eLearning

The future of NDT-Trainings

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Agenda

⚠ **General NDT training information**
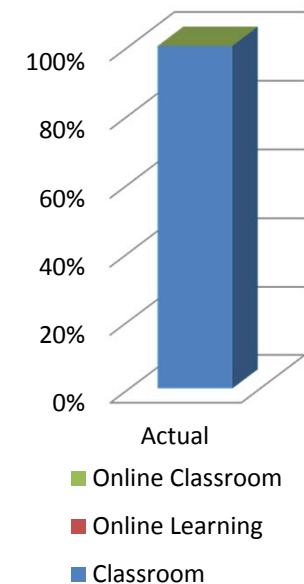
– State of the Art

– Reputation of eLearning

– Our Vision of eLearning

⚠ **eLearning @ Testia - Types of trainings**

– EN4179 trainings

– Device trainings

– Other trainings

State of the Art

- Face to face trainings in training centers
- Courses have to be booked in long time in advance
- Fixed locations and dates
- Participants and Trainers have to meet personally
- Each user has to create his own training
  for new devices and technologies

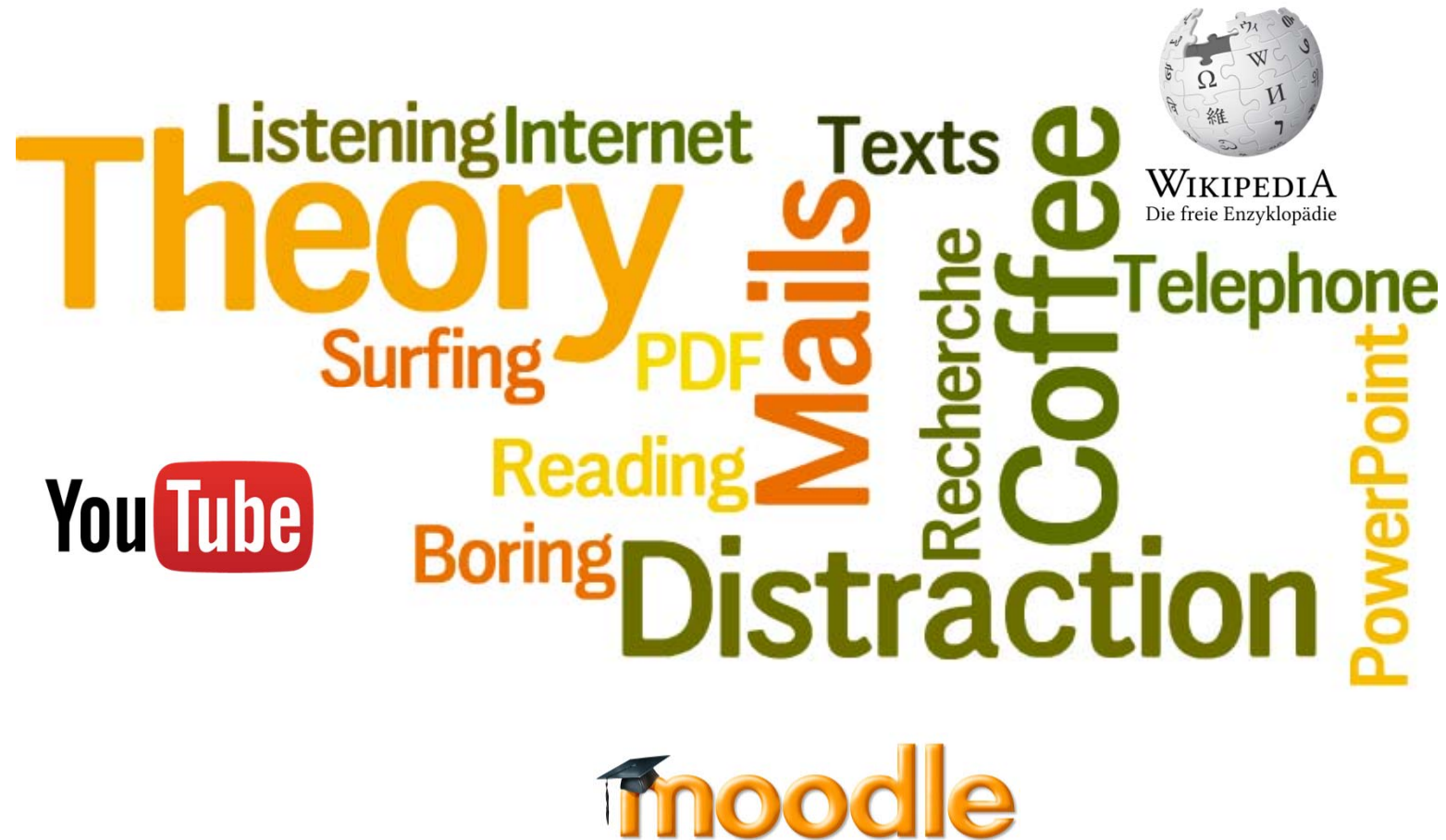# Question

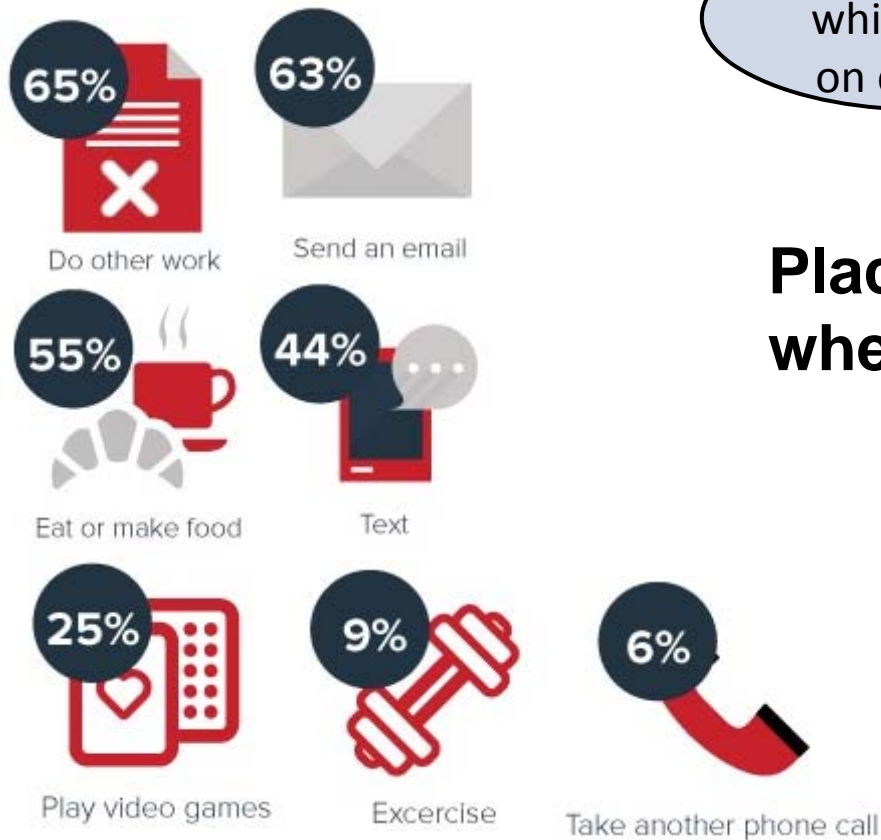If you think about eLearning:

What crosses your mind?

