

# WIFI INTERNATIONAL E-LEARNING GUIDE 2020



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# I. INTRODUCTION

Qualified and motivated employees are the heart of every company and more important than ever in times of shortage of skilled workers and crises. For this reason, employee training - as a central element of personnel development - is very important. The necessary trend towards "lifelong learning" creates new cases of application, and the increasing digitalization of education opens up completely new possibilities for knowledge transfer. The task of a personnel developer or managing director is now to keep an overview in this ever larger and more complex market and to find and implement the right online training solutions for his or her own company.<sup>1</sup>

## A) AIM OF WIFI INTERNATIONAL

**WIFI International supports Austrian companies in finding the optimal, tailor-made and flexible online offer for WIFI trainings for foreign employees and offers the appropriate individual online training solution.**

The **classic face-to-face seminar is by no means obsolete**, but it should only be used for the right topics and<sup>2</sup> supported by sustainable, digitalized formats.

The **transfer of knowledge in seminar form<sup>3</sup>** is to be preferred above all for the areas of communication, conflict management and personality, sales, customer service, telephone service, train the trainer (with possible ISO certification), etc., since here personal contact and direct experience and self-experience in various situations is particularly important for learning.

All other training topics can be covered well with **online trainings in the** form of learning platforms and webinars, virtual classrooms as well as blended learning.

Within the company itself, **learning on demand also takes** place via internal company information networks, depending on the possibilities. WIFI International can become part of the internal online training catalogue with its training courses.

Even for **recurring, identical or legally updated knowledge transfer**, classroom training is usually not optimal<sup>4</sup>, e.g. in the case of the annually recurring security briefing, where online training is ideal.

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<sup>1</sup> <https://www.lecturio.de/magazin/methoden-und-anwendungsgebiete-zur-mitarbeiterschulung/>

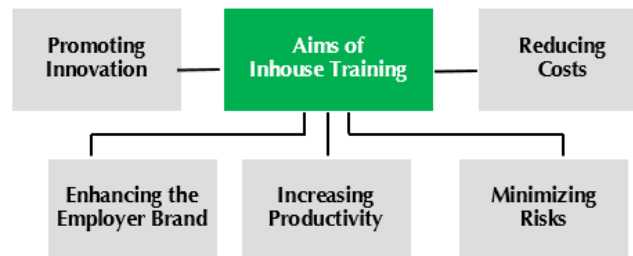
<sup>2</sup> <https://www.lecturio.de/magazin/methoden-und-anwendungsgebiete-zur-mitarbeiterschulung/>

<sup>3</sup> <https://www.lecturio.de/magazin/methoden-und-anwendungsgebiete-zur-mitarbeiterschulung/>

<sup>4</sup> <https://www.lecturio.de/magazin/methoden-und-anwendungsgebiete-zur-mitarbeiterschulung/>

## B) OBJECTIVES OF INHOUSE TRAINING FROM THE POINT OF VIEW OF THE COMPANY<sup>5</sup>

In addition to recruiting suitable employees, one of the most important tasks in the human resources area is to **expand and enhance the skills of existing staff**. The 5 most important goals are:



- **Promoting innovation:** If you want to survive in competitive markets, you must constantly reinvent yourself. The more educated employees are, the higher the probability that they will develop innovative ideas for the company.
- **Enhancing the employer brand:** Investing in employee training also sends a signal: "In this company, employees are valued and promoted. Further training measures thus attract applicants on the one hand and bind existing employees to the company by increasing their commitment on the other," as Karlheinz Schwuchow emphasizes in his standard work on personnel development. [Karlheinz Schwuchow: Personnel Development]
- **Increasing productivity:** Qualified employees work better and faster. The fitter they are in Excel, for example, the faster they process tasks and the higher the output. A project that is managed by a qualified project manager is usually implemented both more efficiently and effectively.
- **Minimizing risks:** Even economically successful companies are exposed to permanent risks. Partly through deliberately damaging behavior (e.g. corruption) and possibly also through ignorance (e.g. employees agree on prices and are not aware of the illegality of this) or through unforeseen events such as pandemics. The company is also responsible for the safety of its employees. The provision of appropriate knowledge and instruction to employees help to minimize these risks.

