

iQVet project, WP3, Siófok, Hungary

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Work-Based Learning in Welded Structure Inspector education

iQVet project, WP3, Siófok, Hungary

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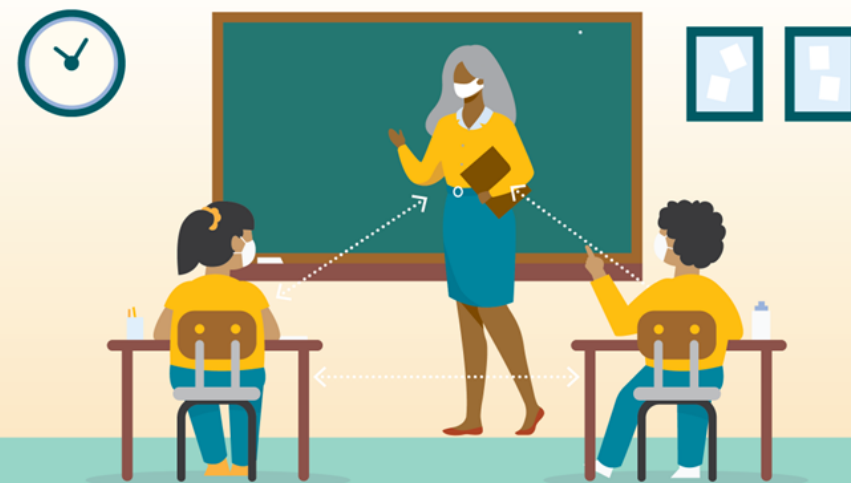
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Development of educational methodologies



Physical distancing



- **Place tables and chairs apart** between students
- **Stagger start and end times** of classes, lunch and breaks
- **Limit mixing of students** from different age groups and classes

Updated September 2022

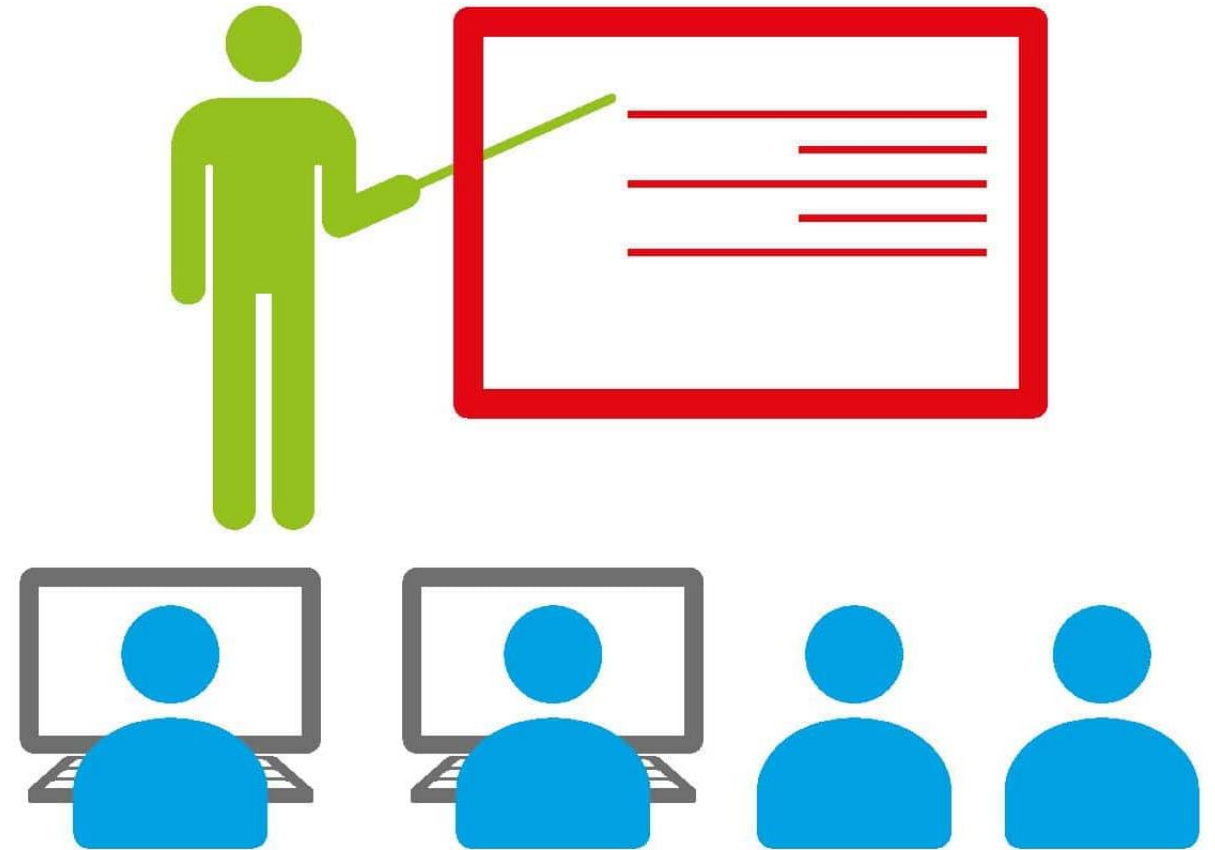
Adapted from materials developed by
WHO Regional Office for Europe

