can be applied to assess the task's environmental and social feasibility? | |
| **Executing the action process and Monitoring** | |
| Is there a need to change the plan? | |
| What are the critical steps? | |
| What safety/preventive measures are taken? | |
| What actions are taken to troubleshoot? | |
| **Evaluating action and its results** | |
| Does the work fulfil quality requirements and if so, up to what point? (self-assessment/external evaluation) | |
| How can the work be improved? | |
| What are the important learning experiences? | |

*The questions are obtained from the NDTS Document - Development and Application of LWAs, pp.3-4.




Below are the guiding questions* for you when implementing the LWT with the trainees. Kindly filled in the answer in the provided box.

| **When promoting a self-reliant approach during the class** | |
|---|---|
| Could I have involved the trainees more in the preliminary planning of the assignment? | |
| Have I failed to provide the necessary help? | |
| Have I relieved the trainees from too many responsibilities? | |
| Have my directives and instructions always been clear enough? | |
| Have I been too overbearing with my knowledge and skills? | |
| Have I placed too little trust in the trainees? | |
| Have I monitored and evaluated too many things myself and made it difficult for the trainees to exercise their own judgement? | |




Below are the guiding questions* for you when implementing the LWT with the trainees. Kindly filled in the answer in the provided box.

| **Teamwork assessment** | |
|---|---|
| Have I placed too much or too little trust in the team members? | |
| Have I done my best to encourage my team members to get personally involved in thinking and acting in the course of planning, executing and evaluating? | |
| Have I relieved the team members of too many responsibilities? | |
| Have I provided the necessary help? | |
| Have my directives and instructions always been clear enough? | |
| Have I been too overbearing with my knowledge and skills? | |
| Have I monitored and evaluated too many things myself and stopped my team from doing it themselves? | |

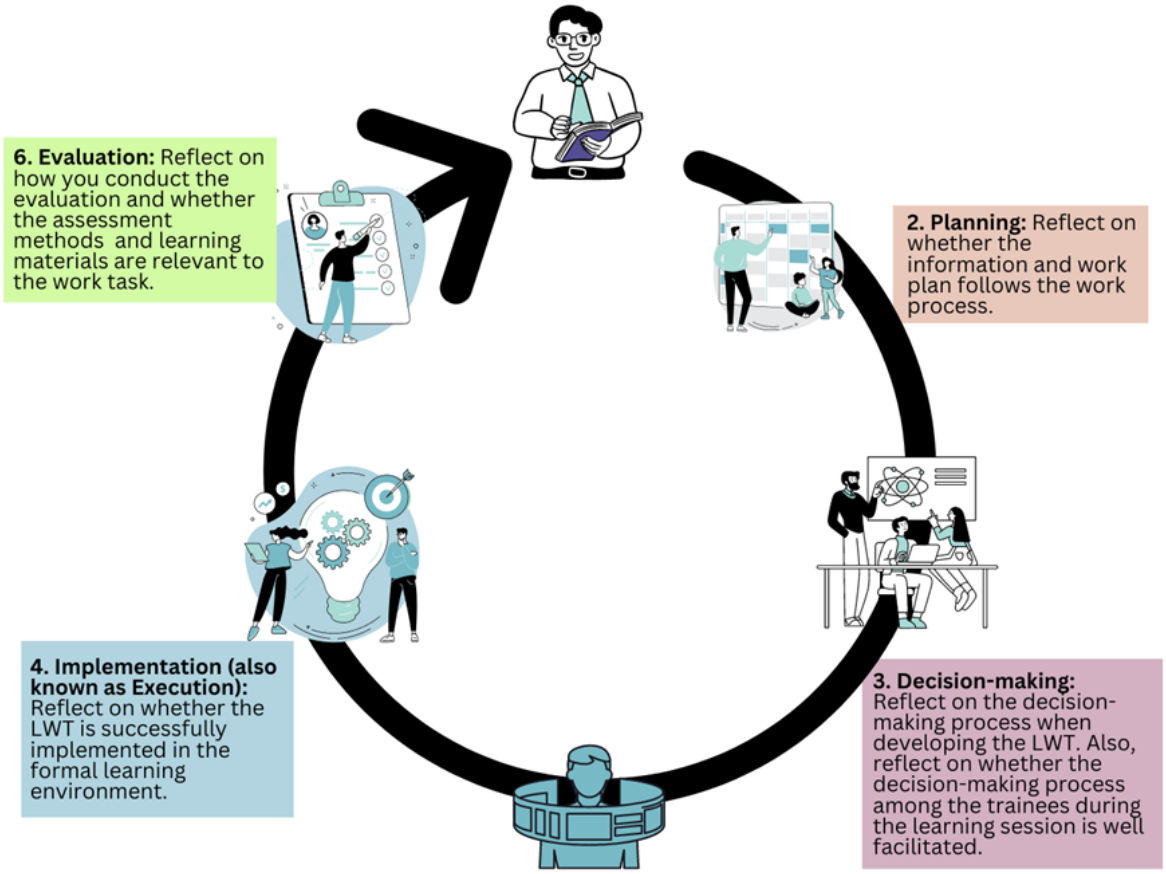
*The questions were obtained from Höpfner and Koch (2015) Self-reliant learning in Technical Education and Vocational Training (TEVT), Practice and Working Paper-4, Regional Association for Vocational Teacher Education, pp. 30 and pp.34