<sup>5</sup> <https://www.lecturio.de/magazin/methoden-und-anwendungsgebiete-zur-mitarberschulung/>

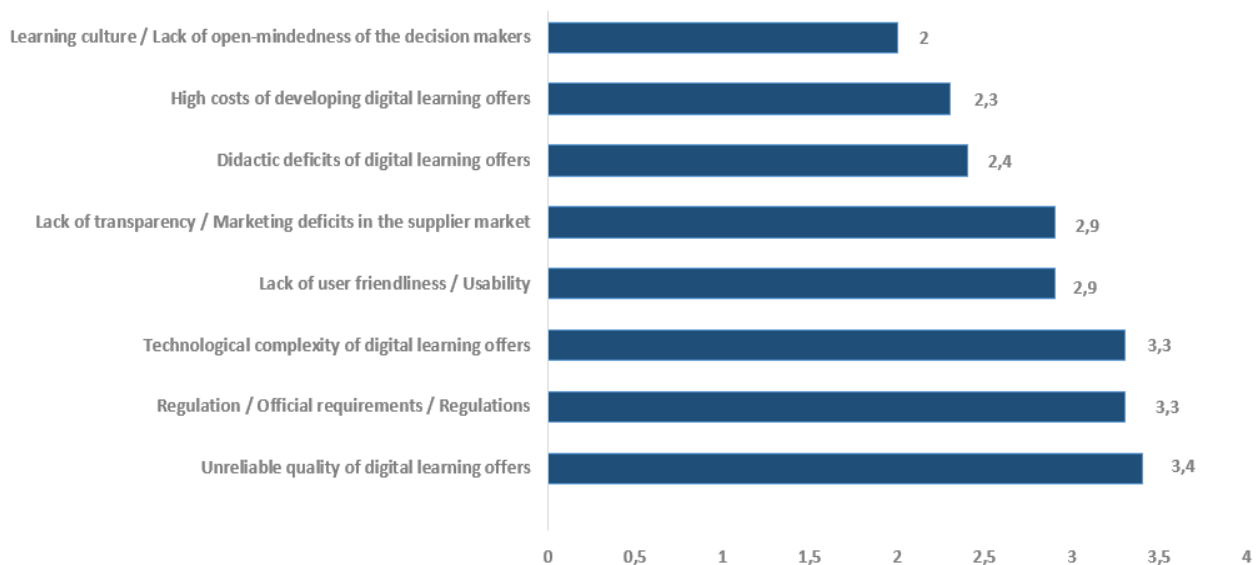
- **Reducing costs:** In addition to the goal of more output from employees, it is particularly important in the manufacturing industry to achieve consistent output at lower costs. Trained employees can, for example, reduce material consumption or make more efficient use of the working time of employees or service providers.

It is the task of the personnel department or, in smaller companies, the management to contribute to these goals by qualifying the employees. This requires a basic understanding of the applications for further training and the forms of knowledge transfer.

## C) THE CHALLENGE OF ONLINE TRAINING FOR COMPANIES

In a study 78% of all respondents stated that e-learning in Germany will either grow or be established in 2017 [Trend Study MMB Learning Delphi 2014]:<sup>6</sup>





What topical problems or obstacles currently stand in the way of a faster development of digital learning in Germany? Please give your assessment on a 6-point scale according to the school grading system.



Source: MMB-Institut für Medien- und Kompetenzforschung © Statista 2018  
Further Information: Germany: 68 Experts

<sup>6</sup> <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>

## D) ADVANTAGES AND DISADVANTAGES OF DIFFERENT FORMS OF FURTHER EDUCATION<sup>7</sup>

Overview of the Advantages and Disadvantages of the Various Forms of Further Training			
Classroom Training	Blended Learning	Webinar	E-Learning
 Seminar Workshop	 Preparation online, then discussion in the presence phase	 Online appointment with dialogue possibility	 Online-application: WBT, CBT, Video Training, Virtual Classroom, Social Learning u.a.
+ Social contacts, Networking	+ Social contacts, Networking		
+ Live-Interaction	+ Online-Interaction Live-Interaction	+ Online-Interaction	+ Asynchronous Interaction
- Availability at a fixed time	+ Constant availability, repeatability - Availability at a fixed time	- Availability at a fixed time	+ Constant availability, repeatability
- Localization	+ Independence of location - Localization	+ Independence of location	+ Independence of location
- Travel expenses	- Partly travel expenses	+ Cost advantages	+ Cost advantages

(Source: Lecturio)

## E) ADVANTAGES AND DISADVANTAGES OF E-LEARNING<sup>8</sup>

### Advantages:

- **Flexibility in time and space** (use e-learning when and where you want).
- **Adjustment of the learning speed** (control your learning speed according to your needs).
- **Simple extension of the learning content** (e-learning content can be easily extended, exchanged or removed).
- **Usability of the e-learning content** (once produced, content can be applied to other company areas as often as desired)
- **Cost efficiency** (save time, effort and money by using e-learning).
- **Flexible number of users** (no crowded seminar rooms or lecture halls, digital content is consumed by as many users as necessary).

