



CVETNET

E-Learning Guide for Trainers



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CVETNET
Intergenerational
digital learning

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CONTENT

I. INTRODUCTION.....	6
II. QUALITY CRITERIA FOR ELEARNING	8
A) CHECKLIST VIDEOLEARNING - DO'S AND DON'TS.....	9
B) SHORT CHECKLIST PREPARATION ELEARNING COURSES	10
C) CHECKLIST TECHNICAL REQUIREMENTS ELEARNING FOR TRAINERS AND PARTICIPANTS	11
D) ELEARNING PARTICIPANTS CHECKLIST	11
E) CHECKLIST SELECTION OF ELEARNING MEASURES.....	13
F) ELEARNING TRAINER CHECKLIST.....	14
G) CHECKLIST TRAINER WEBINAR 1	16
H) CHECKLIST TRAINER WEBINAR 2	17
I) INTEGRATION OF A CLASSICAL LMS SYSTEM.....	19
J) WEBINARS.....	19
K) VIRTUAL CLASSROOMS	19
L) MICROTEACHING (MICROLEARNING)	19
M) DIGITAL TOOLS FOR ONLINE TRAINING.....	20
III. PERFORMANCE MEASUREMENT ELEARNING.....	22
A) INTERVIEW OF PARTICIPANTS IN TRAINING COURSES.....	22
B) EVALUATION OF PARTICIPANTS	22
C) TRAINER REPORT	22
D) ONLINE TESTS	23
E) STATISTICS LEARNING PLATFORM	23
F) FEEDBACK MEETINGS.....	23
G) QUANTITATIVE MEASUREMENTS.....	23
IV. ELEARNING LEXICON.....	24
Action Learning.....	24
Adaptive Learning Systems (Intelligent Tutoring System (ITS)).....	24
Application Sharing.....	24
Asynchronous Communication	25
Authoring Tools (Visual Programming Environment)	25



Blended Learning (Hybrid Learning, Multi-Method Learning)	25
Blog	26
Business Impact Projects (BIP) – Strategic Learning Projects (SLPs)	26
Chat	26
Collaborative Learning	26
Computer Based Training (CBT)	27
Digital Natives	27
Digital Immigrants	27
Distance Learning	27
Distance Management	27
ELearning	28
Forum	28
Gamification	28
Groupware	28
Live Web Learning	29
Environments (VLE)	29
Microteaching (Microlearning)	30
Mobile Learning (M-Learning, mLearning)	30
MOOC (Massive Open Online Course)	30
Online Training	31
PAS Certification	31
Presence Event (Classroom Training)	31
SCORM (Sharable Content Object Reference Model)	31
Simulations (Computer Simulations)	32
Social Media	32
Social Learning	33
Synchronous Communication	33
Tutor/Tele-Tutor/Online Tutor	33
Virtual Classroom (Virtual Real-Time Classroom)	33
Web Based Training (WBT)	34
Webinar	34
WebQuest	35
Whiteboard	35
Wiki	35



V. LIST OF SOURCES.....	36
VI. LIST OF ILLUSTRATIONS.....	38

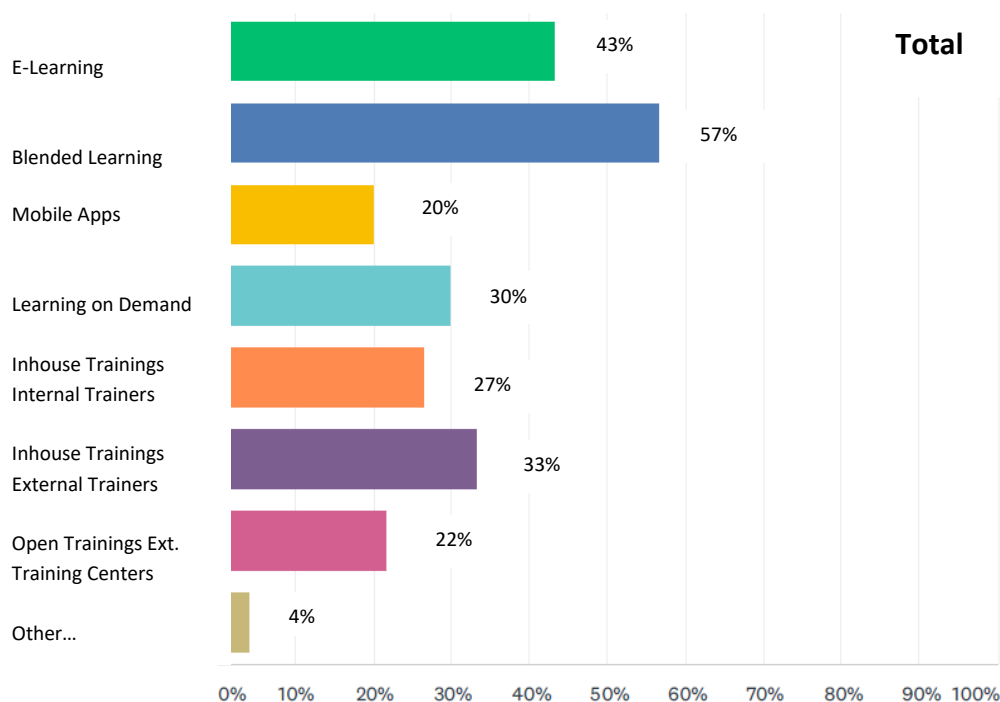


I. INTRODUCTION

Individualized digital learning opportunities are in demand. The use of online media has long been a natural part of learning for many people. The Internet makes it possible to offer lessons via web meeting, screen video or learning platforms that are flexible in terms of time and space.¹ Trainers skilled in this modern learning concept are the learning guides of the future.