# 3. AFTER THE LEARNING SESSION— EVALUATION ON THE LWT DEVELOPMENT AND IMPLEMENTATION


This is the evaluation stage where you should self-reflect or evaluate the LWT development and implementation after the learning session. Below are the steps that should be conducted after the learning session.

**Brainstorming question:** If the lecturer or facilitators would like to improve the LWT, what they can do to improve the LWT?

**1. Information:** You reflect on whether all documents and resources are suitable for learning in a formal environment. Also, you should be able to see to what extent a company work task's selection and analysis were conducted successfully for training and further education purposes. If no work process analyses are available, the knowledge and experience of team members who have a high level of up-to-date expertise in relation to the relevant professional field of activity are of particular value.



**2. Planning:** Reflect on whether the information and work plan follows the work process.

**3. Decision-making:** Reflect on the decision-making process when developing the LWT. Also, reflect on whether the decision-making process among the trainees during the learning session is well facilitated.

**4. Implementation (also known as Execution):** Reflect on whether the LWT is successfully implemented in the formal learning environment.

**5. Control (Also known as Monitoring):** Reflect on how the monitoring is applied to LWT in a formal learning environment. Also, you should reflect on which case, do you have to be an advisor and in which case do the trainees have to learn self-reliantly.

**6. Evaluation:** Reflect on how you conduct the evaluation and whether the assessment methods and learning materials are relevant to the work task.

# SELF-REFLECTION: AFTER THE LEARNING SESSIONS — EVALUATION ON THE LWT DEVELOPMENT AND IMPLEMENTATION


Finally, you have to assess to what extent the selection and analysis of a company work task was conducted successfully in order to use it for training and further education purposes. Reflect on the selection and quality of your Learn and Work Task using the following guiding questions*. Kindly filled in the answer in the provided box.

| **Reflection guiding questions for the selection of LWT** | |
|---|---|
| 1. At what point in the learning and work task are we right now? | |
| 2. What do we already have? What is ahead of us? | |
| 3. What steps we have taken so far? | |
| 4. What work items have we been confronted with so far? | |
| 5. What tools do we have, and we used so far? | |
| 6. What topics and content have we dealt with so far? | |
| 7. Which technical, mathematical, scientific, ecological and economic basics have we needed up to now to cope with the learning and work task? | |
| 8. Which professional, methodological, personal, and social skills have been required so far? Which one have we acquired? | |
| 9. What experiences have we been able to draw on in the learning and work task so far? | |
| 10. At what point in the learning and work task were we able to make our own experiences for the first time? | |

*The questions were adapted from Howe F. and Sönke K., (2022) Develop Learning and Work Tasks. Handbooks for vocational training practice.