Reputation of eLearning

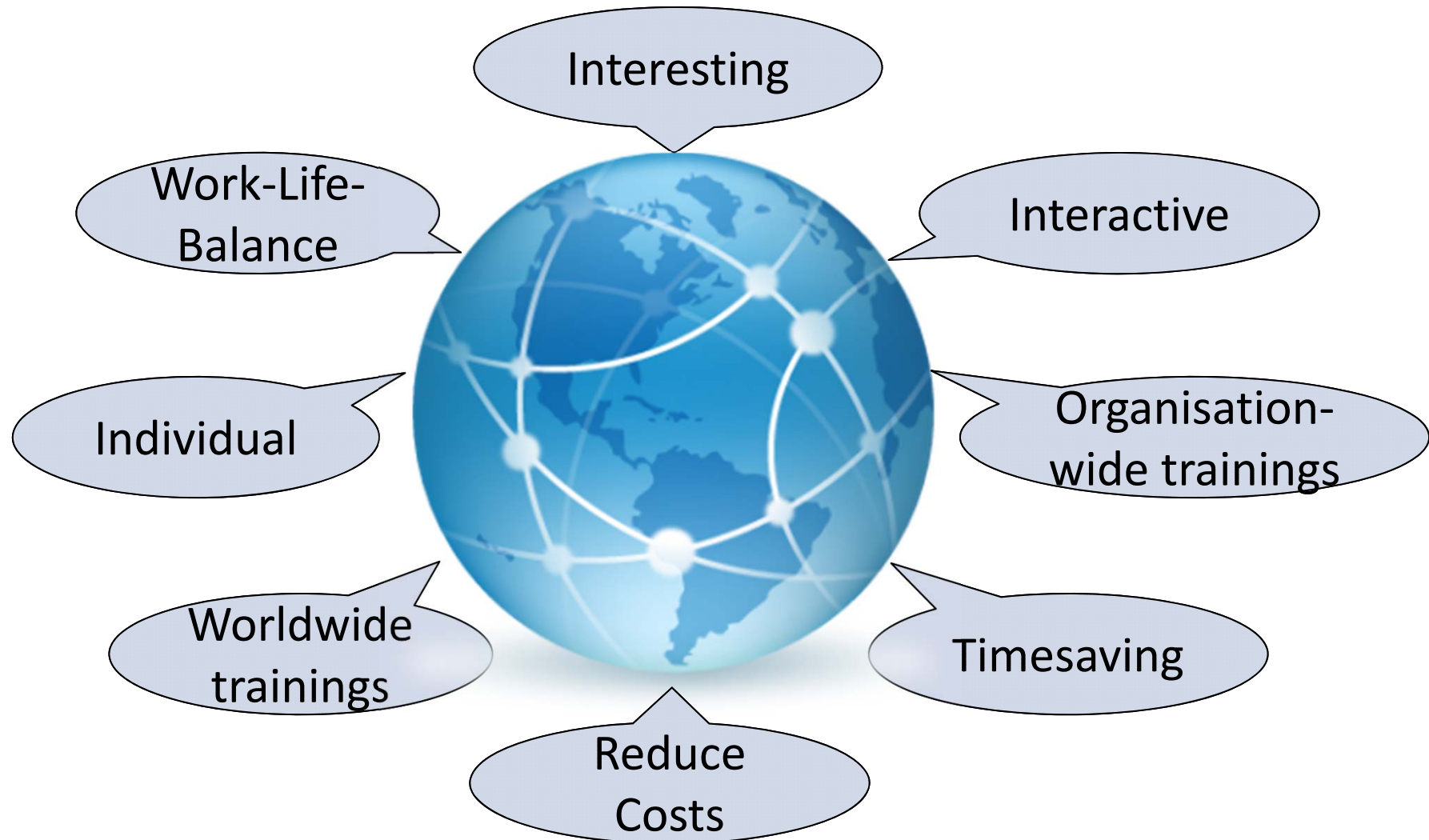# Facts About Conferences

We are all Multitasking Talents!

- 65% Do other work
- 63% Send an email
- 55% Eat or make food
- 44% Text
- 25% Play video games
- 9% Excercise
- 6% Take another phone call

Places where you take part!

„The Closet during a party"

„McDonald's Playplace"

„Fitting room while trying on clothes"

Disney world

„The beach… it was a video call so I kept my tablet up so that my bikini didn't show"

Survey by InterCall 08/2014

Our Vision of eLearning

Agenda

⚠ General eLearning information

– State of the Art

– Reputation of eLearning

– Our Vision of eLearning

⚠ **eLearning @ Testia - Types of Trainings**

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Training Types

NAS410 Spec 105 EN4179	Equipment Device Tools Software	Special Methods Processes Inspection Procedures
• UT • ET • RT • PT • MT • IRT	• ELCH • GECKO • NDT-Kit • ExoScan • Smart NDT Tool • …	• Visual Testing • CFRP inspection • PAUT • Special NTM/SB/ISB/…

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EN4179 – Three-Step-Strategy