According to the conclusions drawn from Human Capital Needs Report carried out in WP 3 of CVETNET Project, most of the participating SMEs declared that they prefer to train current employees on ICT Competences rather than hiring new resources. Additionally, most of the companies demand e-learning and blended learning courses in order to update their ICT Competences, as the graphics below state:

Best Methods of Further Training in the Field of Digitalization for Managers

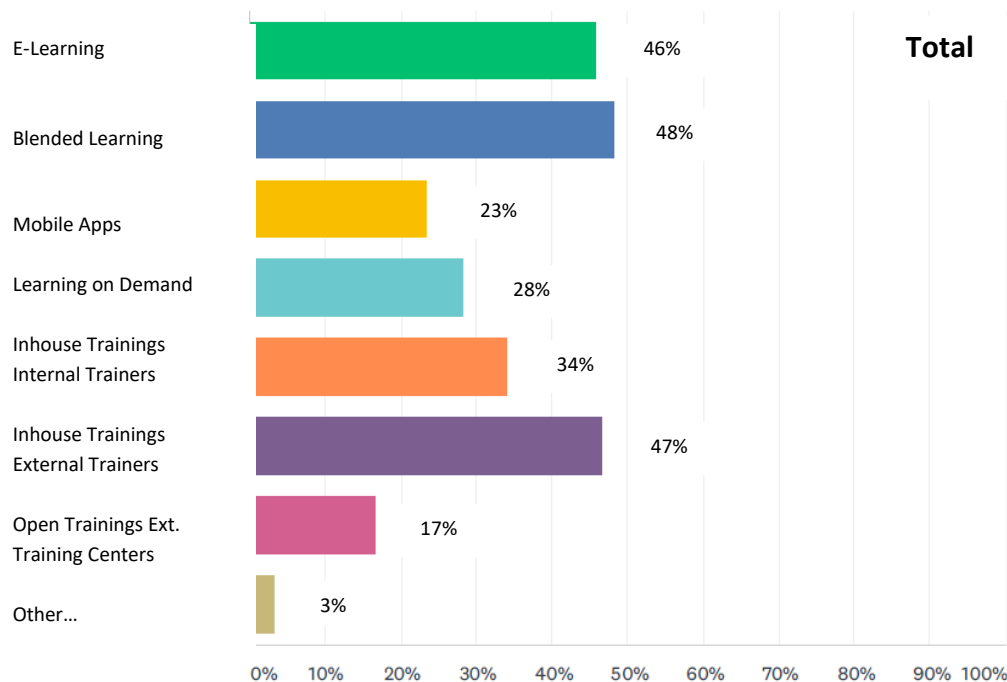


Concerning the question, what the managers found best for them regarding further training in the field of digitalization, 57% decided upon Blended Learning, and 43% upon eLearning. 33% thought that inhouse trainings with external trainers were a solution, while 30% considered that Learning on Demand – Micro-Learning via videos was a good way to train staff. Some managers mentioned inhouse trainings with inhouse trainers (27%) and 22% decided upon open trainings in external training centers. Only 20% thought that mobile apps were the right training method for them. 4% remained undecided

¹ <https://www.ils.de/fernkurse/eLearning-trainer/>



Best Methods of Further Training in the Field of Digitalization for Staff of Managers



When it came to their staff, the best methods for further training in digitalization were Blended Learning (48%) followed closely by inhouse trainings with external trainers (47%). 46% thought that eLearning was a good possibility, while 34% mentioned inhouse trainings with internal trainers as the right strategy. 28% of the managers preferred Learning on Demand – Micro-Learning via videos. For 23%, mobile applications were a suitable learning tool for their staff, while for 17% open trainings in external training centers were an option. 3% remained undecided.

Statistics

151 managers or entrepreneurs participated in the survey. The survey was done in replacement of the Focus Groups that had to be cancelled due to Covid19 lockdown and are, therefore, not part of a statistical sample.

Thus, CVETNET partners have adapted this Guide for Trainers to the CVETNET project, in order to reinforce the quality and the dynamics of ICT CVET Training to participants.



II. QUALITY CRITERIA FOR ELEARNING²

For eLearning scenarios to work, trainers must be experienced in this area. Often teachers have good concepts and ideas for e-content, but they lack the knowledge about a professional, standard-compliant technical implementation. On the one hand, this means that the time required for creation is very high, and on the other hand the content created often seems amateurish.

eLearning requires its own didactics and methodology. Only if there is a clear concept behind a learning unit, it can work. This means, however, that trainers must be familiar with different eLearning concepts. They should be able to use these concepts in a situation-specific way and align their learning modules accordingly.

An essential criterion for the success of eLearning courses is clear and well-thought-out supervision. The trainers/tutors should be familiar with different ways of supervision in order to develop a concept adapted to the respective situation. Consequently, it follows that trainers, who are often not computer experts, need both technical and didactic training and appropriate practice.

Although the cost of training measures is quite high when introducing eLearning, this is the only way to guarantee that high-quality, methodologically well thought-out, reusable content is generated and that the desired learning outcome can be achieved with it.

² <https://issuu.com/gstadlober/docs/qualitaetskriterien> / "Quality Criteria for ELEARNING"-PDF BMBWK Vienna 2006



A) CHECKLIST VIDEOLEARNING - DO'S AND DON'TS³

Checklist 6 Quality Criteria for Videolearning Do's:	Complies with
All image content is displayed exactly matching the spoken text.	<input type="checkbox"/>
Animated graphics are created during the explanation of a complex subject (e.g. a model) simultaneously to the spoken text.	<input type="checkbox"/>
Important passages are repeated as text in the form of key points - for example, by fade-ins during the transfer of knowledge or as a clear summary of the most important content learned.	<input type="checkbox"/>
Wherever possible, facts are shown and not just explained orally.	<input type="checkbox"/>
When the trainer can be seen in the training video, he pays attention to "direct eye contact" between him and the user - only then does the latter feel personally addressed.	<input type="checkbox"/>
Interactive elements are meaningfully integrated: The training video is interrupted, for example, so that the user can answer learning or comprehension questions, solve transfer exercises, decide how to continue in the video and much more.	<input type="checkbox"/>

Checklist Videolearning Dont's:	Complies with
Poor sound or picture quality distracts from content.	<input type="checkbox"/>
Distracting fade-ins that do not fit the context - the viewer loses the red thread.	<input type="checkbox"/>
The expert is filmed for many minutes only by a static frontal camera while nothing else happens - this is tiring for the viewer.	<input type="checkbox"/>

³ <https://www.pinkuniversity.de/blog/checkliste-das-sind-die-3x6-entscheidenden-qualitaetskriterien-fuer-e-learning-provider/>



B) SHORT CHECKLIST PREPARATION ELEARNING COURSES⁴

Short Checklist Preparation ELearning Courses: ⁵	Complies with
The learning objectives must be clearly formulated and communicated in advance.	<input type="checkbox"/>
All contents are structured in a clear and understandable way.	<input type="checkbox"/>
The target group is addressed precisely - in the text and picture language as well as in the knowledge that is required.	<input type="checkbox"/>
The time spent working on or playing the game per unit or chapter should not significantly exceed ten minutes - the attention span of the user is less high with eLearning.	<input type="checkbox"/>
Multimedia elements are used solely for didactic reasons (explanatory graphics, game scenes, screencasts, text ...), so that even complicated content is as comprehensible as possible.	<input type="checkbox"/>
ELearning contents are combined with additional working materials for deepening and application as download and accompanying material, so that the users are repeatedly invited to reflect and to deepen what they have learned in exercises.	<input type="checkbox"/>
Webinars are used alternately with the learning platform. Tests and knowledge questions are prepared.	<input type="checkbox"/>