# 4. EXAMPLES

## 4.1 EXAMPLE OF THE LWT MATRIX

Below is an example of LWT matrix in the School-in-Factory (SIF) context. Kindly refer to this example as a reference on what to fill in each column for your own LWT matrix.

| Work task | Learning objectives | Professional, social, individual, and methodical competences | Information sources /Work instruction | Instructions, guiding questions, and hints |
|---|---|---|---|---|
| Maintenance pneumatic system | • Demonstrate knowledge of working principles of pneumatic and hydraulic systems.<br>• Assemble pneumatic and hydraulic circuits, mechanical controls.<br>• Inspect, repair, adjust, maintain, and test the operation of pneumatic and hydraulic systems | **Knowledge**<br>• Control design<br>• International standards<br>**Skills**<br>• Mechanical control<br>• Repair inspection<br>• Customize<br>• Maintenance<br>**Attitude**<br>• Responsible and responsible, diligent and patient, punctual | • Example of attendance (punch card)<br>• Example of work report<br>• Example of a supervisor's checklist<br>• Recommendations from the seller | • Maintenance procedures, precautions, warnings, assembly procedures, detailed guidelines and instructions linternational standards |
| Installation pneumatic system | • Demonstrate knowledge of working principles of pneumatic and hydraulic systems.<br>• Assemble pneumatic and hydraulic circuits, mechanical controls.<br>• Inspect, repair, adjust, maintain, and test the operation of pneumatic and hydraulic systems | **Knowledge**<br>• Control design<br>• International standards<br>**Skills**<br>• Mechanical control<br>• Repair inspection<br>• Customize<br>• Maintenance<br>**Attitude**<br>• Responsible and responsible, diligent and patient, punctual | • Example of attendance (punch card)<br>• Example of work report<br>• Example of a supervisor's checklist<br>• Recommendations from the seller | • Maintenance procedures, precautions, warnings, assembly procedures, detailed guidelines and instructions linternational standards |

***** Disclaimer: This is an example only. The overall content subject to your work task, work process and workplace requirements.

# 4.2 EXAMPLE OF THE INFORMATION SHEET

Below is the example of Information Sheet of LWT.

## Information Sheet

**Type of Work-Based Learning:** Work-integrated learning (SiF Program)
**Teaching personnel:** The coach and the trainees
**Occupational Structure:** Technician
**Sector:** Tire Manufacturing **sub-sector:** Mechanical technician
**Job Description:** Controlling system
**Occupational Standard/ TPQI:** Machine maintenance technician Cat 5
Qualification: Certificate
**Core Work Process (List of work tasks and sub-tasks)**

Maintenance principle of pneumatic system.

- Installation principle of pneumatic system.
  Repair part inspection principle of pneumatic system.
- Verify inspection principle of pneumatic system.

Check system inspection principle of pneumatic.
**Required Competence (e.g., for Perform Administrative Activities)**

Demonstrate knowledge of working principles of pneumatic and hydraulic systems.
Assemble pneumatic and hydraulic circuits, mechanical controls.
Inspect, repair, adjust, maintain, and test the operation of pneumatic and hydraulic systems.

**Learning Objectives/Outcomes:** Understand the events that occur in the control and survey systems. Able to read, write, install equipment, control circuits, and maintain directional control equipment.
**Course/subject/module:** Activity 1 – Control system of pneumatic

* Disclaimer: This is an example only. The overall content subject to your work task, work process and workplace requirements

# 4.3 EXAMPLE OF THE ASSIGNMENT SHEET

Below is the example of the assignment sheet.

**The Assignment Sheet**

Activity 1: Working principle of pneumatic control used to control the operation of machines instead of working with people

Mechanical technicians are responsible for managing the pneumatic system in a few different ways:

- Maintenance principle of pneumatic system
- Installation principle of pneumatic system
- Repair part inspection principle of pneumatic system
- Verify inspection principle of pneumatic system
- Check system inspection principle of pneumatic system

Work with your coach to ensure you can confidently and correctly complete each procedure.