Challenging Trainings
– High costs, long duration

Short > **Middle** > **Long**

Big educational differences of participants
– Maths
– Physics

Location independency
– Final Exams
– Equipment
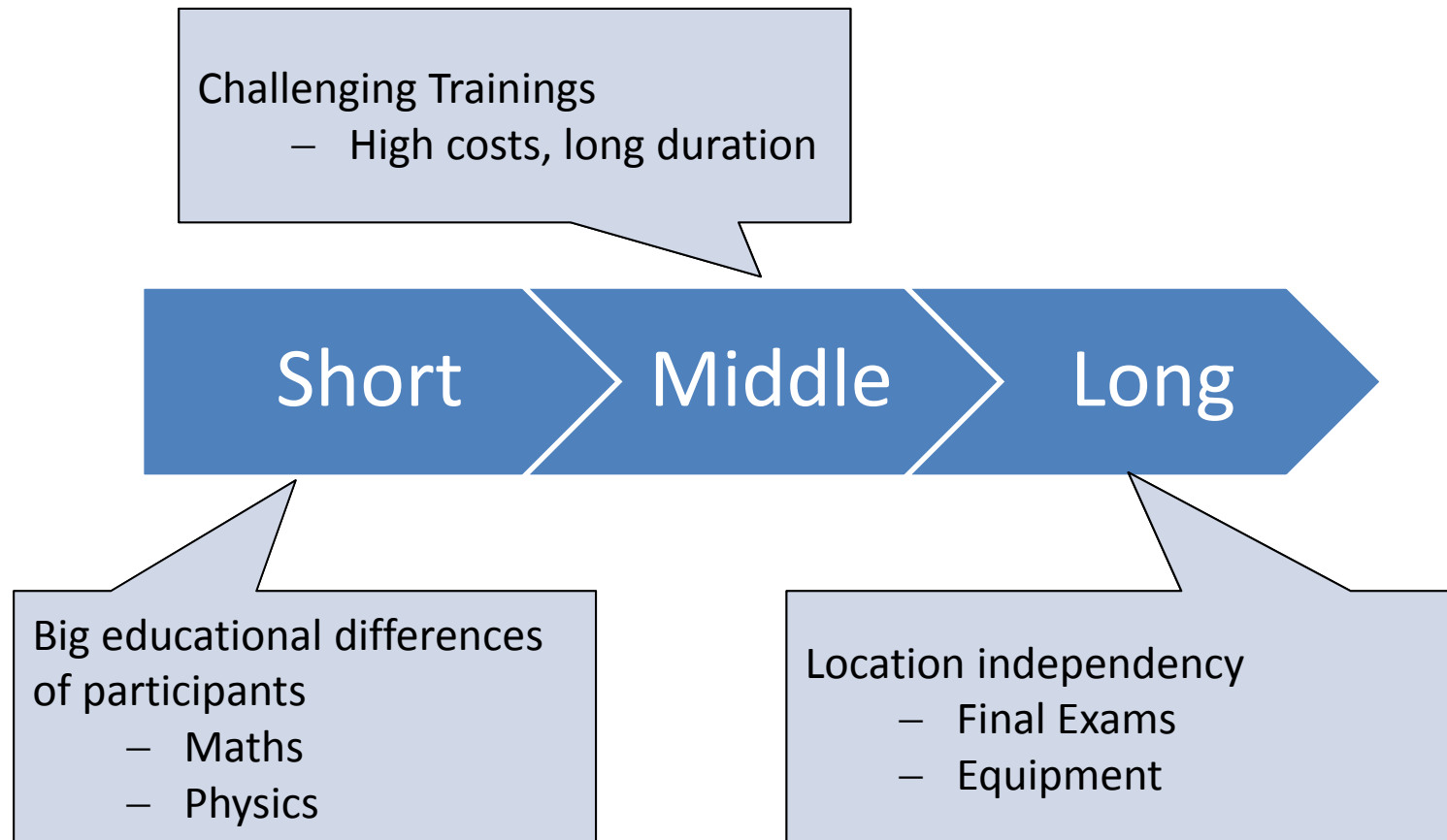
Short Term Approach

- ⚠ Online pretests to check for math and physics skill gaps
- ⚠ Based on the test results rating what needs to be trained before classroom training