⁴ <https://www.pinkuniversity.de/blog/checkliste-das-sind-die-3x6-entscheidenden-qualitaetskriterien-fuer-eLearning-provider/>

⁵ <https://www.pinkuniversity.de/eLearning-qualitaet/>



C) CHECKLIST TECHNICAL REQUIREMENTS ELEARNING FOR TRAINERS AND PARTICIPANTS

Checklist Technical Requirements ELearning:	Complies with
Modern computer with internet access	<input type="checkbox"/>
Current Internet browser (Microsoft Edge, Firefox, Google Chrome)	<input type="checkbox"/>
Loudspeaker and/or headset for sound output or communication	<input type="checkbox"/>
Adobe Flash Player or HTML5 (compatibility with SCORM etc.) - this is a prerequisite for some learning programs or learning platforms	<input type="checkbox"/>
Software used in the course, e.g. MS Office	<input type="checkbox"/>
Web app of the webinar provider or Virtual Classroom provider	<input type="checkbox"/>

D) ELEARNING PARTICIPANTS CHECKLIST⁶

Checklist Participants ELearning Part 1:	Complies with
Is the group heterogeneous?	<input type="checkbox"/>
Do the group members fit together in terms of motivation, competence, shared knowledge base and learning style?	<input type="checkbox"/>
Do participants dominate the cooperation and are there participants who do not or only rarely contact us?	<input type="checkbox"/>
Do all group members contribute to the common work or are there "free riders"?	<input type="checkbox"/>
Are the standards and rules for cooperation known in detail to all participants?	<input type="checkbox"/>

⁶ https://www.e-teaching.org/lehrszenarien/seminar/gruppenarbeit/checkliste/index_html



Checklist Participants ELearning Part 1:	Complies with
Can the participants handle the tools provided?	<input type="checkbox"/>
Are the participants aware of the intended use of the respective communication media?	<input type="checkbox"/>

Checklist participants ELearning Part 2:	Complies with
Are there sufficient possibilities also for the social perception of the other participants (awareness)?	<input type="checkbox"/>
Is the use of synchronous or asynchronous communication coordinated with the respective tasks?	<input type="checkbox"/>
Do conflicts arise in the group?	<input type="checkbox"/>
How are conflicts dealt with?	<input type="checkbox"/>
Is there an evaluation of the results achieved through cooperation?	<input type="checkbox"/>
Is the task sufficiently structured?	<input type="checkbox"/>
Can the task be completed in the planned time?	<input type="checkbox"/>
Does the task promote cooperative learning?	<input type="checkbox"/>
Is the support professionally, technically and socially competent as well?	<input type="checkbox"/>
Are there sufficient opportunities for feedback and are they used?	<input type="checkbox"/>
With what intensity and what means of communication is the information communicated to the participants?	<input type="checkbox"/>
Do the participants actually cooperate or do they work more individually on the tasks?	<input type="checkbox"/>



E) CHECKLIST SELECTION OF ELEARNING MEASURES⁷

Checklist for Selecting ELearning Measures:	Complies with
Do they have the desired contents?	<input type="checkbox"/>
Does the provider offer help in selecting suitable content?	<input type="checkbox"/>
Does the trainer know the LMS of the training institute or of the customer in which the training is to be embedded in combination with webinars?	<input type="checkbox"/>
Is the content presented and prepared in a practical manner?	<input type="checkbox"/>
Are the learning contents and objectives described in detail and comprehensibly?	<input type="checkbox"/>
Are they clearly structured?	<input type="checkbox"/>
Are the learning contents prepared in a multimedia format that encourages learning?	<input type="checkbox"/>
Can they be adapted to individual needs?	<input type="checkbox"/>
Are the calculated processing times realistic?	<input type="checkbox"/>
Are the technical requirements and media specified?	<input type="checkbox"/>
Are the measures accompanied by experienced tutors?	<input type="checkbox"/>
Are other forms of learning used to accompany the course (e.g. group meetings)?	<input type="checkbox"/>
Is exchange between learners possible both through the means of communication (e.g. e-mail) and personally (e.g. group meetings)?	<input type="checkbox"/>
Do the participants receive a confirmation of participation, a certificate, a diploma?	<input type="checkbox"/>

⁷ <https://www.betriebsrat.com/checkliste/130/64532/eLearning-auswahl-von-eLearning-massnahmen>



F) E-LEARNING TRAINER CHECKLIST⁸

1. INFORMATION ON ONLINE-COURSE	Yes	Partially	No	Not Relevant
1.1. Target group and requirements: Are the target group and the successful requirements for using the online course described?				
1.2. Targets: Are the objectives of the online course stated in terms of the skills, abilities or competences to be acquired?				
1.3. Contents: Are the topics and subject-related content covered in the online course listed?				
1.4. Process and organization: Is a description of the process and organization of the online course available?				
1.5. Performance expectations and assessment: Are the performance expectations and methods of performance assessment presented?				
1.6. Assistance for moderators: Does the online course include a guide for facilitators?				
2. LEARNING CONTENT AND –MATERIALS	Yes	Partially	No	Not Relevant
2.1. Technical correctness: Are the learning contents presented technically and formally correct?				
2.2. Copyright: Are copyrights taken into account and correctly stated in the materials and media used?				
2.3. Goal orientation: Are the learning contents and materials suitably selected with regard to the goals of the online course?				
2.4. Target group orientation: Are the learning contents and materials selected and designed for the target group?				
2.5. Practical relevance: Are the contents and materials available that give the learners a clear practical and application orientation?				
2.6. Media and file formats: Are the materials and media used provided in common formats?				
2.7. Media use: Is the media design of the materials conducive to learning?				
2.8. Gender justice: Are the contents and materials used selected or designed in a gender-appropriate manner?				
3. LEARNING TASKS AND ACTIVITIES	Yes	Partially	No	Not Relevant
3.1. Goal orientation: Are the learning tasks and activities goal-oriented?				
3.2. Target group orientation: Are the learning tasks and activities designed for the target group?				
3.3. Didactic structuring: Is the sequence of learning tasks and activities didactically structured?				
3.4. Methodological diversity: Are the learning tasks and activities methodologically diverse?				
3.5. Clarity and completeness: Are the learning tasks and activities clearly formulated and provided with all necessary information?				
3.6. Motivation: Are the learning tasks and activities designed to promote motivation with regard to the target group?				
3.7. Communication and cooperation among learners: Does the online course provide opportunities for communication and cooperation among learners?				

