



GLOBAL WIND
ORGANISATION

GWO Taxonomy

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Introduction to the Taxonomy Annex

This annex presents the GWO Taxonomy.

Purpose

The purpose of the GWO Taxonomy is to establish a principal framework for describing, planning and conducting and auditing training and learning activities.

All employees in the wind turbine industry shall be sufficiently trained and have the abilities required to carry out their work in a safe and injury free work environment at all times. This taxonomy supports that by establishing a principal framework to plan and conduct training and learning activities from.

The effect of applying the GWO Taxonomy will be:

Quality assurance – more effective training and auditing of training.

Removing barriers – identical, updated and detailed requirements for planning, conducting and assessing training.

Mobility of work force - The focus is transparency hence mobility of both educations and work force through globally comparable learning objectives and levels of educations.

The GWO Taxonomy offers:

- Digital advise when feasible.
- Improved instructions and guidance for auditors.
- Improved guidance and support for Training Providers when transforming learning objectives into both focused and assessable learning activities.
- International education framework – Global aligned and updated definitions and learning processes.

The framework of the GWO Taxonomy, including descriptions of action-verbs, examples on how to conduct learning activities, digital feasibility advise and requirements for evaluations and assessments, is applicable:

- When developing and reviewing training standards
- When planning both theoretical and practical learning activities
- When evaluating or assessing participants understandings and performance
- When auditing courses and trainings
- When comparing courses and trainings internationally.

The taxonomy

The focal point in the taxonomy is the action verbs used in the GWO Training Standards learning objectives. The verbs are presented with **increasing complexity** in relation to knowledge, skills and abilities, thus specifying the taxonomy level and the context in which the verbs should be addressed and applied when planning learning activities, evaluations and assessments.

Prior to each section, a definition of what is meant by knowledge, skills and abilities respectively is presented. In addition, a section for each taxonomy level for knowledge, skills and ability describes the different aspects of each level.

Prioritized **keywords** are highlighted throughout the document.

Furthermore, examples of learning activities that lead in the direction of the objectives are presented and argued for in relation to the learning process as well as examples of ways to evaluate the participants' learning outcome from a training.

The taxonomy and the presentation of action verbs in the **progressive order** imply that the previous taxonomic competences are already achieved.

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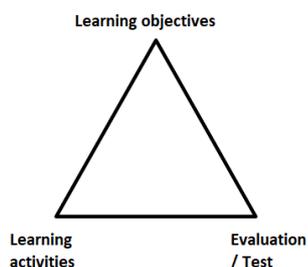
Definitions

Action verbs

Specific actionverbs indicate a taxonomic complexity level that **calls for specific learning activities** for the participant to reach the decided learning objectives. During the learning activity the participant shall practice doing what the action verb indicates.

In addition to this, *evaluation in action* (Instructor's assessment sheet or observation) as well as evaluation at the end of a module or a training becomes **transparent**, when the participant's ability to meet the standard is assessed by comparing the participant's performance with the action learning verbs.

Coherence between objectives, activities and evaluation



Coherence between the **learning objectives** (what ability do we expect to observe in the end?), the **learning activities** (what we do to learn the expected?) and the **evaluation** is essential. The aim with this alignment is partly to conduct learning activities aiming to reach the learning objectives (directed by learning verbs), partly that evaluation or testing is done in close coherence with the abilities the participant has practiced during the learning activities.

Fidelity

Fidelity is about creating training environments that are **realistic** and as equal to reality as possible. When focusing on creating fidelity in the training environment, the transfer of knowledge, skills and abilities from the training situation to the actual work reality will be ensured. Hence the interrelation of fidelity and transfer should always be kept in mind.

Learning objectives and enabling learning objectives

GWO uses the term **learning objective** in connection with training standards and certifications. The learning objectives of a training describe what a person with a given certification is expected to know and be able to do.

In Training Standards, learning objectives describe what the learner knows or can do as the result of a learning process.

The concepts of **knowledge, skills and ability** are used to describe a learning objective. Definitions of knowledge, skills and ability is presented in three levels: basic, intermediate, and advanced level.

Thus, a concrete description of a learning objective indicates the knowledge, skills, and ability a person with a given certification is expected to possess.

