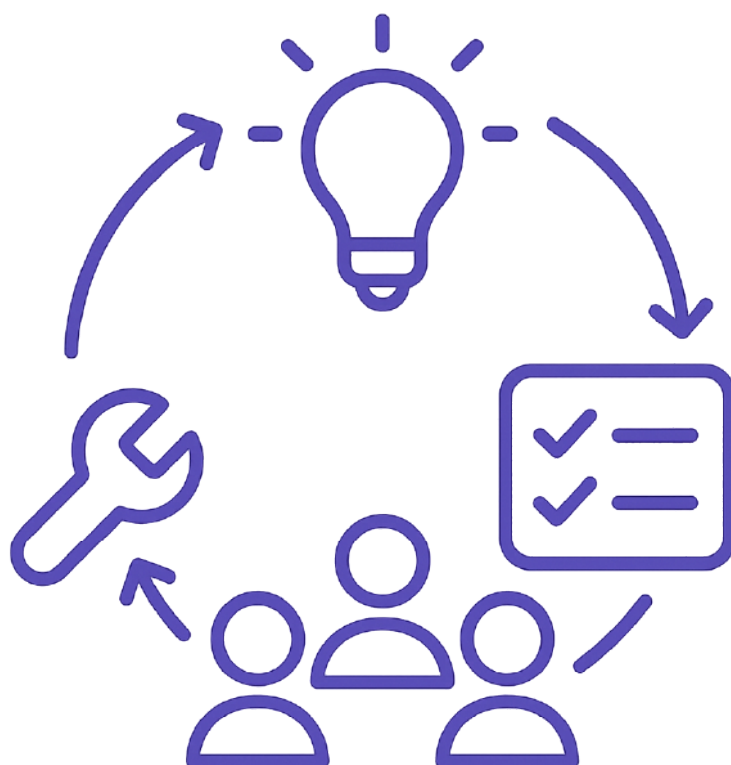


Best Practice n°1



Real Group Project - Immediate Theory-Practice Feedback

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- **Type:** Immediate Theory-Practice Feedback
- **Category:** Learning Methods
- **Method/Tool:** On-the-Job exercises, real cases
- **Best Practice Description:** Theoretical knowledge is applied directly in practical exercises, allowing learners to immediately see cause-and-effect relationships.

Background

LZH Laser Akademie GmbH (LAK) is a leading German VET-provider of training in the field of laser material processing. Since its founding in 2003, LAK participated in the development of DVS guidelines on professional qualifications.

IPH – Institut für Integrierte Produktion Hannover gGmbH - is a consulting and research company in the field of production technology. We focus on increasing the efficiency, digitalization and sustainability of the industry.

Overview of Best Practice Approach

The German national competition, held on 27 March 2025 as part of the AILEEN project, represents a strong example of practice-oriented training.

Similar to a skills competition, the format closely integrates theory, application, and assessment, enabling a holistic learning process.

Learning Approach

The training begins with a structured introduction that provides a solid theoretical foundation. Participants are introduced to destructive and non-destructive testing methods for welds, creating a shared understanding of key concepts.

This theoretical phase is deliberately kept concise and primarily serves as preparation for the subsequent practical activities.

Implementation in Practice

The core of the training consists of extensive, practice-oriented stations. In various laboratory environments, participants work on real-world testing and manufacturing processes, including:

- optical microscopy
- laser beam welding and brazing
- tensile testing
- visual weld evaluation

These rotating stations cover a broad spectrum of methods while encouraging a high degree of independent activity. Learners directly apply their knowledge and gain hands-on experience using industry-relevant equipment.



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Industry Relevance

Live demonstrations, such as additive manufacturing of polymer components or optical measurement methods, provide direct insight into current technologies and industrial applications.

This highlights the strong relevance of the training content for modern production environments.



Assessment & Learning Experience

A key element of the format is the concluding competitive challenge. Participants apply their knowledge and skills under realistic conditions, which:

- increases motivation
- fosters decision-making and teamwork
- supports time management skills

At the same time, this phase serves as an authentic form of performance assessment.

The event concludes with reflection and feedback, allowing participants to evaluate their experience and better understand their learning process.

Key Takeaway

The event demonstrates how practical training can be effectively designed through:

- close integration of theory and practice
- use of real technologies
- active involvement of learners
- authentic assessment situations

This approach not only imparts knowledge but, more importantly, develops practical competence—an essential factor for qualification in modern manufacturing.

Example Agenda of National German Skills League

Please see the following page for a real-life example of a National Skills League (Germany) agenda.



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08:00 – 08:20 CET Akademie	Welcome and organisational information <i>Staff LZH Laser Akademie GmbH</i> • Introduction and safety briefing • Insights into the AILEEN project • Procedure of the AILEEN competitions (National and European Skills Leagues)
08:20 – 09:50 CET Akademie	Theoretical principles for testing of welding seams <i>Staff SLV Hannover</i> • Destructive testing methods • Non-destructive testing methods
09:50 – 10:00 Uhr	Coffee break and way to the Laser Zentrum Hannover e.V. (LZH)
10:00 – 11:50 CET Shop floor / laboratory LZH	Practical stations for testing of welding seams • Station A: Laser brazing at the LZH • Station B: Laser welding at the LZH • Station C: Visual inspection and evaluation of weld seams / defect detection • Station D: Tensile test and welded tensile specimens / dye penetration test • Station E: Light microscopy - the weld seam in the micrograph (Staff Laser Zentrum Hannover e.V., approx. 15 min per station; 2 groups to alternate)
11:50 – 12:00 CET	Way to the IPH - Institut für Integrierte Produktion Hannover gGmbH
12:00 – 12:50 CET IPH	Insights into additive manufacturing and testing processes at the IPH <i>Staff IPH - Institut für Integrierte Produktion Hannover gGmbH</i> • Station 1: Live - Additive manufacturing of polymer components • Station 2: Live - Tensile test of polymers • Station 3: Live - Charpy notched bar impact test • Station 4: Optical measuring methods / GOM • Station 5: Measurement of surface qualities / Keyence (10 min per station; 7-10 people per group; 2 groups may alternate)
12:50 – 13:30 CET	Return to the academy and lunch snack
13:30 – 14:30 CET Akademie	Competition – German League of Advanced Manufacturing Inspection <i>Staff LZH Laser Akademie GmbH</i>
14:30 – 15:00 CET Akademie	Conclusion and farewell <i>Staff LZH Laser Akademie GmbH</i> • Feedback survey • Final discussion • What happens next? European League • Issue of certificates of attendance

Organiser:
LZH Laser Akademie GmbH
Tel.: 0049 511 277 1727

Venue:
Garbsener Landstraße 10
30419 Hannover

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