⁸ https://moodle.cooltrainers.at/pluginfile.php/16692/mod_resource/content/1/Kriterienkatalog_moderierte_Online-Kurse_2010.pdf



3. LEARNING TASKS AND ACTIVITIES	Yes	Partially	No	Not Relevant
3.8. Feedback: Is feedback on learning tasks and activities provided by the facilitator or co-learners?				
3.9. Learning-friendly teaching climate: Does the online course support a learning-friendly teaching climate?				
3.10. Varying contexts: Do learning tasks and activities enable the acquisition and application of knowledge in varying contexts?				
3.11. Self-directed learning: Does the online course include learning tasks and activities that promote self-directed learning?				
3.12. Differentiation: Are learning tasks and activities available that offer opportunities for differentiation and individual support?				
3.13. Activation of higher cognitive process levels: Do the learning tasks and activities promote higher thought processes in addition to facts and rule knowledge?				
3.14. Informal learning: Is informal learning supported in the online course?				
3.15. Reflection: Are there occasions for reflection in the online course?				
4. LEARNING TASKS AND ACTIVITIES	Yes	Partially	No	Not Relevant
4.1. Availability and functionality: Are all necessary materials and tools available and functional?				
4.2. Usability: Is the online course designed to be user-friendly?				
4.3. Process structure: Is the process structure of the online course clearly illustrated?				
4.4. Learning support: Are support services available or listed for the learning tasks and activities?				
4.5. Interaction tools: Are tools available for interaction between learners and facilitators or between learners themselves?				
5. EVALUATION	Yes	Partially	No	Not Relevant
5.1. Evaluation by learners: Is learner feedback/evaluation intended to optimize the online course?				
5.2. Evaluation by facilitators: Is feedback/evaluation by the moderators intended to optimize the online course?				



G) CHECKLIST TRAINER WEBINAR 1⁹

Checklist Trainer Webinar 1	Complies with
Who is your webinar aimed at? Do you have an exact idea of your target group?	<input type="checkbox"/>
Have you found a title without using the word "webinar"?	<input type="checkbox"/>
Is it clear from the title what benefits potential attendees will get from attending your webinar?	<input type="checkbox"/>
Have you clearly described in a short explanation what your participants will learn?	<input type="checkbox"/>
Can your target group identify with the chosen title and description?	<input type="checkbox"/>
Have you set yourself a goal? What should your participants do after the webinar? What is the Call-to-Action (CTA)?	<input type="checkbox"/>
Was the date of the webinar chosen to suit the target group?	<input type="checkbox"/>
If you use a presentation: Were all slides adapted to the current webinar? (Tip: Use full-size photos, use storytelling and metaphors)	<input type="checkbox"/>
Are all technical questions clarified? (Provider)	<input type="checkbox"/>
Are reminder e-mails sent to the registered participants? (Ideally on the morning of the webinar day and 15 minutes before the webinar starts)	<input type="checkbox"/>
Technical requirements: PC or notebook with built-in camera or USB webcam and headset with cable, no Bluetooth, good illumination of the trainer's face (studio light or desk lamp placed at some distance), camera lens at eye level, professional sound, no feedback or reverberation, avoidance of ambient noise	<input type="checkbox"/>
Choice of webinar platform: Zoom, Skype for Business, Webex Cisco, Edudip, Spreed, Adobe Connect, GotoWebinar, Google Hangouts, Webinarjam (with many participants)	<input type="checkbox"/>

⁹ <https://content-marketing-star.de/webinarguide/>



H) CHECKLIST TRAINER WEBINAR 2¹⁰

Checklist Trainer Webinar 2	Complies with
Selection of supporting platforms such as Moodle, Wonderlist, Pinterest, pocket, Feedly, notability, Miro, Electa Live, TUTORROOM.NET, Readytalk, Digital Samba, Big Blue Button etc. for whiteboards and interactive elements for learning groups and virtual classrooms etc.	<input type="checkbox"/>
Optimal registration process: Registration page contains all information about the webinar, announces content and introduces the trainer. It explains any work materials provided and expected learning outcomes.	<input type="checkbox"/>
Notice to participants in the invitation that due to technical coordination they will start the registration process about 5 minutes before the start.	<input type="checkbox"/>
A webinar is like a live broadcast: the trainer should register in the seminar room one hour before the seminar begins. The room should only be "open" for the trainer. All participants must wait outside.	<input type="checkbox"/>
Start first runs. Is the display quality of the materials correct?	<input type="checkbox"/>
Tip: Save your PowerPoint presentation as images and then insert it image by image into a new presentation to be 100% sure.	<input type="checkbox"/>
Test all links that are offered in the course of the presentation.	<input type="checkbox"/>
Offer of the link to download the slides on one of the first slides?	<input type="checkbox"/>
Is the chat ready? Is there a public and a private area for participants and trainers?	<input type="checkbox"/>
15 minutes before the start: All programs should be closed on the computer so that the full network power is available for the webinar (e.g. closing e-mail, Evernote, Dropbox etc., which access the Internet in the background)	<input type="checkbox"/>
Have water or tea ready for the vocal chords and do everything beforehand so that the webinar is not interrupted outside the breaks.	<input type="checkbox"/>
5 minutes before the start: Opening of the room and welcoming of the first participants.	<input type="checkbox"/>

¹⁰ <https://content-marketing-star.de/webinarguide/>



Checklist Trainer Webinar 2	Complies with
Read chat messages from participants out loud when they are intended for all to ensure live status.	<input type="checkbox"/>
Notice that the webinar will be recorded, or that all those who speak publicly in the chat will later be visible with their entries and recordings, if this is desired in the training, before the recording starts.	<input type="checkbox"/>
At the start: Repeated greeting of the participants, reference to the breaks, the chat rules, questions are allowed at any time.	<input type="checkbox"/>
Observance of the appropriate breaks.	<input type="checkbox"/>
A total webinar duration of 4 hours should not be exceeded.	<input type="checkbox"/>
Installation of questions, surveys, queries depending on the topic at least every 15 minutes to activate the participants.	<input type="checkbox"/>
Quick change of the slides to create changes in the image section.	<input type="checkbox"/>
Note before the end of the webinar which tasks should be completed by the participants by the next date.	<input type="checkbox"/>
The full concentration of the trainer on the webinar and the participants is necessary until the end.	<input type="checkbox"/>
Follow-up: Reminder mail to the participants, by when the tasks should be completed. Transmission of the recording link of the webinar or dispatch of documents announced in the webinar (additional content, videos, mp3 files, studies, etc.).	<input type="checkbox"/>



I) INTEGRATION OF A CLASSICAL LMS SYSTEM

The training institute provides the corresponding content and tests for the respective course via the **LMS System (Learning Management System)**. In addition, the Learning Platform facilitates the exchange between the trainer (tutor) and the participants. The participants can also chat with each other or send e-mails. Peer groups are also set up, groups of participants who work together on a case study, a calculation example etc.