#Back2School #SafeSchools #COVID19

Face-to-face driver blended learning

In this method, the instructor gives the instructions, which she/he **supplements** with digital tools.

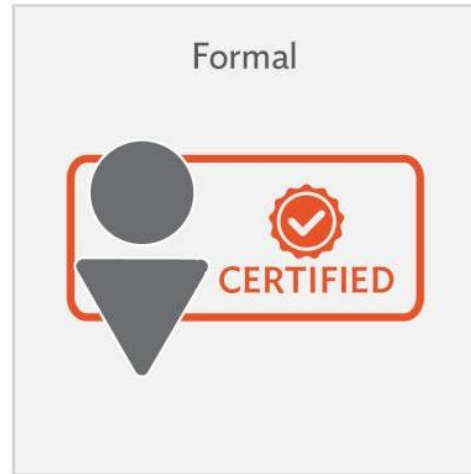
In parallel, the main part of the teaching is done **by the teacher**, who gives a presentation to the whole group.



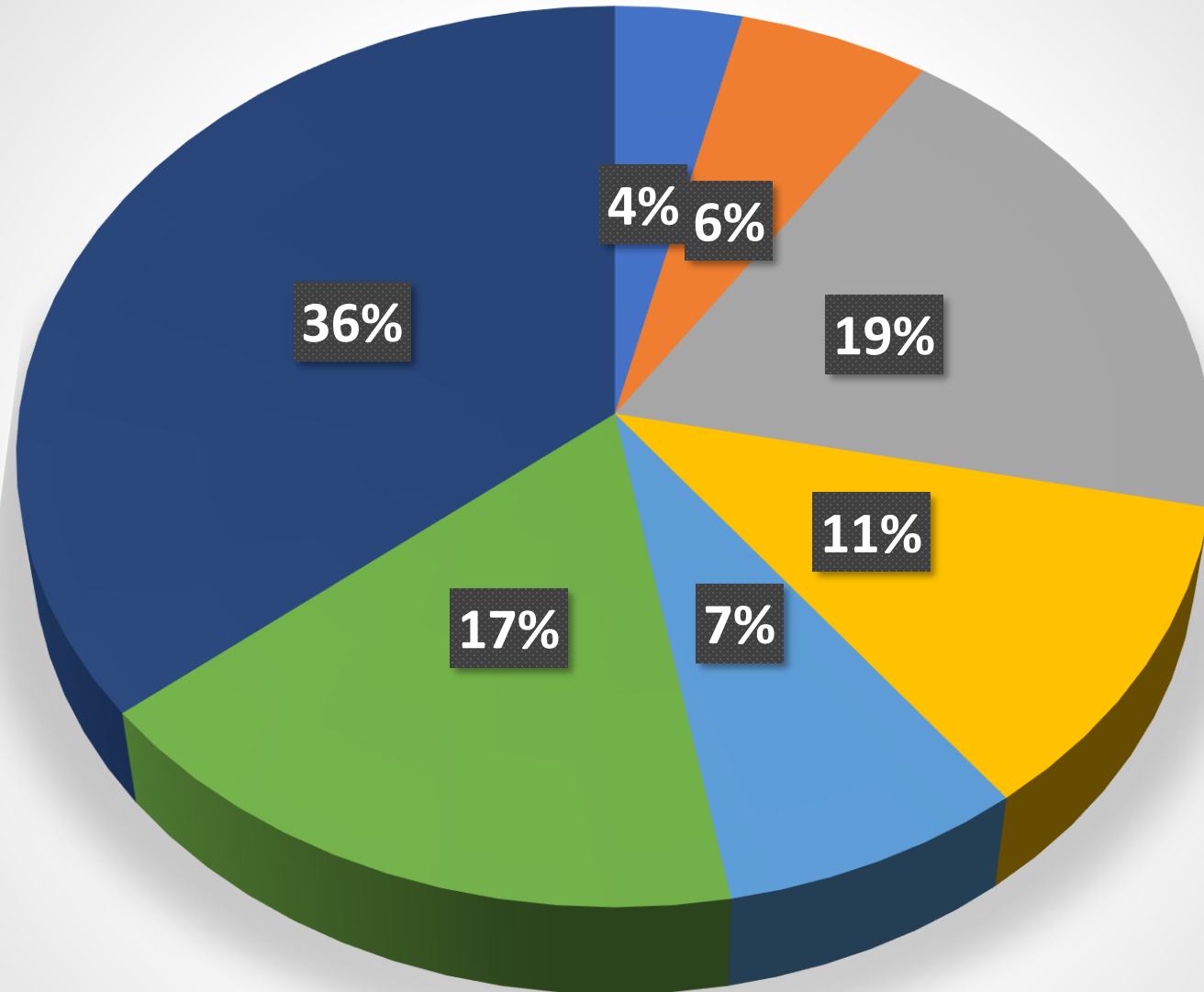
Work-based Learning

It provides students with **real workplace experience** where they can apply their scientific and technical skills and develop their employability.

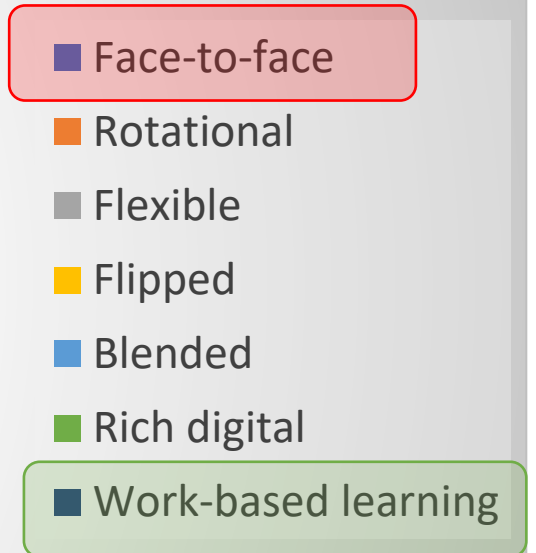
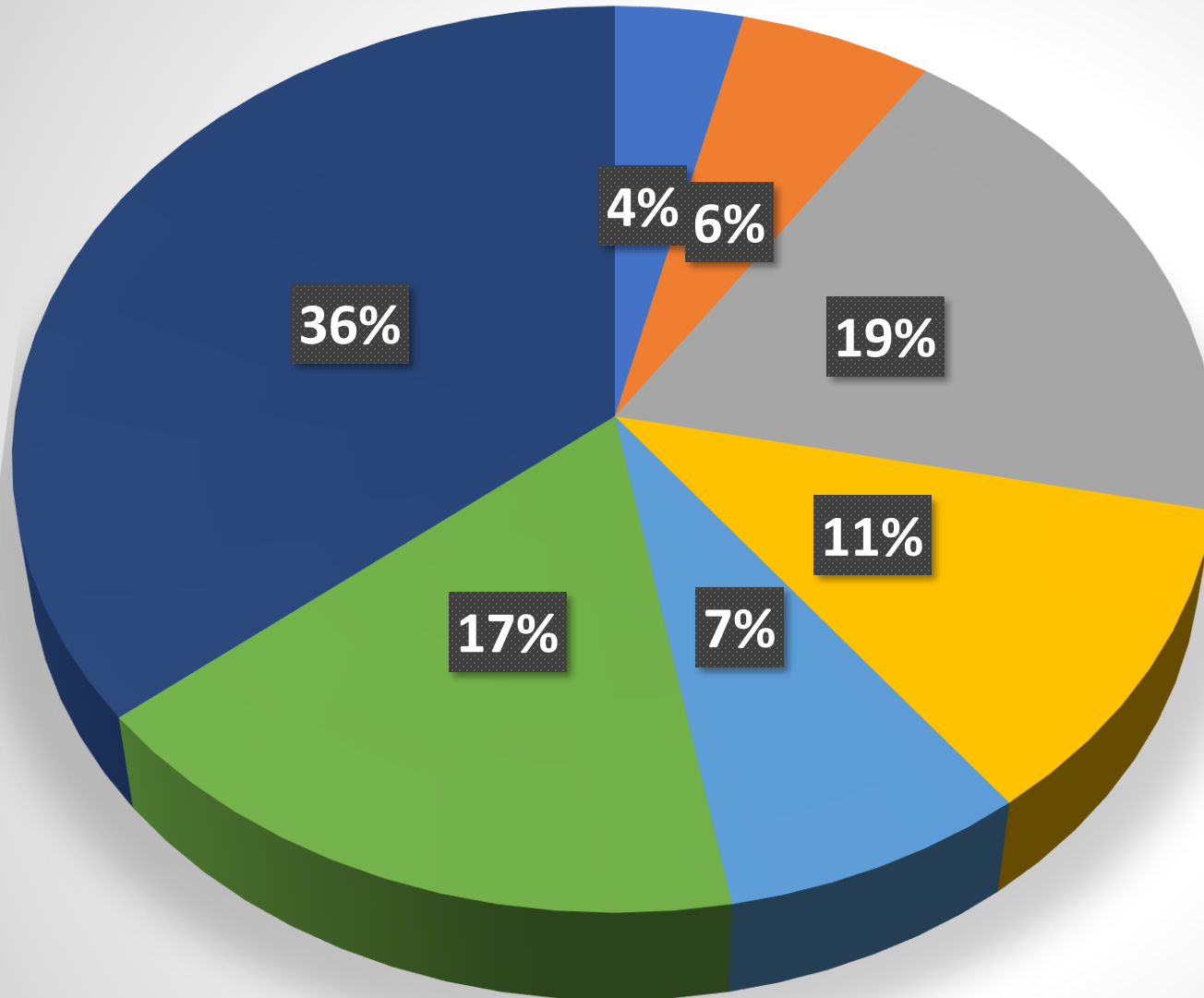
Work-based learning deliberately combines theory with practice.