Enabling learning objectives are further sub-specifications of the learning objectives. Enabling objectives are what the instructor should be concentrating on when observing the participants performance and development. Furthermore, evaluation should be focused on the enabling objectives as well as on the learning objectives.

Taxonomy

A taxonomy of learning objectives is the attempt to classify forms and progressive levels of learning. With the classification of learning, GWO identifies knowledge, skills and ability as three domains of learning, where each of the domains is organised as a series of taxonomic levels and pre-requisites.

Thus, each level in the taxonomy refers to how well we can perform.

The framework

The GWO Taxonomy is based on **multiple global qualification frameworks** in the scope of lifelong learning.¹The focus is transparency hence mobility of both education and work force through comparable learning objectives and levels of educations.

The level descriptors for Lifelong Learning are based on the concepts of knowledge, skills and ability.

¹ e.g. The African Continental Qualification Framework (ACQF) Factsheet (2020), Australian Qualification Framework (www.training.com.au), OECD report (2016) on Organisation and Management of Education in China; European Qualification Framework, UNESCO/UNEVOC world TVET database on USA

The GWO Taxonomy

Knowledge

Definition of knowledge:

Knowledge means **knowledge** and **understanding** of a topic. Knowledge contains the following aspects:

The type of knowledge involved: knowledge about theory or knowledge about practice; knowledge of a topic or a field or within a profession.

The complexity of this knowledge: the degree of complexity and how predictable or unpredictable the situation is in which this knowledge is mastered.

Understanding: the **ability to apply one's knowledge** in a context. For example, understanding is expressed when one explains something to others.

Knowledge on the basic level

Definition of knowledge on the basic level

Knowledge on the basic level implies that the participant is **familiar** with the given topic, thus being able to describe the topic, name its constituent parts or simply refer to the topic.

Basic knowledge is observed by a one-dimensional objective: **"I can tell a fact"**.

How does it work - Reflection is essential for learning as it helps to clarify the understanding when the participant is spurred to relate to, interpret and learn the content. Furthermore, reflection helps to create a dynamic and varied learning process, in which the participant is active.

How to get there - Observing, naming and repeating names of objects and individual parts helps participants remember and recognize these. In addition, the participant describes the meaning of words and objects and how to apply them as well as where to seek guidance calls for reflection.

Action verb	Action verb applied in a learning objective, example
Name	The participant can name specific parts and items when presented to him/her
Recognize	The participant can recognize and name common tasks, situations, tools, and signs
Describe	The participant can describe the meaning of a word, a sign, or a notification relevant to the subject at hand

The participant can **describe** how to use a specific tool.

The participant can **describe** where to seek guidance in typical foreseeable situations.

The participant can **describe** which forms, regulations or signs are connected to specific procedures or operations (Where is this described or stated?)

The participant can **describe** known risks in common situations at the workplace.

How does the participant acquire basic knowledge?

Examples of **the participant's learning process**

The participant takes notes from a presentation or answers a simple test or quiz which will **initiate reflection** and thereby memory and learning.

The participant takes part in games or exercises with other participants to develop the understanding of the topic.

The participant **practices** how to describe the topics listed in the learning objectives or content.

The participant discusses the listed subjects in the peer group, and these discussions will expand the participant's **understanding** and familiarity with the topics, as the participant will be expected to translate his/her understanding into words, whilst at the same time receiving feedback from the peer group.

How does the instructor facilitate the learning process for the participant to acquire basic knowledge?

Examples of **Learning activities**

The instructor gives **short presentations** or instructions followed by the participant completing a simple quiz or questionnaire on screen, paper or digitally distributed in order to let the participants reflect on the topic and the learning points.

The instructor assigns **group work** for the participants to promote knowledge sharing among participants through discussions, competitions and interviews between the participants.

The instructor initiates **discussions** in groups or pairs. Topics for the discussions should be the learning objectives.

The instructor offers help and guidance and if needed the list of right answers.

Coherence with learning objectives and activities

Forms of **evaluation**

Synchronous Poll

Games

Quiz

Questionnaire with visual examples of the actual objects

Multiple choice test or combination test answers.

Questions aimed at the action verbs in the learning objectives.

Questions on the basic level of knowledge should address to which extent the participant has understood the information presented or processed. These questions normally call for short answers on memory or instinct.