J) WEBINARS

In addition to the LMS system, the training institute offers webinars that run on the respective platform (e.g. Microsoft Teams, Zoom, Cisco Webex, etc.) The webinars last from 1 hour to 4 hours with appropriate breaks.

K) VIRTUAL CLASSROOMS

In addition to webinars and audio or video conferences, it is also possible to present live content and edit documents together using existing virtual classroom software from the company or the trainer. The participants are distributed spatially and work together on projects or tasks. Existing tools for interaction like: Annotation tools in the whiteboard, surveys, webcams, virtual group rooms and the possibility to change roles during a session can be used.

Currently known providers are: Newrow Smart, VEDAMO, BigBlueButton, LearnCube, Electa Live, Adobe Connect, WizIQ.

L) MICROTEACHING (MICROLEARNING)¹¹

Microteaching conveys content in small pieces (microcontent). The microcontent can be made available completely online in the form of eLearning. However, the most suitable approach for the use of microteaching is blended learning. Here, individual digital morsels are served up during training. By combining the presence and online phases, the participant gradually acquires "knowledge" and combines it with his own experiences in practical exercises.

¹¹ <https://www.blink.it/blog/microlearning-3-regeln-zur-erstellung-von-lernhäppchen>



M) DIGITAL TOOLS FOR ONLINE TRAINING¹²

Online quizzes via smartphone, collaborative work on mind maps, digital pinboards and mood surveys enhance the online training and make it even more lively and sustainable for the participants.

The following tools can be used - provided that copyright is respected:

- One-time e-mail addresses: <https://www.byom.de>
- Test: Key questions on the use of media

Image rights:

- Reverse Image Search: www.tineye.com, because of existing image rights on foreign images for homepages
- Free images: <https://pixabay.com/de> and <https://unsplash.com>: License CCO - no indication of source necessary
- Creative Commons: regulation of the use of rights
- Pictures WIKIPEDIA: Attention, here you have to find out the rights for each picture
- Digital media: Attention generally because of rights
 - Free images with Google
 - <https://oldsearch.creativecommons.org/>: General search for free content, always go to the original page

Quizzes and surveys:

- **Straw poll:** <https://www.strawpoll.me/>: Create polls on homepage and send them via hyperlink
- **QR Code links:** <http://goqr.me/de/>: Participants' access to different media
- **Tests in the Learning Platform**
- **Kahoot Quizzes:** for small surveys for a group (at the table, PC, mobile phone): www.kahoot.it (as participant), www.kahoot.com (as trainer, must be registered for free with Google or Facebook)
- **Plickers:** Quiztool without technical aids of the participants, with cards with which participants vote, which can be scanned with the Plickers app
- **Mentimeter:** Mood of the participants: www.mentimeter.at (multiple choice test)
- **Word Cloud:** <https://www.wordclouds.com> or <https://www.jasondevies.com/wordcloud/>

¹² Eichinger, DI Thomas / Trainer WIFI Lower Austria, 2020



Collaborative work:

Working together on documents at the same time in different places, different tools

- **Google Drive:** storage space on the web and many apps, e.g. also working simultaneously on "Google Office documents", Google Drive Sharing with examples for group work etc., Google Drive "From Sheet to Text Scan"
- **Edupad:** creation of shared live content, www.edupad.ch
- **Padlet:** digital pinboard, <https://de.padlet.com>
- **Mindmap online:** many providers
- **Date finding with Doodle:** <https://doodle.com/de>
- **Sending large files:** <https://wettransfer.com>

Graphics and design:

- **Flipchart photos:** Microsoft Office Lens and <https://www.camscanner.com> rectify flipchart photos
- **Online image editing:** www.pixlr.com or Photoshop
- **Presentations online:** [ppt](#), [keynote](#), <https://sway.com>, <https://prezi.com>
- **YouTube for the distribution of discussed news:** Converting PowerPoint presentations into a YouTube movie (YouTube Creator Studio and live stream): Examples: YouTube Screencasts



III. PERFORMANCE MEASUREMENT ELEARNING¹³

Measuring the success of investments in online training is by no means trivial. How is it to be measured whether further training has improved the innovative ability of the company? Increases in production are also usually difficult to quantify directly, or to be assigned casually to a further training measure at the same time. Nevertheless, there are a number of possibilities to carry out qualitative as well as quantitative measurements of success.

A) INTERVIEW OF PARTICIPANTS IN TRAINING COURSES¹⁴

At the beginning, there is a simple questioning of the training participants, through whose reactions and statements feedback on the contents, methods, trainers etc. of the online training can be collected. So-called **success stories** can also be generated in the process. Examples of this would be if an employee shows how many hours per week he/she saves, for example through an online MS Office training course, when carrying out time-consuming processing procedures when he can instead devote himself to more creative tasks. Or an employee describes how an online project management training course has helped him in detail to cope with his last project.

B) EVALUATION OF PARTICIPANTS

Participants anonymously complete participation evaluations to assess the trainer and the course.

C) TRAINER REPORT

The trainer keeps records of the training course and, after the training, prepares a report on the progress of the training, the progress of the participants and possible future training needs.

¹³ <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>

¹⁴ <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>



D) ONLINE TESTS¹⁵

With the help of tests in the form of quiz questions, multiple choice tests or similar, the learning progress of each employee can be measured individually. This measurement is useful when the successful completion of the training can be equated with success. Examples of this are legally required training courses.

E) STATISTICS LEARNING PLATFORM

In the learning platform, evaluations of the number of participant hours and the degree of completion of the courses in percent are generated.

F) FEEDBACK MEETINGS¹⁶

Supervisors or colleagues of employees can assess in feedback interviews whether and to what extent the new training knowledge is applied in everyday work. Learning goals that were differentiated before the training can be measured afterwards in the practical implementation in everyday work.

G) QUANTITATIVE MEASUREMENTS¹⁷

There are certainly scenarios in which quantitative measurements are also possible. For example, it is possible to measure whether the closing rate of sales employees improves after online sales training or whether customer satisfaction values increase after customer service training. Especially in production, throughput, error rate or accident frequency can be measured before and after the implementation of training measures.