<sup>7</sup> <https://unternehmer.de/it-technik/183128-e-learning-disruption-sog-digitale-revolution>

<sup>8</sup> <https://blog.mynd.com/de/elearning-einsatzgebiete>



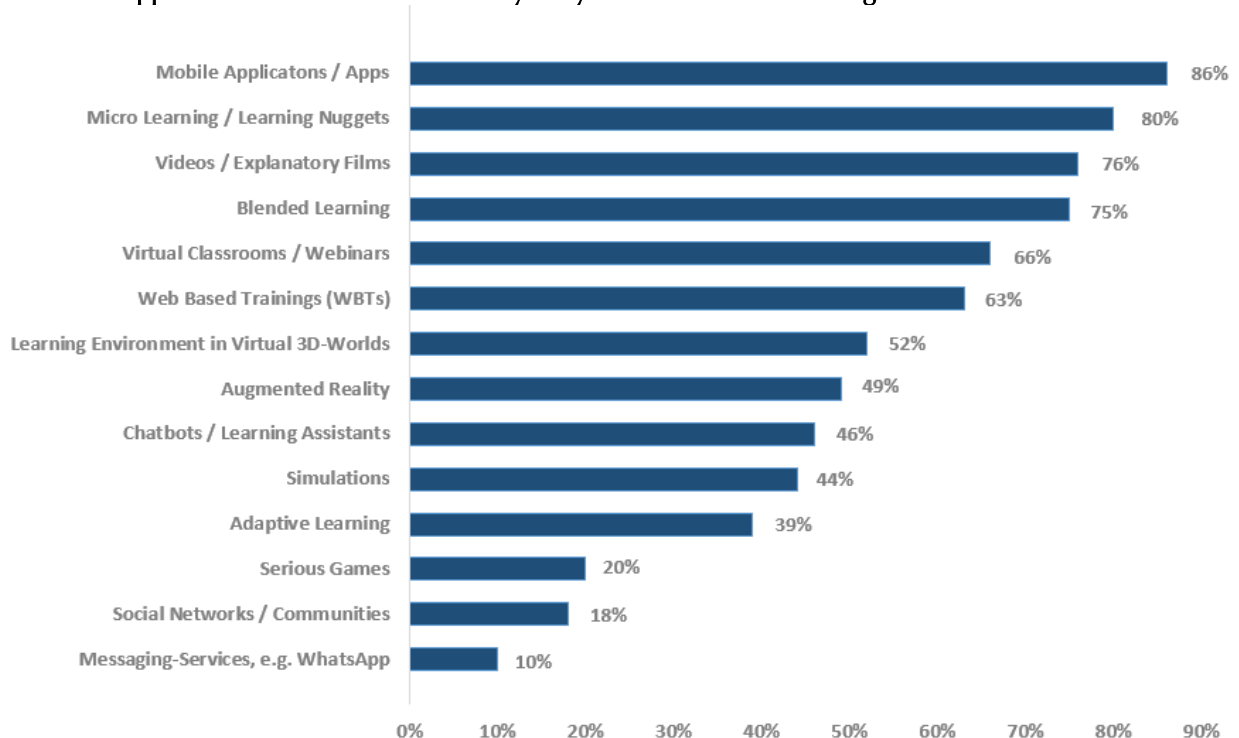
## Disadvantages:

- **Absence of physical social interaction** (each participant learns "on his own", group effects or other social interactions are made more difficult by the digital environment)
- **Lack of individual approach to learners** (teachers cannot respond to specific needs of learners, the content is the same for each participant)
- **No control over progress and motivation** (e-learning offers no direct information about the learner's commitment, willingness and motivation).
- **User scepticism** (regarding the effectiveness and efficiency of e-learning measures).

## F) E-LEARNING OF THE FUTURE

Increased **mobile learning** is generally the **trend for the future** (see statistics below):