Knowledge on an intermediate level

Definition of Knowledge on an intermediate level

The participant **knows about** how to perform or to utilize tools and techniques, and knowledge on this level can be observed as the participant explains his or her understanding. The participant can **account** for how things are done and what to do in commonly known situations in the professional context or can **explain** how a piece of equipment or a tool is used.

How does it work - When the participants exchange perceptions between them, it helps to clarify their individual understandings. Both because thoughts are being put into actual words, and because peer's thoughts help to put the individual understanding into context.

How to get there - Individual reflection is essential to gain knowledge on the intermediate level. The participant needs to both consider and test his/her understanding and to put it into play through dialog and discussion.

Action verb	Action verb applied in a learning objective, example
Account for:	The participant can account for procedures, processes and organisations of operations or units (How specific things are done or organised).
	The participant can account for which forms, regulations or signs are applicable to specific procedures or operations (What tool to use in a situation or a position).
	The participant can account for the causality or the relation between causes such as offshore environment, bad weather or working at heights and possible reactions such as risks of injuries (What could happen if . . .).
Explain:	The participant can explain how the individual components affect each other and make up a whole.
	The participant can explain the relations between risks, procedures or processes in relevant environments and possible effects of these relations. (Risks and benefits).
	The participant can explain how chosen actions or procedures can mitigate risks or improve actual processes or procedures.
Discuss:	The participant can discuss the current topic with colleges and other personnel at hand including pros and cons, risks, possible (standardized) actions.

How does the participant acquire intermediate knowledge?

Examples of the participant's learning process

- A) The participant receives feedback which is the strongest learning amplifier when the feedback is focused on what should be corrected and how it should be corrected. With the feedback, the participant knows **where to focus** to improve and the feedback tells the participant, what has been misunderstood.
- B) The participant is challenged to make an effort in achieving the correct answers, when the feedback guides him or her in a certain direction to find necessary information. This action creates **commitment** and **motivation**.
- C) The participant answers questions provided by the instructor to facilitate the participant's **reflection** on the topic– how does it fit with other or similar material? Which other understandings are at play? Which new actions may this new knowledge support?
- D) The participant fills out a test or quiz which initiates the reflection on the actual topic. In addition, the participant can assess a peer's test- or quiz results which will increase the learning outcome even more, as the questions and possible answers will be re-visited and thus **re-reflected** by both participants.
- E) The participant takes part in discussions in pairs or groups followed by individual- or group presentations which promotes deeper reflection by each participant and thereby relating further to the topic.
- F) Participants' presentations can be done as poster-presentations, vernissage or PowerPoint presentations – any way that challenges them to be proactive and creative on a reflected basis.

How does the instructor facilitate the learning process for the participant to acquire intermediate knowledge?

Examples of Learning activities

- A) The instructor initiates **group discussions** on the topic.
- B) Following the group discussion, the instructor guides the participants in creating either an individual- or group presentation on three good examples of the topic with the aim of challenging the participant to be **proactive** and **creative** about the topic on a reflective basis.
- C) The instructor posts questions that lead the participant to reflect on the material or topic – how does it fit with other or similar material? Which other understandings are at play? Which new actions may this new knowledge support?
- D) The instructor delivers **feedback** on topics that must be correctly understood and applied – typically safety rules and standard risk mitigation actions. To aid further understanding, peer feedback can be introduced as the topic(s) will be re-visited and thus re-reflected by both the recipient and the peer giving the feedback. This will lead to a deeper learning experience for both.

Coherence with learning objectives and activities

Forms of **evaluation**

- A) Test- or quiz questions as well as assignments on the intermediate level investigate how or to what extent the newly acquired understanding fits into the participant's own knowledge or experience.
- B) Questions that seek to find out to what extent the new information or knowledge corresponds to former understandings or how the new knowledge may be applied in action.

Knowledge on advanced level

Definition of Knowledge on advanced level

The participant **understands** a topic in a holistic view, where pros and cons, risks, advantages and disadvantages are considered forming the background for reflected **assessments** or **decisions** for action.

How does it work - Critical, structured and constructive **reflection** is the foundation for deep knowledge and understanding, where the participant assesses or evaluates a situation, a challenge or a topic and considers the applicability of a solution.