¹⁵ <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>

¹⁶ <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>

¹⁷ <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>



IV. ELEARNING LEXICON

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Action Learning¹⁸

Action Learning is a method of controlled experiential learning. It is used in companies or other organizations to integrate learning into daily business. With Action Learning the participants learn on a high quality level and at the same time solve business relevant problems. With Action Learning, companies can make better use of the experience, competencies, skills and potential of their employees. Action Learning ensures a sustainable implementation of results and makes it possible to achieve business objectives better, faster and more effectively (see also Virtual Action Learning).

Adaptive Learning Systems (Intelligent Tutoring System (ITS))¹⁹

Adaptive Learning Systems give learners additional control over learning content in the sense of personalized learning environments. It is **intelligent software that acts like a tutor** and makes specific suggestions for learning content to the learner based on his or her user behavior. In addition to an inconspicuous analysis of the behavior in the background, the tutorial system asks the user about learning speed, degree of difficulty, comprehensibility and learning needs. Subsequently, the user is provided with necessary learning topics, an optimized learning speed and, if possible, the learning content in the optimal form. Nevertheless, the user learns in a self-determined way by correcting the learning speed, changing the display format and choosing a different learning topic. Due to the increase in competence associated with the tutorial system, the actual tutor (teacher, lecturer) has more time to individually accompany the learning process. This change of role is accompanied by a more pedagogical qualification.

Application Sharing²⁰

Any application (e.g. Microsoft Word) that is not intended for cooperative work is started at one participant's site and made available to other participants.

¹⁸ <https://www.fct-akademie.com/fachbegriff-lexikon/>

¹⁹ <https://www.lecturio.de/magazin/eLearning-lexikon/>

²⁰ <https://www.seminarmarkt.de/Infothek/Application-Sharing>, 153001#fromList



Asynchronous Communication²¹

In contrast to synchronous communication, there is always a time offset between the communication contributions in asynchronous communication. Examples of asynchronous forms of communication in virtual space are e.g. discussion forums, or communication via e-mail. The traditional counterpart to asynchronous communication is correspondence.

Authoring Tools (Visual Programming Environment)²²

Authoring Tools are used to create digital learning content. These are programs that enable the easy integration of text, images, video and audio formats. Programming skills are not usually required. Authoring tools enable the user (tutor) to create interactive and non-interactive content, query knowledge and allow the use of external formats (e.g. PowerPoint). The interface of the learning application that can be created is interactive and provides feedback to the user of the learning application. Explanatory displays and feedback on incorrect and correct answers are supported by default. The answers of surveys or tests are tracked and evaluated with feedback.

For example, if the interface SCORM (Shareable Content Object Reference) is supported, the learning content can be fed into learning management systems (LMS).

Authoring tools are e.g. eXelearning/New Zealand, Uduetu/Canada, Articulate Studio, Techsmith Cantasia, Adobe Captivate.

Blended Learning (Hybrid Learning, Multi-Method Learning)²³

Blended Learning is the combination of different learning methods, learning activities and learning media including eLearning, for example the opposites virtual/non-virtual, synchronous/asynchronous, etc. combined with each other. Blended Learning can be implemented through individual learning, but above all through learning in a learning group.²⁴

The tutor creates a curriculum, taking into account the eLearning possibilities, in which online and presence phases alternate and build on each other didactically.²⁵ By making optimal use of the strengths of eLearning in the preparatory and follow-up phases, the transfer of

²¹ <https://www.fct-akademie.com/fachbegriff-lexikon/>

²² <https://www.lecturio.de/magazin/eLearning-lexikon/>

²³ <https://www.fct-akademie.com/fachbegriff-lexikon/>

²⁴ <https://www.fct-akademie.com/fachbegriff-lexikon/>

²⁵ <https://www.lecturio.de/magazin/eLearning-lexikon/>



knowledge is ensured. In the presence phase, the focus is not on knowledge transfer but on the implementation of knowledge.

Blog²⁶

Blog is a shortened form of the word web log. A blog is a kind of diary, which is either kept on a website or which is realized entirely as a website. In a blog usually one, sometimes several people publish their opinions, ideas, views, etc. These can be commented on by others, provided they have the appropriate permission.

Business Impact Projects (BIP) – Strategic Learning Projects (SLPs)²⁷

Business Impact Projects are projects with business relevance, which are processed within the framework of Action Learning and are completed with a measurable result for the business.

Chat²⁸

Chat is a synchronous form of communication via a computer network, usually via the Internet or the organization's internal intranet. In chat, participants communicate with each other by typing short text messages. All participants in a chat can follow this dialogue in a screen window. In the learning area, chats can be used to initiate live events, for example, where experts in the chat are available as contact persons. Chat can also often be found as a second communication channel in virtual real-time classrooms.

Collaborative Learning²⁹

Collaborative Learning refers to learning in and from groups. The term "e-collaboration" refers to forms of learning and working in which the cooperation of spatially distributed persons is made possible through the use of electronic communication and information media. Collaborative learning not only involves the transfer of knowledge, but above all the joint development of new knowledge and the exchange of experiences between the participants. Collaborative Learning is attested to be highly effective in a pedagogical context.

²⁶ <https://www.fct-akademie.com/fachbegriff-lexikon/>

²⁷ <https://www.fct-akademie.com/fachbegriff-lexikon/>

²⁸ <https://www.fct-akademie.com/fachbegriff-lexikon/>

²⁹ <https://www.fct-akademie.com/fachbegriff-lexikon/>



Computer Based Training (CBT)³⁰

Computer Based Trainings (CBT) are courses structured according to learning techniques or learning materials on data carriers such as CD-ROM or DVD. Unlike Web Based Training (WBT), it is not necessary for the PC to have a connection to the Internet or Intranet during the learning session.

Digital Natives³¹

The term Digital Native refers to people who have grown up and are familiar with digital media and the concepts and technologies associated with it. This refers primarily to the way they handle media and technology, rather than the age or generation to which the digital natives can apparently belong. The counter-concept to Digital Natives is that of the Digital Immigrant: It refers to people who only came into contact with new media and technologies in adulthood.

Digital Immigrants

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Distance Learning³²

Through the new, Internet-supported media, Distance Learning has become a very important supplement or alternative to face-to-face learning. Distance Learning comprises the media presentation or transmission of learning content, synchronous and asynchronous teaching and learning from a distance as well as multimedia communication and cooperation between the online trainer and the learners and between the learners themselves.

Distance Management³³

Distance Management is the organization and control of cross-location cooperation as well as the acquisition of intercultural competence and international or intercultural communication. Accordingly, Distance Management includes distance leadership, distance collaboration and work in virtual and international teams, especially in project teams.