Why work-based learning?



Why work-based learning?



Work-based Learning in Inspector Courses

Personal interviews, face-to-face

CU1: Introduction, prior knowledge

CU2: Contract, design

CU5: Economy

CU7: Destructive testing

CU8: Surface protection

CU10: Exam

Online teaching and monitoring,
through an LMS

CU3: Inspection plan

CU4: Production documentation

CU6: Non-destructive testing

CU9: Delivery documentation

Hands-on practical examples,
work-based learning in the
classroom or on-site



Work-based Learning in Inspector Courses – Key elements

1. Goal: teach inspection technologies
2. Groups in maximum 3-6 people
3. Parallel with theoretical basics
4. Individually creating and inspection plan of a welded structure according to a drawing (own product is preferred)
5. Evaluation together with the help of the tutor
6. Microcredential

Work-based Learning in Inspector Courses – Example

The image is a composite illustrating work-based learning in inspector courses. It features a large technical drawing of a ship's hull structure, overlaid with three photographs showing practical applications of the design.

Technical Drawing Details:

- Title:** "Korpuszsi részletek - vízvártószelvény" (Hull structure details - water-tight section).
- Material Table:**

Száma	Műanyag	Hossz	Ár
M1	Acél	1200	1200
M2	Acél	1200	1200
M3	Acél	1200	1200
M4	Acél	1200	1200
M5	Acél	1200	1200
- Table of Material Properties:**

Anyag	Ár	Ár	Ár	Ár	Ár
M1	1200	1200	1200	1200	1200
M2	1200	1200	1200	1200	1200
M3	1200	1200	1200	1200	1200
M4	1200	1200	1200	1200	1200
M5	1200	1200	1200	1200	1200
- Labels:** M1, M2, M3, M4, M5, R1, R2, R3, R4, R5, N1, N2, N3, N4.

Photographs:

- Close-up of a cylindrical metal component with a red weld.
- Welder in an orange shirt using a torch to weld a large metal pipe.
- Welder in a grey shirt using a yellow torch to weld a large metal pipe.

Summary

- Constant development in the STEM education is required
- Blended learning methods gained serious attention regularly
- Among blended methods work-based learning is one of the most preferred teaching method among engineering students
- In the Welded Structure Inspector course WBL can be realized in multiple competence units
 - Example: the design of the inspection and testing method of a real welded structure
- The evaluation is discussed together with the teacher
- After successful completion the student gets a microcredential in the mastered CU

A person wearing a white full-body protective suit, a white hard hat with a headlamp, and blue gloves is kneeling on a concrete floor. They are looking directly at the camera. To their left is a piece of grey equipment with a screen and buttons. The background is dark, with some yellow and blue markings on the floor and a white pillar on the right.

Thank you for your kind
attention