How to get there - When we test our understandings between peers or alone - in action, discussions, dialog, case- or project work, presentations, or feedback - our beliefs and experiences are put into perspective. Especially feedback offers new perspectives and helps us to adjust, modify or develop our knowledge and understanding.

Action verb	Action verb applied in a learning objective, example
Reflect	Reflection is critical and constructive thinking, where the participant compares views, solutions or procedures with own experiences and expectations to decide an action, conclude an assessment or assess possible consequences of relevant actions.
Assess	The participant can assess the situation to decide relevant and responsible action. The participant can assess a situation or the behaviour of colleges or peers to provide feedback or guidance.
Explore	The participant can explore a material (including tool instructions, technical handbooks, and relevant guides) to solve an actual problem or for personal competence development. The participant can explore an occurrence in order to clarify causes or explanations.
Choose	The participant can choose measures based on assessment of the causality or the relation between causes and possible reactions (What to do if, how to prevent...)

How does the participant acquire advanced knowledge?

Examples of the **participant's learning process**

- A) The participant builds upon current knowledge and experience. Being heard and involved in the process creates **motivation**, confidence and curiosity to learn and to develop and expand his or her knowledge.
- B) When the participant is faced with more challenging or provocative questions or case problems that are designed to gain a broader perspective, the participant **reflects** on the topic when discussing or solving the challenge.
- C) After performing an action, the participant is encouraged to reflect upon own perspectives, needs and expectations which is thereby transformed into **new experiences** – thus new knowledge and abilities.

How does the instructor facilitate the learning process for the participant to acquire advanced knowledge?

Examples of **Learning activities**

- A) The instructor creates learning activities that build on the participants already acquired knowledge and experiences. The instructor should try to **uncover the level** and content of relevant knowledge amongst the participants. Only with this information will it be possible for the instructor to facilitate that the participant builds new knowledge or builds on prior existing knowledge.
- B) The instructor initiates short group talks and presentations or makes an in-depth-quiz for exploring relevant to the topic at hand. Exploring the participant's experiences helps the instructor **to focus the following presentation** and assignment and *being* explored is a great motivation for the participants. Furthermore, the activity warms up their cognitive curiosity and interest.
- C) The instructor presents a short presentation that challenges the participants with **new perspectives**.
- D) The instructor gives the participants a **challenge**, where the participants reflect on their individual understandings and believes.
- E) The instructor guides the participants to produce a short **video** showing the setting, the challenges and the solutions of a specific topic. The instructor provides each individual **feedback** on their performance.
- F) The instructor facilitates the participants to plan and perform a **role-play** that presents the setting, the challenges, and solutions of a specific topic. The instructor provides each individual feedback on their performance.

Coherence with learning objectives and activities

Forms of **evaluation**

- A) **Questions** on this level should make the participant reflect on how the new understanding corresponds to former understandings. In addition, the question could look for the participant's

ability to decide what action to choose within a given topic and if the participants are able to decide an action on their own.

- B) **Observe and assess** the participants during the learning activities and training sessions with the aim of assessing to what extent the participants comply with the learning objective. Assessment of knowledge may also be done in connection to skills-training activities.

Skills

Definition of Skills:

Skills means what a person can do or accomplish. Skills contains the following aspects:

The type of skill involved: practical, cognitive, creative, or communicative.

The complexity of the action to be carried out: the task or case in which the skill is to be applied, and the complexity of this task.

Communication: the communication that is required, the complexity of the message, to which target groups and with which instruments.

Skills at the **basic level**

Definition of skills on the basic level

The basic level is about basic cognitive and practical skills required to apply relevant instructions and procedures to carry out tasks and to solve routine problems using simple rules and tools.

How does it work - A limited level of reflection is required, although the foundation of acquiring skills at the basic level is controlled and **repeated exercises** of the actual skill.

How to get there - A calm and **safe learning environment** is a prerequisite for acquiring skills on the basic level. The participants must be able to focus only on what they are about to learn. Only when the basics have been acquired the instructor may begin to create a more realistic environment for the learning activities.