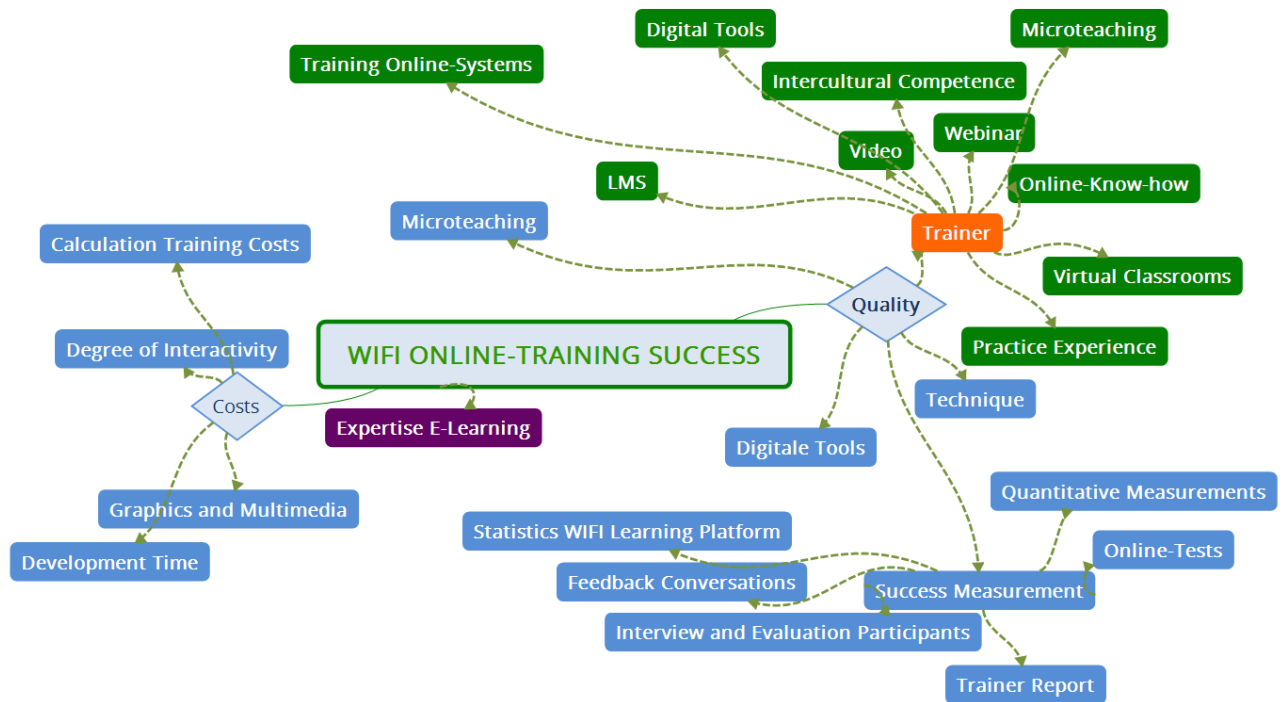
### Which Applications Will be Commercially Very Successful in E-Learning Over the Next 3 Years?



Source: MMB-Institut für Medien- und Kompetenzforschung © Statista 2020

Further Information: Austria, Germany, Switzerland: November 2019 until January 2020: n = 59-60 Experts: Expert Interviews

## G) WIFI-E-LEARNING OF THE FUTURE MINDMAP



Source: WIFI International 2020

## II. QUALITY CRITERIA FOR E-LEARNING<sup>9</sup>

For e-learning 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.

E-Learning 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 e-learning 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 e-learning 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 e-learning, 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.

### A) QUALITY INDICATORS FOR E-LEARNING PROVIDERS<sup>10</sup>

- **Certificates and awards:** When independent expert juries award a provider, then this judgement carries weight! In the field of e-learning and video learning, there are many different awards at national and international level.
- **Press releases about the e-learning provider:** Does a provider even appear in the press? If so, with which media and how extensively? And, what do the journalists write about him in detail, about his strengths and weaknesses?
- **The e-learning provider as an expert in the media:** Do employees of a provider also appear as experts in the press or in public? For example, as authors of specialist articles, in the context of an interview or in the form of expert lectures?
- **Reference customers and projects:** It is also revealing for which customer companies a provider has already realized projects, and what scope, content and success this has had in detail. And, if a provider cannot present all projects in detail on the homepage due to legal reasons - just contact him without obligation, he will be able to tell you more in an interview.

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<sup>9</sup> <https://issuu.com/gstadlober/docs/qualitaetskriterien/> "Quality Criteria for E-Learning"-PDF BMBWK Vienna 2006

<sup>10</sup> <https://www.pinkuniversity.de/blog/checkliste-das-sind-die-3x6-entscheidenden-qualitaetskriterien-fuer-e-learning-provider/>

- **Personal recommendations:** Ask your colleagues, friends and acquaintances whether they have already had good experiences with an e-learning provider. A few e-mails, phone calls or a short call in your Xing, Twitter or even Facebook account can bring you valuable tips and personal recommendations.
- **Examples, examples, examples:** Let us show you examples that have been produced under real conditions so far. Not image trailers but projects. Especially in the area of standard content, a detailed screening is the best method.