³⁰ <https://www.fct-akademie.com/fachbegriff-lexikon/>

³¹ https://de.ryte.com/wiki/Digital_Native

³² <https://www.fct-akademie.com/fachbegriff-lexikon/>

³³ <https://www.fct-akademie.com/fachbegriff-lexikon/>



ELearning³⁴

ELearning is a form of learning that is supported or enabled by information and communication technologies. The use of eLearning ranges from language learning programs on CD-ROM and DVD to elaborately designed web-based eLearning courses. In these courses, learners can work on complex subjects alone or in groups.

Forum³⁵

In (discussion) forums, participants communicate through the asynchronous exchange of text messages. The typical arrangement, in which replies to existing posts are hierarchically subordinated, creates a building structure in the forum that allows parallel processing of different topics. The structure of the forum enables you to structure the topic threads and document the course of the discussion. Forums are an important component of collaborative learning.

Gamification³⁶

Gamification refers to the use of playful elements in an originally game-free environment, e.g. in a training session. By integrating typical game components, the motivation and attention of the participants shall be increased and variety shall be brought into the training.

Groupware³⁷

Groupware is software that supports collaboration in a group over time and/or space. Functions of groupware systems can be for example shared calendars and contacts, shared file storage with versioning functions or shared messaging systems, etc. Groupware systems often include synchronous elements.

³⁴ <https://www.fct-akademie.com/fachbegriff-lexikon/>

³⁵ <https://www.fct-akademie.com/fachbegriff-lexikon/>

³⁶ <https://www.medienkompetenzportal-nrw.de/handlungsfelder/schule/medienpaedagogisches-lernen/gamification-im-unterricht.html>

³⁷ <https://www.fct-akademie.com/fachbegriff-lexikon/>



Live Web Learning³⁸

Live Web Learning (web conference, virtual (real-time) classroom, real-time learning, webinar, etc.) refers to learning via the Internet in real time. In Live Web Learning, the learners meet the trainer or tutor in a virtual learning room, in which they communicate via voice and most times via video conference. In this room, Live Web Learning can be used to show presentation materials, work on an electronic flipchart or whiteboard, create shared documents, take tests or work on group assignments. Numerous other functions in Live Web Learning simulate learning in a classroom; so that many learning situations in classroom instruction can now be covered by Live Web Training.

Environments (VLE)³⁹

A learning management system is a web-based learning environment that not only provides learning content, but also takes over communication and administrative tasks:

- **User administration:** Users can log in via an encrypted connection. Usually one entry into the database is made per registered email address. For the analysis, the operator of the learning platform has additional statistical tools at his disposal.
- **Course management:** Tutors provide learning content that can be uploaded and edited via an interface. Courses are created.
- **Assignment of roles and rights:** Learners, tutors, system administrators and clerks require different access to the LMS, which is met by a role and rights assignment system. Roles and rights are assigned by the administrator. Additional roles can be created.
- **Communication:** The LMS provides users with communication options. These include chat, forums and commentary functions. Communication is asynchronous by default or is synchronized through chat, virtual classrooms, etc., if available.
- **Learning tool:** The LMS provides appropriate tools for the individual organization of learners and tutors. These include notes, calendars, pin boards and interactive whiteboards. In addition, users must be able to customize the learning environment to suit their own needs.
- **Play/visualize the digital learning content in the browser:** The user does not need to install any additional software locally on his computer. The LMS displays a message if the browser needs to be updated in order to use all the system's functionalities.
- **Storage of individual learning progress:** This function increases above all the usability of the learning platform and is a standard requirement for an LMS.
- **Quiz environments are** not yet standard requirements, but they are easy to implement and manage. These are interactive questions that can be uploaded via an interface and subsequently linked to the content in a targeted manner via the course administration.

³⁸ <https://www.fct-akademie.com/fachbegriff-lexikon/>

³⁹ <https://www.lecturio.de/magazin/eLearning-lexikon/>



Microteaching (Microlearning)⁴⁰

Microteaching refers to the acquisition of content in small learning units. Within a few minutes (approx. two to 15) and in small stages, concrete learning goals are achieved, which are oriented towards a superordinate goal. Through regular learning in short units and through targeted repetition, content is better internalized, which also strengthens the transfer into practice.

Different Forms of Microteaching

- Short training videos
- Playful elements like a quiz (keyword: gamification)
- Clear information graphics
- Digital flashcards
- Interactive features

Mobile Learning (M-Learning, mLearning)⁴¹

Mobile learning takes place via mobile and personalized end devices such as the tablet or smartphone and is realized via installable apps. From a technical point of view, mobile learning is therefore even more individual than web-based training. It can be learned at any location.

An essential feature of mobile learning is that the learning units must be written in small **nuggets**, because users are interested in using mobile learning content, especially when waiting somewhere for a short time. Ambient noise and distractions must be taken into account as well as the immediate stopping and playing of the learning content. For these reasons, a 1:1 transfer of web-based training into M-Learning is not reasonable.

Mobile Learning increases the motivation to learn and the learning success as well as the learning efficiency and improves the learner's attitude towards M-Learning.

MOOC (Massive Open Online Course)⁴²

MOOC means online courses accessible to the masses. MOOC is useful if events and learning content are to be **made accessible to a very large number of participants**. Webinars and learning tracks can be made available online in this way together with tasks.

⁴⁰ https://www.haufe.de/personal/hr-management/microlearning-definition-beispiele-kosten_80_501544.html

⁴¹ <https://www.lecturio.de/magazin/eLearning-lexikon/>

⁴² <https://www.lecturio.de/magazin/eLearning-lexikon/>



Online Training⁴³

An online training course is conducted in whole or in essential parts via the Internet or the organization's own intranet. This includes, for example

- Distribution of the learning materials
- Working in spatially distributed learning groups
- Communication in learning rooms
- Learning through Live Web Training

Online training is now often combined with face-to-face events.

PAS Certification⁴⁴

PAS (Public Available Specification) is a publicly available specification that describes products, systems or services by defining features and specifying requirements. Various PAS certifications are also available for training companies and their offerings.

Presence Event (Classroom Training)⁴⁵

Face-to-face events are events in which the participants and trainers face each other face-to-face, e.g. in the seminar room. In the various variants of online learning, face-to-face events are often conducted as face-to-face workshops rather than face-to-face seminars. In the face-to-face events or face-to-face workshops, the online learning is practiced in a practice-oriented way.

SCORM (Sharable Content Object Reference Model)⁴⁶

SCORM is a web-based interface for importing and exporting digital learning content into eLearning management systems and is a standard feature.