- A) When working in small groups, all participants are **active** and learning as they create new **experiences**.
- B) Cooperation in groups creates energy and dedication, and each participant must commit to the task and to the **mutual responsibility** for the learning process.
- C) The participant learns, when actually *doing* something – when **trying** to do as been taught, and when **reflecting** on the efforts and results

Action verb Action verb applied in a learning objective, example

Copy/imitate: The participant can **imitate** an action presented by the instructor or other media

Repeat:

The participant can **repeat** actions or action steps without further instruction or supervision.

How does the participant acquire basic skills?

Examples of the **participant's learning process**

- A) The participant **copies** the action presented to him/her. The action is an isolated action with one or a few steps. This type of action trains a motoric skill and as such does not call for explicit reflection nor creation of experience.
- B) An action is presented, and the participant **repeats** the action under the instructor's supervision until the participant can repeat the action without supervision. When the participants exercise in **pairs** or small teams, the individual learning processes are **intensified** as each participant must concentrate on own performance as well as the performance by peers.

How does the instructor facilitate the learning process for the participant to basic skills?

Learning activities

- A) The instructor **presents** or describes an action to be copied by the participant. The action could also be presented by video or by peers.
The instructor corrects the participant's imitation when needed.
- B) The action may be exercised under the direction of the instructor or in **pairs or small teams**.
- C) When exercising in pairs or small teams the instructor should only intervene when serious errors occur.

Coherence with learning objectives and activities

Forms of evaluation

Observing in action. It is only possible to assess whether the participants have achieved the learning objective, if the skills have been observed in action.

Hence skills must be observed and evaluated in action.

On the basic level the instructor has the participant to demonstrate the skill or the action at hand.

"Show me"

Skills at the intermediate level

Definition of Skills at the intermediate level

At the intermediate level, the participant masters the skills to such an extent that the participant can test the **applicability** of the skill and **distinguish** between relevant and less relevant situations to apply the skill in.

How does it work – the participant must follow the instructions to reach the objectives. And afterwards, both the effort and the result must be reflected upon – what happened, what made it work or what did not, and what to do next?

How to get there - Best Practice is the aim of the exercises, and the active learning efforts of the participants during the exercises initiate and propel the learning process.

Action verb	Action verb applied in a learning objective, example
Apply:	The participant can apply the knowledge and skills into action.
	The participant understands the safety standards and is familiar with the safety equipment in such a way that the participant can apply these in relevant situations
Distinguish:	The participant can distinguish between correct or incorrect actions to be taken in actual situations.
	The participant can observe and distinguish between actions following or not following actual rules and regulations.
Perform:	The participant can perform a given task by following a set of instructions.

How does the participant acquire skills on the intermediate level?

Examples of the **participant's learning process**

- A) The strongest **learning amplifier** is when the participant receives **feedback** and when the feedback is focused on what should be corrected and how it should be corrected. With the feedback, the participant knows where to focus to improve and the feedback tells the participant, what has been misunderstood.

- B) The participant is **challenged** to do an effort in achieving the correct answers, when the feedback guides him or her in a certain direction to find necessary information. This action creates **commitment** and motivation.
- C) The participant reflects and constructs **new understandings** when answering questions on the topic– how does it fit with other or similar material? Which other understandings are at play? Which new actions may this new knowledge support?
- D) The participant fills out a test or quiz which initiates the reflection on the actual topic. In addition, the participant can assess a peer’s test- or quiz results which will **increase the learning outcome** even more, as the topic and possible answers will be re-visited and thus re-reflected by both participants.
- E) **Deeper reflection** is promoted, when the participant takes part in discussions in pairs or groups followed by individual- or group presentations and thereby relating further to the topic.
- F) Participants’ presentations can be done as poster-presentations, vernissage or powerpoint presentations – any way that challenges them to be **proactive** and **creative** on a reflected basis.

How does the instructor facilitate the learning process for the participant to intermediate skills?

Learning activities

- A) The instructor provides short demonstrations of the skill to be trained followed by the participants **practicing** the skill in pairs or small teams in scenario-based situations.
- B) The instructor facilitates that the participants can practice in a **simulated environment** which gives the instructor the possibility to adjust the challenges and the level of difficulty – for example waves or wind, working at heights or flames and heat.
- C) The closer to the work reality the exercises are designed, the better - in reference to the interrelation of fidelity and transfer.
- D) By mitigating the challenges or risks, the instructor can direct the **focus for learning** in the desired direction and at the same time establish **confidence** and a feeling of being safe in the participant.
- E) Reversely by intensifying the environment and challenges and the risks in the simulation, the instructor can **challenge** the participant, thus creating **courage**, willingness to prevail and foster the development of spirit and **character**.