## B) CHECKLIST VIDEOLEARNING - DO'S AND DON'TS<sup>11</sup>

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 WIFI 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"/>

<sup>11</sup> <https://www.pinkuniversity.de/blog/checkliste-das-sind-die-3x6-entscheidenden-qualitaetskriterien-fuer-e-learning-provider/>

## C) SHORT CHECKLIST PREPARATION E-LEARNING COURSES<sup>12</sup>

Short Checklist Preparation E-learning Courses: <sup>13</sup>	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 e-learning.	<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"/>
E-learning 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 WIFI learning platform. Tests and knowledge questions are prepared.	<input type="checkbox"/>

<sup>12</sup> <https://www.pinkuniversity.de/blog/checkliste-das-sind-die-3x6-entscheidenden-qualitaetskriterien-fuer-e-learning-provider/>

<sup>13</sup> <https://www.pinkuniversity.de/e-learning-qualitaet/>

## D) CHECKLIST TECHNICAL REQUIREMENTS E-LEARNING FOR TRAINERS AND PARTICIPANTS

Checklist Technical Requirements E-Learning:	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"/>

## E) E-LEARNING PARTICIPANTS CHECKLIST<sup>14</sup>

Checklist Participants E-Learning 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"/>
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"/>

<sup>14</sup> [https://www.e-teaching.org/lehrszenarien/seminar/gruppenarbeit/checkliste/index\\_html](https://www.e-teaching.org/lehrszenarien/seminar/gruppenarbeit/checkliste/index_html)

Checklist participants E-Learning 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"/>

## F) CHECKLIST SELECTION OF E-LEARNING MEASURES<sup>15</sup>

Checklist for Selecting E-learning 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 WIFI International 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"/>

<sup>15</sup> <https://www.betriebsrat.com/checkliste/130/64532/e-learning-auswahl-von-e-learning-massnahmen>



## G) E-LEARNING TRAINER CHECKLIST<sup>16</sup>

1. INFORMATION ON ONLINE-COURSE	Yes	Partially	No	Not Relevant
<b>1.1. Target group and requirements:</b> Are the target group and the successful requirements for using the online course described?				
<b>1.2. Targets:</b> Are the objectives of the online course stated in terms of the skills, abilities or competences to be acquired?				
<b>1.3. Contents:</b> Are the topics and subject-related content covered in the online course listed?				
<b>1.4. Process and organization:</b> Is a description of the process and organization of the online course available?				
<b>1.5. Performance expectations and assessment:</b> Are the performance expectations and methods of performance assessment presented?				
<b>1.6. Assistance for moderators:</b> Does the online course include a guide for facilitators?				
2. LEARNING CONTENT AND –MATERIALS	Yes	Partially	No	Not Relevant
<b>2.1. Technical correctness:</b> Are the learning contents presented technically and formally correct?				
<b>2.2. Copyright:</b> Are copyrights taken into account and correctly stated in the materials and media used?				
<b>2.3. Goal orientation:</b> Are the learning contents and materials suitably selected with regard to the goals of the online course?				
<b>2.4. Target group orientation:</b> Are the learning contents and materials selected and designed for the target group?				
<b>2.5. Practical relevance:</b> Are the contents and materials available that give the learners a clear practical and application orientation?				
<b>2.6. Media and file formats:</b> Are the materials and media used provided in common formats?				
<b>2.7. Media use:</b> Is the media design of the materials conducive to learning?				
<b>2.8. Gender justice:</b> Are the contents and materials used selected or designed in a gender-appropriate manner?				
3. LEARNING TASKS AND ACTIVITIES	Yes	Partially	No	Not Relevant
<b>3.1. Goal orientation:</b> Are the learning tasks and activities goal-oriented?				
<b>3.2. Target group orientation:</b> Are the learning tasks and activities designed for the target group?				
<b>3.3. Didactic structuring:</b> Is the sequence of learning tasks and activities didactically structured?				
<b>3.4. Methodological diversity:</b> Are the learning tasks and activities methodologically diverse?				
<b>3.5. Clarity and completeness:</b> Are the learning tasks and activities clearly formulated and provided with all necessary information?				
<b>3.6. Motivation:</b> Are the learning tasks and activities designed to promote motivation with regard to the target group?				
<b>3.7. Communication and cooperation among learners:</b> Does the online course provide opportunities for communication and cooperation among learners?				
<b>3.8. Feedback:</b> Is feedback on learning tasks and activities provided by the facilitator or co-learners?				
<b>3.9. Learning-friendly teaching climate:</b> Does the online course support a learning-friendly teaching climate?				