- ⚠ 100% online based individualized private lessons
  - Focus on math and physics
  - Reducing skill gaps
  - Self paced online Learning

100%

80%

60%

40%

20%

0%

Short

■ Online Classroom

■ Online Learning

■ Classroom

B

c Hypotenuse

Opposite a

Adjacent

A

b

C

Short | Middle | Long
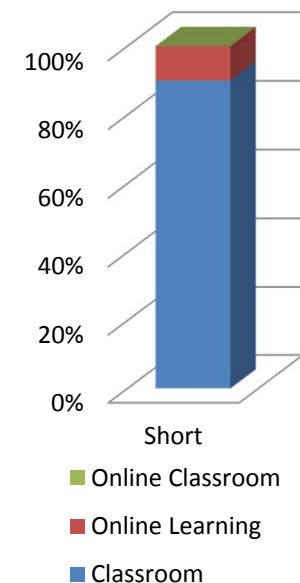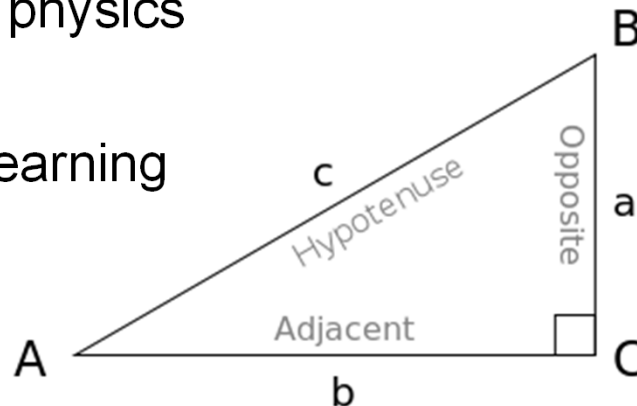
Middle Term Approach
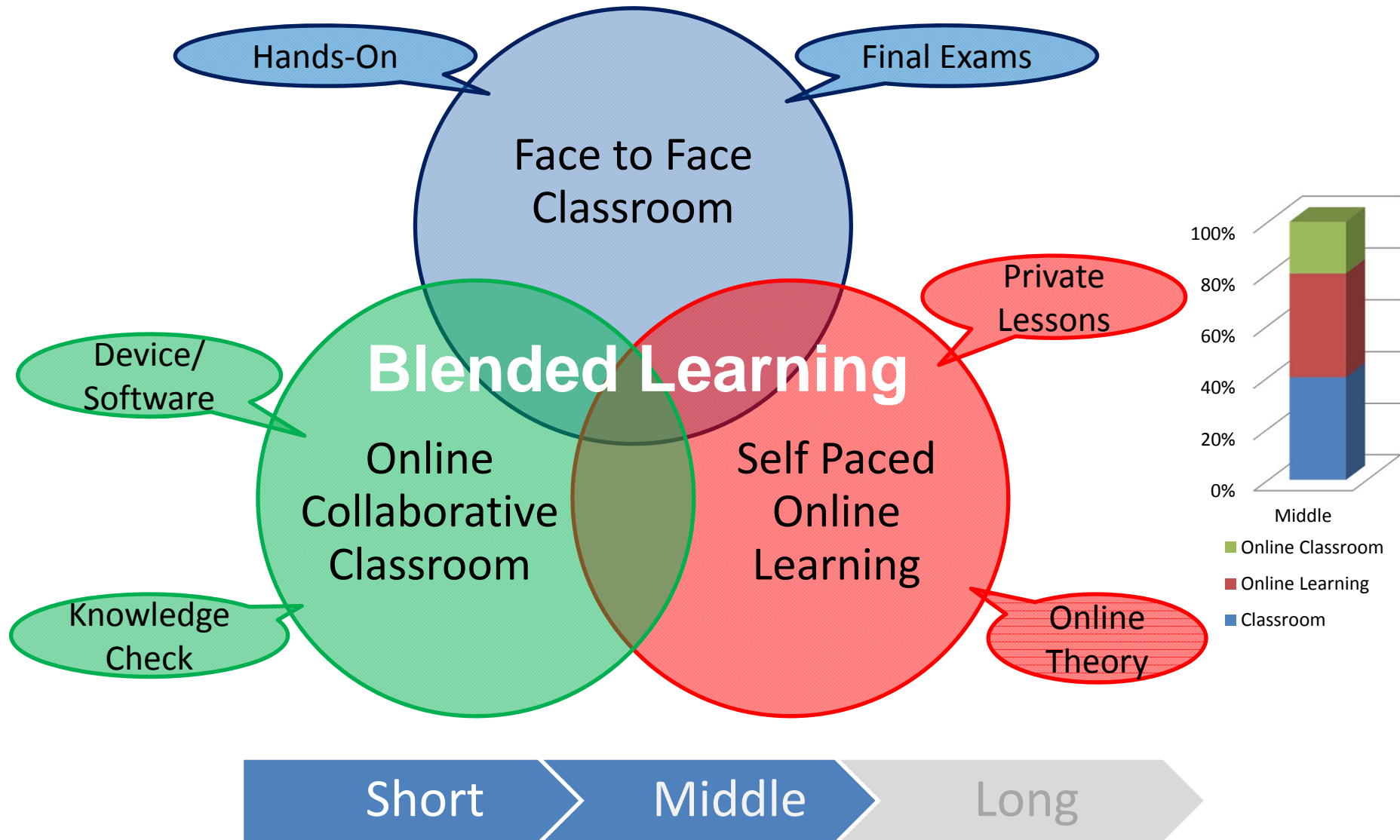
Long Term Approach