When you have been able to correctly demonstrate each procedure above, ask your coach to verify you.

Coach name: Mr. Prakaew Phasin

* Disclaimer: This is an example only. The overall content subject to your work task, work process and workplace requirements.

# 4.4 EXAMPLE OF THE ASSESSMENT SHEET

Below is the example of the assessment sheet

| Lesson | Estimated time to complete | | Coach time | Planned completion date | Actual completion date | Coach initials |
|---|---|---|---|---|---|---|
| | Off the floor | On the floor | | | | |
| Lesson 1 Basic working principles of pneumatic systems | 5 hours | 3 hours | 8 hours | 18 Oct. 2022 | 31 Oct. 2022 | Mr.Prakaew Phasin |
| Lesson 2 Working characteristics of the pneumatic system and damage inspection | 5 hours | 3 hours | 8 hours | 18 Oct. 2022 | 31 Oct. 2022 | Mr.Prakaew Phasin |
| Lesson 3 Design and installation of pneumatic systems according to international standards | 5 hours | 3 hours | 8 hours | 18 Oct. 2022 | 31 Oct. 2022 | Mr.Prakaew Phasin |
| Lesson 4 Inspection of damage to the pneumatic system | 6 hours | 3 hours | 8 hours | 18 Oct. 2022 | 31 Oct. 2022 | Mr.Prakaew Phasin |

I, Mr. Prakaew Phasin ( coach) have verified that ..... has successfully completed all lessons and activities in this module.

Signature: _____ Date: 31 Oct. 2023

Participant Signature: _____ Date: 31 Oct. 2023

* Disclaimer: This is an example only. The overall content subject to your work task, work process and workplace requirements.

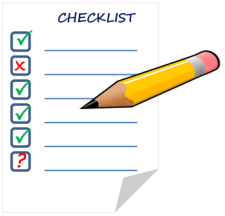
# 5. EXERCISES

## 5.1 EXERCISE 1: DESIGN YOUR LWT MATRIX


Kindly fill in the information of the work task in the LWT matrix below.

| Work task | Learning objectives | Professional, social, individual, and methodical competences | Information sources (refers to Tools, Equipment and Materials) | Guiding questions, instruction or/and hints |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# 5.2 EXERCISE 2: DEVELOP YOUR INFORMATION SHEET




Kindly fill in the information of LWT in the Information Sheet below. You can use Work Sheet 1-4 OR discuss with your colleagues to help you to identify your LWT requirements.

| **Information Sheet** | |
|---|---|
| Type of Work-Based Learning | |
| Teaching personnel involved | |
| Occupational Structure | |
| Sector/sub-sector | |
| Job Description | |
| Occupational Standard | |
| Qualification | |
| Core Work Process (List of work tasks and sub-task) | |
| Required Competence | |
| Learning Objectives/Outcomes | |
| Course/subject/module | |
| Training hours | |
| Delivery mode | |
| Method of assessment | |
| Type of assessment (peer/self/coach) | |
| Type of question (open question/closed question for an assignment of the work task) | |
| Grading instruments (rating scale, marks) | |

* Disclaimer: This is an example only. The overall content subject to your work task, work process and workplace requirements.

# 5.3 EXERCISE 3: DESIGN YOUR ASSIGNMENT SHEET


You can design your assignment sheet in the provided box **"The Assignment Sheet"** using the checklist below. You can self-evaluate or discuss with your colleagues to design your assignment sheet.