<sup>16</sup> [https://moodle.cooltrainers.at/pluginfile.php/16692/mod\\_resource/content/1/Kriterienkatalog\\_moderierte\\_Online-Courses\\_2010.pdf](https://moodle.cooltrainers.at/pluginfile.php/16692/mod_resource/content/1/Kriterienkatalog_moderierte_Online-Courses_2010.pdf)

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

## H) CHECKLIST TRAINER WEBINAR 1<sup>17</sup>

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"/>

<sup>17</sup> <https://content-marketing-star.de/webinarguide/>

## I) CHECKLIST TRAINER WEBINAR 2<sup>18</sup>

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"/>
Read chat messages from participants out loud when they are intended for all to ensure live status.	<input type="checkbox"/>

<sup>18</sup> <https://content-marketing-star.de/webinarguide/>

Checklist Trainer Webinar 2	Complies with
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"/>

## J) INTEGRATION OF A CLASSICAL LMS SYSTEM

WIFI International provides the corresponding content and tests for the respective course via the **WIFI LMS System (Learning Management System)**. In addition, the WIFI 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.

## K) WEBINARS

In addition to the WIFI LMS system, WIFI International 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.

## L) 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 WIFI 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.

## M) MICROTEACHING (MICROLEARNING)<sup>19</sup>

Microteaching conveys content in small pieces (microcontent). The microcontent can be made available completely online in the form of e-learning. 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.

## N) DIGITAL TOOLS FOR ONLINE TRAINING<sup>20</sup>

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](http://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

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<sup>19</sup> <https://www.blink.it/blog/microlearning-3-regeln-zur-erstellung-von-lernhaepchen>

<sup>20</sup> Eichinger, DI Thomas / Trainer WIFI Lower Austria, 2020

- 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](http://www.kahoot.it) (as participant), [www.kahoot.com](http://www.kahoot.com) (as trainer, must be registered for free with Google or Facebook)
- **Plickers:** Quizztool 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](http://www.mentimeter.at) (multiple choice test)
- **Word Cloud:** <https://www.wordclouds.com> or <https://www.jasondevies.com/wordcloud/>

#### 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](http://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://wetransfer.com>

#### Graphics and design:

- **Flipchart photos:** Microsoft Office Lens and <https://www.camscanner.com> rectify flipchart photos
- **Online image editing:** [www.pixlr.com](http://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. E-LEARNING CALCULATION MODEL

#### A) OVERVIEW OF COST FACTORS<sup>21</sup>

It is difficult to name a fixed cost rate for web-based training without learning support, tailor-made e-learning courses, because each course is unique in terms of its requirements, content and the needs of the learners. Therefore, three important factors that influence the cost framework should be known:

- Graphics and multimedia
- Degree of interactivity
- Development time

#### B) GRAPHICS AND MULTIMEDIA<sup>22</sup>

For the creation of a Web-based training course, a basic layout is usually created according to the training provider's/company's specifications. This layout contains, for example, the training provider's/company's logo and colors. Pictures, videos, audio or even 3D animations are then used to create the individual screen pages.

##### Low complexity

- The customer provides graphics and videos or these are obtained from photo databases (so-called stock photos).
- The individual elements are only slightly reworked, e.g. their size is adjusted.

##### Medium complexity

- Graphics and sound will be created especially for this course.
- illustrations and graphics will be developed.
- Existing video material is edited.

##### High complexity

- Creation of animated graphics
- Video creation
- very high: 3D animations

The higher the complexity, hence the effort for each element, the higher the cost.

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<sup>21</sup> <https://www.infoport.de/kostenfaktoren-fuer-die-erstellung-von-e-learning/>

<sup>22</sup> <https://www.infoport.de/kostenfaktoren-fuer-die-erstellung-von-e-learning/>



## Degree of interactivity

Should the course lead the learners to the content in a straight line? Or should the learner be able to try things out? Reach the goal in different ways and skip familiar learning contents or work his way up from level to level like in a game?

This is a question of interactivity, the type and degree of interaction or control a learner has over the learning elements. More interactivity and thus more choice for the learner results in higher development effort and costs.

### Interactivity: simple

- Linear content
- Learning control with text questions e.g. multiple choice test
- Limited number of tailored interactions, lessons, tests
- Working with existing graphic templates and navigation

### Interactivity: medium

- Contents freely selectable
- Average number of tailor-made interactive lessons and learning controls
- Limited use of graphic templates, higher number of freely designed navigation elements
- Integration of graphic exercise elements

### Interactivity: high

- The contents are prepared in scenarios, with branching contents and activities
- Generous use of specially designed learning content and tests
- Integration of many and elaborately designed exercises
- Customized navigation

## Development time

For some e-learning courses there are already existing training documents such as PowerPoint presentations, for others there are only a few ideas. The development process usually involves a didactics/E-Learning expert and a subject matter expert, often from the client himself. In general, the better the material is already prepared for learning, the faster the content can be prepared to form a course.

### Development time: short

- The structure of the course content has already been developed.
- The contents are already well pre-structured for e-learning with clear learning goals.
- There are already templates that can be used for interactive parts, lessons, quizzes. Multimedia contents are already available.
- The contents are not complex.