⚠ **Online based training**

– Complete online theory training

– Independent online training without supervision

– Live online trainings

⚠ **Web based practical device training**

– Delivery of NDT equipment devices to customers

– Send test parts to the participants

100%	
80%	
60%	
40%	
20%	
0%	

Long

🟩 Online Classroom

🟥 Online Learning

🟦 Classroom

Short ⟩ Middle ⟩ Long

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Device training

- ⚠ 100% online, live device training
  - Worldwide possibilities for trainings
  - Small Training groups for a personal productive atmosphere
  - Collaborative training design

- ⚠ Training for simple products where travel costs are too high for profitable offline trainings
  - Customized trainings for emerging technologies

- ⚠ Interactive course design, **NOT** only PowerPoint

Device training

⚠ **Cooperative course design, <u>NOT</u> only PowerPoint**

– Audio conference

– Tests and Pollings (Q&A)

– Live device demonstrations

– Remote control of Software and Devices

– Playback of specialized Videos

Live device Demo
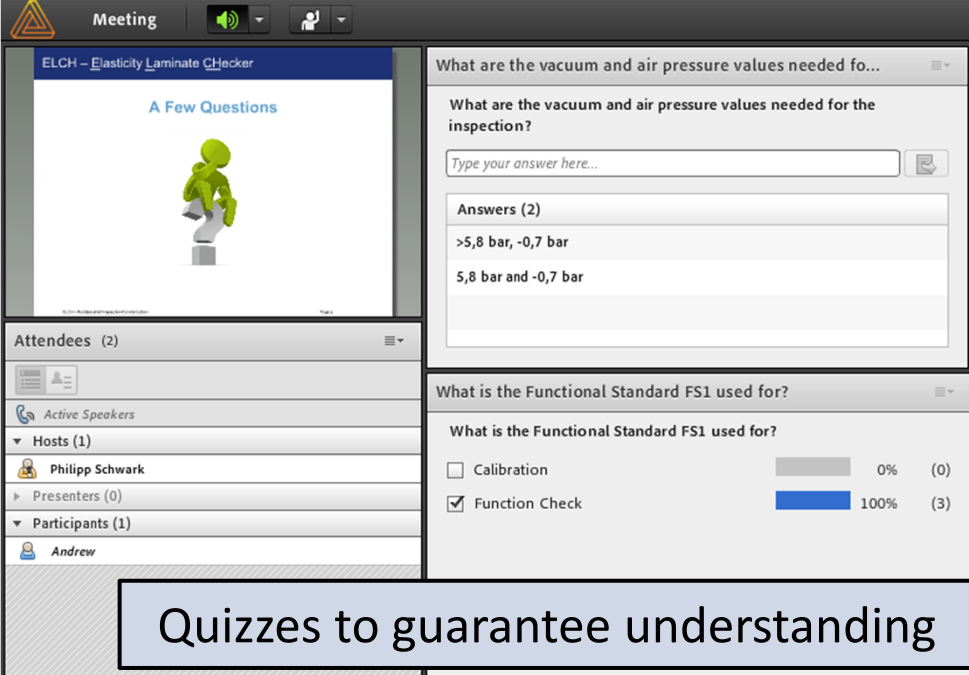
Damage Drawing with Whiteboard