Coherence with learning objectives and activities

Forms of evaluation

- A) Assessment *in action*. On the intermediate and the advanced level compliance with the learning objectives must be assessed *in action*.
- B) The participants must demonstrate their skills in relevant cases or task-solving in an environment as close to the work reality as possible.
- C) Activities used for evaluation must be as equal to the learning activities as possible. With reference to the alignment requirement, there should be no content-related surprises in the evaluation activities in relation to the conducted learning activities and training sessions.

Skills at the advanced level

Definition of Skills at the advanced level

Characteristic of the expert at the advanced level is the ability to **experiment** and refine the skills and to **evaluate** and reflect on his or her own behavior and reactions in relevant situations.

How does it work – When the participant tries and fails and then succeeds in order to reach the objectives and reflect on the effort and the results, new experience builds up inside.

How to get there – The participant works with little or no instruction in order to develop self-confidence in the action, and feedback from instructor or peers is essential.

Action verb

Action verb applied in a learning objective, example

Evaluate:

The participant can **evaluate** his own and other's **performance** in relation to the actual challenge, subject or topic.

Select:

The participant can **select** and **perform** proper action in task solving.

Experiment:

The participant understands the context at hand and possesses sufficient knowledge and skills enabling him to **find best solutions** through experimenting.

How does the participant acquire advanced skills?

Examples of the **participant's learning process**

- A) The participant **tries** different solutions and **reflects** on the outcome caused by the solution. Thereby the participant obtains the ability to select the best suited way of acting in a known situation.
- B) The participant learns from trying and reflecting, as well as when receiving or by giving peer-to-peer **feedback**, because the participant hereby is challenged to make sure, that the statements are correct and sufficient. And by putting the experience into spoken words strengthens the understanding.

How does the instructor facilitate the learning process for the participant to advanced skills?

Learning activities

- A) The instructor creates learning activities that include experiments, practice for participants, testing of the participants' skills and understanding, group work, scenario-based projects and case work, discussions, games, simulation as well as guiding by the instructor.
- B) The instructor should organize the process, present the task, initiate the learning activity and facilitate **feedback** or peer feedback to conclude the task.
- C) On the advanced level, the participant often requires a significant degree of **freedom** to test how a skill is best applied in combination with other knowledge, skills or abilities.

Coherence with learning objectives and activities

Forms of **evaluation**

- A) **Skills** on the intermediate and the advanced level cannot be evaluated in words. Skills must be **demonstrated**.
- B) As a supplement, the instructor may ask **elaborating questions** aimed towards the participant's argument behind a chosen action.

Ability

Definition of ability

Ability covers our capacity to act responsibly, safely, and independently or in cooperation with others to meet a challenge or to get the job done. When we act, we make use of our knowledge and skills together with our both personal and professional experience, attitude and personal characteristics.

Ability contains the following aspects:

Responsibility, safety and cooperation is about both the ability to take responsibility for one's own work and safety as well as of others and the level of complexity of the cooperative situations in which one can engage.

Space for action: the type of work and/or study-related contexts in which the knowledge and skills are brought into play, and the degree of unpredictability and changeability in these contexts.

Learning: the ability to take responsibility for one's own learning and that of others.

Ability at the basic level

Definition of Ability at the basic level

The participant can act independently in **familiar work situations**.

How does it work – when the participant succeeds by trying out alone and when bringing relevant experience into play, the participant develops a positive attitude and responsibility towards the subject and the solution.

How to get there - positive motivation is the driving force for commitment, and a focused effort should be given to creating the necessary attitude and motivation.

Action verb	Action verb applied in a learning objective, example
Interested:	<p>The participant shows interest or curiosity in the subject, topic, challenges, or solutions at hand.</p> <p>The participant shows interest and willingness to engage in a given task.</p>
Solve:	<p>The participant can solve routine tasks responsibly and will on their own initiative search for help or guidance when needed.</p>

How does the participant acquire ability at the basic level?