## Checklist

- ⇒ Results of self-evaluation or discussion with your colleague (e.g., type of assignment: closed, open or open innovative).
- ⇒ Structure of assignment (e.g., four phases of complete action cycle: information, planning, execution and completion or six steps of complete action cycle: information, planning, decision-making, implementation, control and evaluation).
- ⇒ The assignment sheet should include basic information about the work task, such as Instruction, Trainee's name, Individual or group, Semester, Work duration, Date of task completion, and Procedure (must cover six steps of the complete action cycle), the name of the observer (which refers to the coach or instructor) and date of evaluation.
- ⇒ Add new information in the assignment sheet that is relevant to your scenario/learning situation and state the reason for the new additional information.

**The Assignment Sheet**

1. The degree of difficulty gradually increases from one assignment to the next.
2. Check whether the assignment requires the steps of the complete action cycle. An assignment which does not have these six steps (Information, Planning, Decision-making, Implementation, Control and Evaluation) may be too simple.

# 5.4 EXERCISE 4: DESIGN YOUR ASSESSMENT SHEET


You can design your assessment sheet in the provided box **"The Assessment Sheet"** using the checklist below. You can self-evaluate or discuss with your colleagues to design your assessment sheet.

## Checklist

⇒ Results of self-evaluation or discussion with your colleague (e.g., type of assessment: peer/self/coach, grading instrument: rating scale, open questionnaire etc).

⇒ Was the trainee interviewed or observed?

⇒ Record the trainee's experiences (e.g.: was the trainee learned from the assignment?)

⇒ Record the strengths and weaknesses when conducting assignments for future improvement (e.g.: was the trainee experienced difficulty when using the assignment?)

⇒ The assessment sheet should include basic information about the work task, such as Instruction, Trainee's name, Individual or group, Semester, Work duration, Date of task completion, list of work tasks, grading instrument, method of assessment, type of assessment, the name of the observer (which refers to the coach or instructor) and date of evaluation.

⇒ Add new information in the assessment sheet that is relevant to your scenario/learning situation and state the reason for the new additional information.

**The Assessment Sheet**

# 6. SUMMARY

We hope that this Guideline 2 can help you prepare a Learn and Work Task for a formal learning environment. Using this Guideline 2, you will be able to:

1. Apply the Complete Action Cycle theory into practice
2. Identify work tasks and required action competence
3. Identify the requirements of the classroom setting or formal learning environment
4. Map the work tasks to the syllabus
5. Map the work tasks to learning objectives
6. Design assignments according to work task requirements (level of complexity and difficulty)
7. Choose the most appropriate grading instrument and type of assessment
8. Design assignment sheets
9. Design assessment sheets
10. Reflect on the selection and quality of assignments

# LITERATURE


Becker, M. & Spöttl, G. (2015): Berufliche (Handlungs-)Kompetenzen auf der Grundlage arbeitsprozessbasierter Standards messen. In: bwp@ Berufs- und Wirtschaftspädagogik – online, 28, 1-33. Online: http://www.bwpat.de/ausgabe28/becker_spoettl_bwpat28.pdf (retrieved 22.06.2021).

BMBF (2002a): Berufsbildungsbericht 2000. Bonn.

Dewey, J. (1950): Reconstruction in philosophy. New York. New American Library of World Literature.

Eckhardt, C.; Bölke, C. (1999): Lernen im Arbeitsprozess als didaktisch-methodisches Konzept, Band 3 des Zwischenberichtes (1996-1998) des Modellversuchs „Lernen im Arbeitsprozess - Qualifizierung an- und ungelernter junger Erwachsener mit dem Ziel eines anerkannten Berufsabschlusses“. Bonn.

Earl, L.M. (2003): Assessment as learning: Using classroom assessment to maximize student learning. Thousand Oaks, CA: Corwin Press.

Hacker, W. (1986): Work Psychology. Bern.

Phalasoon, S. (2017): School in Factory (SIF): an approach of Work Integrated Learning in Thailand. In: TVET@Asia, issue 9, 1-12. Online: http://www.tvet-online.asia/issue9/phalasoon_tvet9.pdf (retrieved 30.06.2017).