Device training

⚠ **Guarantee of knowledge transfer**

– Knowledge checks through quizzes to guarantee success

– Measurement of engagement and presence

⚠ **First online training for the ELCH available**

⚠ **Gecko/Thermography Training under preparation**

Quizzes to guarantee understanding

Demo

Demo

Training for NDT Equipment

- IRT Devices: Gecko
- UT Equipment: DolphiCam, Smart NDT Tool, Linetool
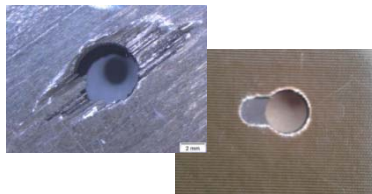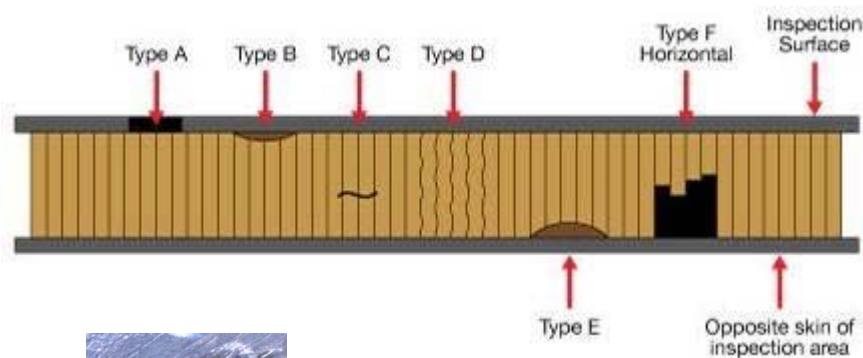- Other equipment: Exoscan, OMA, Ultis,

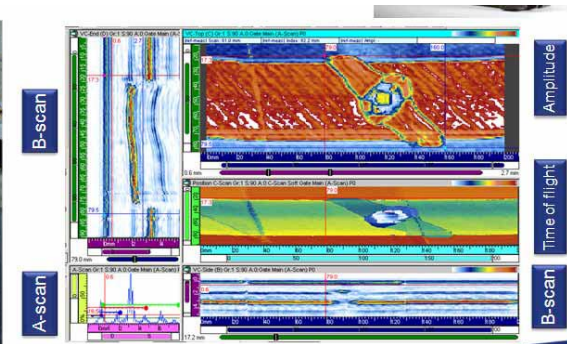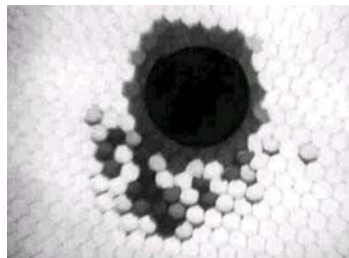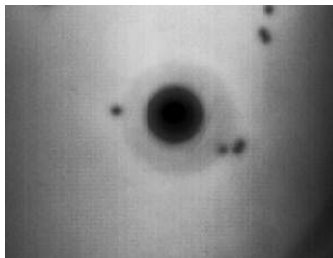# Training types

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Inspection of CFRP structures

- Inspection of Monolithic and Sandwich Components
    - General built-up and manufacturing processes
    - NDT Inspection Techniques EN4179 and non EN4179
    - Possible defect types

Training types

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Conclusion

- ⚠ eLearning will revolutionize NDT training
- ⚠ In Long-Term view eLearnings can replace a large amount of current classroom trainings
- ⚠ Cooperative course design for a high engagement of participants
- ⚠ Cooperate wide trainings without travel costs and lost of work power
- ⚠ First eLearnings are available for device trainings

Questions?

Questions!?

Thank you for your attention!