Examples of the participant's learning process

- A) The participant develops *ability* on the basic level by focused **application** and **testing** of the knowledge and skills.
- B) The participant reflects on how experiences and new information is best used to solve a given task. In the **reflection** phase, the participant finds out to what extent her or his skills and knowledge and attitudes are sufficient to get the things done properly.

How does the instructor facilitate the learning process towards ability on the basic level?

Learning activities

- A) The instructor facilitates participant discussions in groups. In these discussions, the participant **shares expectations** and **attitudes** toward professionalism and safety at the workplace or in the work community.
- B) A focused effort should be made by the instructor in creating **motivation** and the necessary driving force within the participant in order to have the participant show interest in taking responsibility for the work conducted. Topics could be the **individual's role** or part in the actual working community in relation to professionalism, work safety and mutual responsibility in the work conducted.

Coherence with learning objectives and activities

Forms of evaluation

Being able to evaluate the participants' abilities and attitudes toward the subject in question, requires that the participants **express** their thoughts and attitudes. This may be done through presentations of group-reflections or by exercises challenging the participants to decide an action and execute it.

Ability at the intermediate level

Definition of Ability at the intermediate level

The participant **commits** to the task or context and can act independently in familiar and **unfamiliar situations**, is able to identify connections and relations in work related situations as well as risks and **take initiative** for feasible mitigating actions on the job.

How does it work - the participant is urged to take responsibility for an action and is encouraged to carry it out. Motivation and self-esteem emerge every time the action leads to success or valuable learning experiences.

How to get there - the instructor must step back to let the participant's understandings and experiences be brought fully into play. Feedback must be challenging and aim to inspire the participant to adjust and to try out individual understandings and ideas in the learning environment.

Action verb

Action verb applied in a learning objective, examples

Take initiative:

The participant takes **initiative** to act responsibly when appropriate or necessary in both routine- and in newly or suddenly emerged situations.

The participant takes **initiative** to intervene and supervise in order to mitigate detected risks in relation to work safety.

Take responsibility:

The participant takes **responsibility** for maintaining and applying tools and equipment in accordance with standing procedures.

The participant takes **responsibility** for their own work and task solving.

The participant take **responsibility** for ensuring the ongoing mitigation of work risks – on their own as well as on others' behalf.

Act independently:

The participant has the ability and take responsibility and initiative to **act independently** in actual safety situations and work tasks.

How does the participant acquire ability at the intermediate level?

Examples of the **participant's learning process**

- A) It requires a high level of **commitment**, **readiness** and **willingness** to act, for the participant to take responsibility and initiate actions.
- B) When the participant's experiences and expectations are discussed, challenged or tested in discussions, quizzed or in high-fidelity scenario-based group assignments, the participant acknowledges the **role** and mutual **responsibility** in the working community and at the work site.
- C) Expectations and **mindsets** to be embraced should often focus on *"What can I do to maintain or develop: a safe work environment, a positive social community, a professional work community or a holistic attitude to the organisation and the operation of the work site."*
- D) When the participant's expectations and abilities are active parts of discussions and exercises, the participant develops **independence**, **creativity**, and a **driving force to act** and to learn.

How does the instructor facilitate the learning process for the participant at the intermediate level?

Learning activities

- A) The instructor must continually **prompt the participant** to bring his or her own understanding and experience into play on the participant's own initiative with the aim of developing and ensuring willingness to act, to take responsibility and commitment in the participant.
- B) The instructor assigns training tasks that are as close as possible to work reality and the tasks performed at work in order to ensure the **interrelation of fidelity and transfer**, and the instructor's focus should be on the participant's ability to take responsibility of the task solving as well as for the safety and professionalism applied.
- C) The level of **fidelity** should be **balanced** in relation to on the one hand a safe environment and on the other hand the need for realism in the situation.
- D) By intensifying the environment and challenges and the risks in the simulation wisely, the instructor can **challenge** the participant, thus creating **courage**, willingness to prevail and foster the development of spirit and **character**.
- E) Tasks should vary in how familiar and complex the individual participant experiences them in order to provide **sufficient challenge** for the participant.
- F) The instructor should focus **feedback** and questions towards the participant's immediate experience from the learning activity.
- G) The instructor must facilitate activities to promote further **reflection** and development of **mindset** from the participants.