### **Development time: medium**

- The content is not yet fully structured, and there are no templates for interactions, quizzes, etc.
- The contents are prepared for a different teaching format, such as a classroom seminar.
- The contents are more specialized.
- The course structure is still under construction and not all learning contents have been defined yet.

### **Development time: high**

- The contents are highly specialized.
- The course does not exist in any other format.
- The contents are not yet structured, only rough notes are available.

Even though it is difficult to give a budget: In practice, average values of about EUR 100 - EUR 450 per minute of e-learning are common, an hourly price lies between EUR 6,000 and EUR 25,000. In exceptional cases, this price can be much higher.

## IV. PERFORMANCE MEASUREMENT E-LEARNING<sup>23</sup>

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 COURSES<sup>24</sup>

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 WIFI participation evaluations to assess the WIFI trainer and the course.

### C) TRAINER REPORT

The WIFI 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.

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<sup>23</sup> <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>

<sup>24</sup> <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>

## D) ONLINE TESTS<sup>25</sup>

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 WIFI LEARNING PLATFORM

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

## F) FEEDBACK MEETINGS<sup>26</sup>

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 MEASUREMENTS<sup>27</sup>

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.

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<sup>25</sup> <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>

<sup>26</sup> <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>

<sup>27</sup> <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>

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 Learning<sup>28</sup>

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))<sup>29</sup>

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 Sharing<sup>30</sup>

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.

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

<sup>29</sup> <https://www.lecturio.de/magazin/e-learning-lexikon/>

<sup>30</sup> <https://www.seminarmarkt.de/Infothek/Application-Sharing,153001#fromList>

## Asynchronous Communication<sup>31</sup>

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)<sup>32</sup>

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, Udutu/Canada, Articulate Studio, Techsmith Cantasia, Adobe Captivate.

## Blended Learning (Hybrid Learning, Multi-Method Learning)<sup>33</sup>

Blended Learning is the combination of different learning methods, learning activities and learning media including e-learning, 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.<sup>34</sup>

The tutor creates a curriculum, taking into account the e-learning possibilities, in which online and presence phases alternate and build on each other didactically.<sup>35</sup> By making optimal use of the strengths of e-learning in the preparatory and follow-up phases, the transfer of knowledge is ensured. In the presence phase, the focus is not on knowledge transfer but on the implementation of knowledge.

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<sup>31</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

<sup>32</sup> <https://www.lecturio.de/magazin/e-learning-lexikon/>

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

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

<sup>35</sup> <https://www.lecturio.de/magazin/e-learning-lexikon/>

## **Blog<sup>36</sup>**

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)<sup>37</sup>**

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.

## **Chat<sup>38</sup>**

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 Learning<sup>39</sup>**

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.

## **Computer Based Training (CBT)<sup>40</sup>**

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

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<sup>36</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

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

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

<sup>39</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

<sup>40</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

Training (WBT), it is not necessary for the PC to have a connection to the Internet or Intranet during the learning session.

## **Digital Natives<sup>41</sup>**

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**

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.

## **Distance Learning<sup>42</sup>**

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 Management<sup>43</sup>**

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.

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<sup>41</sup> [https://de.ryte.com/wiki/Digital\\_Native](https://de.ryte.com/wiki/Digital_Native)

<sup>42</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

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



## **E-Learning<sup>44</sup>**

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

## **Forum<sup>45</sup>**

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.

## **Gamification<sup>46</sup>**

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.

## **Groupware<sup>47</sup>**

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.

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

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

<sup>46</sup> <https://www.medienkompetenzportal-nrw.de/handlungsfelder/schule/medienpaedagogisches-lernen/gamification-im-unterricht.html>

<sup>47</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

## Live Web Learning<sup>48</sup>

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.

## Learning Management Systems (LMS) / Learning Platform, Virtual Learning Environments (VLE)<sup>49</sup>

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

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

<sup>49</sup> <https://www.lecturio.de/magazin/e-learning-lexikon/>

an interface and subsequently linked to the content in a targeted manner via the course administration.

## Microteaching (Microlearning)<sup>50</sup>

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)<sup>51</sup>

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)<sup>52</sup>

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.

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<sup>50</sup> [https://www.haufe.de/personal/hr-management/microlearning-definition-beispiele-kosten\\_80\\_501544.html](https://www.haufe.de/personal/hr-management/microlearning-definition-beispiele-kosten_80_501544.html)

<sup>51</sup> <https://www.lecturio.de/magazin/e-learning-lexikon/>

<sup>52</sup> <https://www.lecturio.de/magazin/e-learning-lexikon/>

## Online Training<sup>53</sup>

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 Certification<sup>54</sup>

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)<sup>55</sup>

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)<sup>56</sup>

SCORM is a web-based interface for importing and exporting digital learning content into e-learning 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
- Reuse and combination of learning modules from different learning programs of different manufacturers
- Subsequent editing of the digital learning content

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

<sup>54</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

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

<sup>56</sup> <https://www.lecturio.de/magazin/e-learning-lexikon/>

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)<sup>57</sup>**

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 Media<sup>58</sup>**

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.