The properties of the SCORM model include

- Ubiquitous access to digital learning content
- Minimization of time and costs

⁴³ <https://www.fct-akademie.com/fachbegriff-lexikon/>

⁴⁴ <https://www.fct-akademie.com/fachbegriff-lexikon/>

⁴⁵ <https://www.fct-akademie.com/fachbegriff-lexikon/>

⁴⁶ <https://www.lecturio.de/magazin/eLearning-lexikon/>



- Reuse and combination of learning modules from different learning programs of different manufacturers
- Subsequent editing of the digital learning content

The SCORM standard is constantly being developed and it is recommended that the current standard be used. Currently, the SCORM standard 1.2 (2001) is considered the most compatible standard. The most recent SCORM standard is SCORM 2004 4th Edition from March 2009.

Simulations (Computer Simulations)⁴⁷

Simulations are computer programs in which users carry out virtual experiments in a controlled environment to gain experience. Actions of the user are evaluated as inputs into the mathematical model on which the simulation is based. Simulation models simplify real conditions to a controllable degree and must follow a didactic concept that enables learning effects and knowledge transfer. Simulations are usually accompanied by tutorials to introduce the users to the program and to provide assistance as required and necessary.

Providers of simulations have various possibilities to support this learning process:

- For didactic reasons, concrete exercises that show the procedure for conducting experiments are included as an introduction to the simulation.
- Explanations and background information can be stored in the program. This protects the user from potential cognitive overload.
- Planning tools, such as a notepad, facilitate the execution of experiments.
- Instruction notes facilitate the start of the simulation.
- You can gradually increase the complexity of the simulation.

Social Media⁴⁸

Social Media are digital media and technologies on the Internet that enable users to communicate, collaborate, share and create content together. They are used in numerous areas, including learning.

⁴⁷ <https://www.lecturio.de/magazin/eLearning-lexikon/>

⁴⁸ <https://www.fct-akademie.com/fachbegriff-lexikon/>



Social Learning⁴⁹

Social Learning is generally understood to be the generally informal learning from and with each other, which, in addition to content goals, also has the improvement of social competence as its theme. The use of social media also promotes social learning between people who are physically distant from each other.

Synchronous Communication⁵⁰

In the context of virtual communication, synchronous communication means that communication contributions take place directly one after the other or simultaneously. Examples of synchronous communication media are chats, video and audio conferences, or the simultaneous editing of content in a virtual real-time classroom. Traditional synchronous communication situations are e.g. telephone calls or conversations in which the conversation partners face each other face to face.

Tutor/Tele-Tutor/Online Tutor⁵¹

In online and distance learning, the tutor is the supervisor and learning guide of the participants. Learners are supervised with the help of synchronous and asynchronous communication media. The tutor is of particular importance in online training. In contrast to traditional learning, the learner and the tutor are physically separated from each other. An important task of the online tutor is therefore, in addition to the content-related management of the participants, the development of an emotional bond between the participants and the person of the online tutor and the other participants. The online tutor has to build and maintain the participant's motivation. The online tutor has to observe the participants closely despite the distance in order to detect and correct possible problems early on.

Virtual Classroom (Virtual Real-Time Classroom)⁵²

Virtual Classrooms are web-based tools to support collaborative learning and working. Most often you will find audio and video conferencing features, live presentation tools, and the ability to work together on documents. The functions support spatially distributed persons in their collaboration. Virtual Classrooms can be used to enable joint work on projects or tasks.

⁴⁹ <https://www.fct-akademie.com/fachbegriff-lexikon/>

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⁵² <https://www.fct-akademie.com/fachbegriff-lexikon/>



Learning content can be presented in Virtual Real-Time Classrooms or expert lectures can be integrated. Virtual Real-Time Classrooms are used to implement live web training.

Virtual Classrooms also provide tools for interaction and collaborative exchange. These include: Whiteboard annotation tools, polls, webcam, virtual group rooms and the ability to change roles during a session.

Web Based Training (WBT)⁵³

With a Web Based Training course, learning content is provided on a web server and not on a data carrier such as a CD-ROM/DVD, as with computer-based training. In the case of Web Based Training, the content can be made available via the Internet or intranet. Web Based Training offers all the possibilities of computer-based training, but has additional advantages. Web Based Trainings ensure immediate and worldwide availability and better possibilities for content updates. Of course Web Based Trainings can also be integrated into a supervised learning process such as a WebQuest. By using accompanying elements such as forum discussions, Web Based Trainings achieve a higher effectiveness than isolated computer based trainings, which the learner works on without supervision.

Webinar⁵⁴

A webinar is an information or sales event, a lecture or small online "seminar" of an average length of 30 to 90 minutes, which takes place at fixed times on the Internet and is broadcast there.

On one side of the webinar is the **webinar** presenter ("moderator"), on the other side the **webinar participants**. These participants can be 5, 10, 50 or even several hundred. Only in exceptional cases is a webinar or a single webinar date aimed at just *one* participant.

In general, a webinar is designed for several participants at the same time. The webinar provider invites the participants to his home or office, figuratively speaking "like a webcam". However, not to look at his private life. Rather, he uses text and sound to introduce the participants to a presentation that he has prepared on his computer and now presents.

⁵³ <https://www.fct-akademie.com/fachbegriff-lexikon/>

⁵⁴ <https://www.webinaris.com/was-ist-eigentlich-ein-webinar/>



WebQuest⁵⁵

WebQuests are complex, computer-supported teaching-learning arrangements on the Internet, which promote action-oriented and self-directed, sometimes autonomous learning. The procedure in a WebQuest is very precisely defined by a multi-level concept.

In a WebQuest, after an introduction to a real problem, the participants are given a task which they work on in learning groups with the help of given authentic information sources. Primarily these sources are accessible on the Internet and are retrieved there. However, other material can also be used, e.g. from computer based trainings, Web Based Trainings), learning booklets, expert input in the virtual real-time classroom, books, magazines, etc. Besides learning in a team, the WebQuest also focuses on the independent work of the participants, which should lead to the independent construction of knowledge.

Whiteboard

A whiteboard is an electronic white board that appears on the computer of the participants and allows them to exchange texts, graphics, etc. among themselves, to work on them together and then to save them as work results.

Wiki⁵⁶

A Wiki is a hypertext system whose contents can not only be read by users but also changed online. This feature is provided by a simplified content management system, the so-called Wiki software or Wiki engine. The wiki uses an easy-to-learn markup language to edit the content. Learning platforms are now generally equipped with a Wiki. One of the best known Wikis on the Internet is Wikipedia.

⁵⁵ <https://www.fct-akademie.com/fachbegriff-lexikon/>

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VI. LIST OF ILLUSTRATIONS

1. Cover picture: Source: Gerd Altmann on Pixabay, accessed on 4.8.2020