Coherence with learning objectives and -activities

Forms of evaluation

- A) Evaluation of abilities and attitudes toward the subject in question requires that the participants express their thoughts and attitudes. This may be done through **presentations** of group-reflections or

by **complex exercises** challenging the participants to take initiative, take responsibility and to act without instructions or guidance.

Ability at the advanced level

Definition of Ability at the advanced level

The participant can apply knowledge, skills, experience and attitude – motivated by willingness, commitment and curiosity – to adapt and **act responsibly** in new ways, pay attention to the **safety of fellow workers** or to propose development of work- or safety processes and -procedures.

At the advanced level, **safety-awareness** and **responsibility** is an instinctive part of the attitude of the participant.

How does it work – Ability on the advanced level calls for broad **experience** and strong **commitment** by the participant. When feasible, the advanced level abilities should always be kept in mind as attractive additional learning objectives, when participants show signs of potential and capacity for developing further and more complex abilities.

How to get there - The participant should be **encouraged** to find **independent solutions** by being offered alternative challenges inside the scope or topic and by including multiple participants on different levels and with different roles in the actual case.

Action verb	Action verb applied in a learning objective, example
Adapt:	The participant adapts to new processes and procedures and applies relevant experience in the work solutions – including involvement of other work colleges, tools, and risk assessments.
Supervise:	The participant supervises the routine work of others and take some responsibility for the evaluation and improvement of their work activities.
Empower:	The participant invites less competent work fellows to take responsibility for their own task-solving in order to build individual commitment and responsibility through empowering .

How does the participant acquire ability at the advanced level?

Examples of the **participant's learning process**

- A) The participant develops self-esteem, commitment, and responsibility when met by **new challenges** in changing environments that require the participant to apply **alternative solutions**. Thereby, the participant explores and evaluates different solutions and their usability in changing environments.
- B) The participant **experiments** in the training environment and seeks guidance when needed. Sometimes the participant **fails** in this process and sometimes **he makes it**, and when given time and inspiration to reflect on the action and on the process, the participant learns and **commits** to the context.
- C) When the participant supervises and evaluates other workers and colleagues he or she must commit to the challenge and thoroughly **investigate** the task and **reflect** on how it is best solved.
- D) The participant applies his or her **experience** and **assessment** of other's professionalism in analysing to what extent empowering is feasible. The assessment would be in relation to risks, routine procedures and a need for guidance or not.
- E) By doing this, the participant's ability is put in perspective by clarifying to what extent the participants' **personal** and **professional competences** are adequate, and the participant discovers, what he or she needs to learn more about.

How does the instructor facilitate the learning process for the participant to acquire ability at the advanced level?

Learning activities

- A) Two important parts of the learning process are the **need to experiment** and the **right to fail**. Doing so is the only way for the participant to find his or her own way as well as the practical limits for possible solutions.
- B) The instructor facilitates new challenges that call for **trial-and-error-practice**. Such challenges should be conducted in as safe and flexible environment as possible.
- C) The instructor should apply a certain focus on the particularly experienced and capable participant in relation to **develop leading abilities**.
- D) The instructor should facilitate that the experienced participant assesses the situation and **takes initiative** to supervise or empower the co-participants during exercises.
- E) The instructor should observe and only intervene in case of risk of injury or accidents. In addition, the instructor provides debriefing including **feedback** and **constructive reflection** as this is essential for the learning process after an activity has ended.

Coherence with learning objectives and activities

Forms of evaluation

Abilities on the advanced level are not measurable and cannot be evaluated in a theoretical test.

- A) **Observation** of the participant's commitment and behaviour *in action* is necessary to assess the level of initiative, responsibility, professionalism as well as the communications skills of the participant.
- B) Feedback on this advanced level should include **questions** aiming at the participant's ability to reflect on the process as well as on the outcome of the completed exercise or training activity – what was successful and how could performance be improved?
- C) A questionnaire amongst all the participants aiming at their impression of the conduct by the experienced participant-in-focus may complement the instructor's observation and assessment. (**360-degree assessment**)