Roth, Y.-L., Schulte, S., & Spöttl, G. (2021): Perspectives and Criteria for Supporting Holistic Competence Development in Work-Processes. In: TVET@Asia, issue 17, 1-24. Online: http://tvet-online.asia/issue/17-1/perspectives-and-criteria-for-supporting-holistic-competence development-in-work-processes/ (retrieved 31.07.2021).

Hoepfner, H. D. & Koch, H. (n.d.): Self-reliant Learning in Technical Education and Vocational Training (TVET). Dual System Project. Kuala Lumpur: GIZ.

Schröder, T. & Dehnbostel, P. (2007): Arbeits- und Lernaufgaben – eine arbeitsgebundene Lernform für die betriebliche Berufsbildung. In: P. Dehnbostel, H.-J. Lindemann, C. Ludwig: Lernen im Prozess der Arbeit, Waxmann Verlag, Münster, p. 291-300.

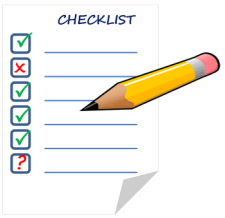
Schröder, T. (2009): Arbeits- und Lernaufgaben für die arbeitsprozessintegrierte beruflich-betriebliche Weiterbildung - Ergebnisse aus einem Handlungsforschungsprojekt. In: bwp@Berufs-und Wirtschaftspädagogik - online, Ausgabe 17, 1-23. Online: www.bwpat.de/ausgabe17/ schroeder_bwpat17.pdf (17-12-2009).

Schulte, S. (2018): Work- and Learning Tasks as a Central Element of a Work-process Oriented Curriculum. In: TVET@Asia, issue 11, 1-22. Online: http://www.tvet-schulte_tvet11.pdf (retrieved 30.06.2018).

Tūtlys V. & Georg Spöttl G., (2017): "From the analysis of work-processes to designing competence-based occupational standards and vocational curricula ", European Journal of Training and Development, Vol. 41 Iss. 1, pp. 50 - 66.

Volpert, W. (1983): The model of hierarchical-sequential action regulation. In: Hacker, W.; Volpert, W.; Cranach, M. (ed.): Cognitive and motivational aspects of action. Bern, pp. 35-51.

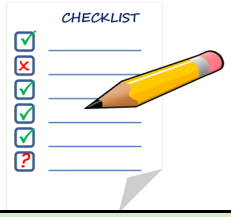
# SURVEY




Please rate your satisfaction with infographics as a teaching-learning strategy. Kindly tick the box that best represents your level of agreement regarding each statement.

| Description | Strongly disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|
| The infographic helped me understand the concept. | ☐ | ☐ | ☐ | ☐ | ☐ |
| The infographic was visually appealing. | ☐ | ☐ | ☐ | ☐ | ☐ |
| The infographic had a cohesive message. | ☐ | ☐ | ☐ | ☐ | ☐ |
| The infographic had an overwhelming amount of information on it. | ☐ | ☐ | ☐ | ☐ | ☐ |
| The infographic had some distracting elements which did not contribute to the overall message. | ☐ | ☐ | ☐ | ☐ | ☐ |

*The questionnaire was adapted from Chicca J. and Chunta K. (2020) Engaging students with visual stories: Using infographics in nursing education, Teach Learn Nurs, 15 (1) (2020), pp. 32-36.




Kindly answer each question in the space provided below.

| Question | Answer |
|---|---|
| What did you like best about the infographic? | |
| How could this infographic have been made better? | |
| Ideas for content you would like to see as an infographic (perhaps something complex you need help understanding)? | |
| Additional comments? | |
| Did the work sheets provided in this guideline help you to better understand the development and implementation of LWT? | |
| Did the examples provided in this guideline help you to better understand the development and implementation of LWT? | |

*The questionnaire was adapted from Chicca J. and Chunta K. (2020) Engaging students with visual stories: Using infographics in nursing education, Teach Learn Nurs, 15 (1) (2020), pp. 32-36. The last two questions were added to explore the participants experiences when using the guideline (e.g., work sheets and examples).