## **Social Learning<sup>59</sup>**

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.

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<sup>57</sup> <https://www.lecturio.de/magazin/e-learning-lexikon/>

<sup>58</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

<sup>59</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

## **Synchronous Communication<sup>60</sup>**

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 Tutor<sup>61</sup>**

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)<sup>62</sup>**

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. 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.

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<sup>60</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

<sup>61</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

<sup>62</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

## Web Based Training (WBT)<sup>63</sup>

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.

## Webinar<sup>64</sup>

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.

## WebQuest<sup>65</sup>

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

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<sup>63</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

<sup>64</sup> <https://www.webinaris.com/was-ist-eigentlich-ein-webinar/>

<sup>65</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>

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.

## **Wiki<sup>66</sup>**

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.

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<sup>66</sup> <https://www.fct-akademie.com/fachbegriff-lexikon/>



## VI. LIST OF SOURCES

1. <https://www.lecturio.de/magazin/methoden-und-anwendungsgebiete-zur-mitarbeiterschulung/>, page 5, accessed on: 2.4.2020
2. <https://www.lecturio.de/magazin/methoden-und-anwendungsgebiete-zur-mitarbeiterschulung/>, page 5, accessed on: 2.4.2020
3. <https://www.lecturio.de/magazin/methoden-und-anwendungsgebiete-zur-mitarbeiterschulung/>, page 5, accessed on 2.4.2020
4. <https://www.lecturio.de/magazin/methoden-und-anwendungsgebiete-zur-mitarbeiterschulung/>, page 5, accessed on 2.4.2020
5. <https://www.lecturio.de/magazin/methoden-und-anwendungsgebiete-zur-mitarbeiterschulung/>, page 6, accessed on 2.4.2020
6. <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementation/>, page 7, access on 3.4.2020
7. <https://unternehmer.de/it-technik/183128-e-learning-disruption-sog-digitale-revolution>, page 8, accessed on 3.4.2020
8. <https://blog.mynd.com/de/elearning-einsatzgebiete>, page 8, accessed on 7.4.2020
9. <https://issuu.com/gstadlober/docs/qualitaetskriterien> / "Quality Criteria for E-Learning"-PDF BMBWK Vienna 2006, page 11, accessed on 7.4.2020
10. <https://www.pinkuniversity.de/blog/checkliste-das-sind-die-3x6-entscheidenden-qualitaetskriterien-fuer-e-learning-provider/>, page 11, access on 7.4.2020
11. <https://www.pinkuniversity.de/blog/checkliste-das-sind-die-3x6-entscheidenden-qualitaetskriterien-fuer-e-learning-provider/>, page 12, accessed on 7.4.2020
12. <https://www.pinkuniversity.de/blog/checkliste-das-sind-die-3x6-entscheidenden-qualitaetskriterien-fuer-e-learning-provider/>, page 13, access on 8.4.2020
13. <https://www.pinkuniversity.de/e-learning-qualitaet/>, page 13, accessed on 8.4.2020
14. [https://www.e-teaching.org/lehrszenarien/seminar/gruppenarbeit/checkliste/index\\_html](https://www.e-teaching.org/lehrszenarien/seminar/gruppenarbeit/checkliste/index_html), page 14, accessed on 8.4.2020
15. <https://www.betriebsrat.com/checkliste/130/64532/e-learning-auswahl-von-e-learning-massnahmen>, page 16, accessed on 9.4.2020
16. [https://moodle.cooltrainers.at/pluginfile.php/16692/mod\\_resource/content/1/Kriterienkatalog\\_moderierte\\_Online\\_courses\\_2010.pdf](https://moodle.cooltrainers.at/pluginfile.php/16692/mod_resource/content/1/Kriterienkatalog_moderierte_Online_courses_2010.pdf), page 17, accessed on 9.4.2020
17. <https://content-marketing-star.de/webinarguide/>, page 19, accessed on 9.4.2020
18. <https://content-marketing-star.de/webinarguide/>, page 20, accessed on 9.4.2020
19. <https://www.blink.it/blog/microlearning-3-regeln-zur-erstellung-von-lernhaepchen>, page 22, accessed on 14.4.2020
20. Eichinger, DI Thomas / Trainer WIFI Lower Austria 2020, page 22

21. <https://www.infoport.de/kostenfaktoren-fuer-die-erstellung-von-e-learning/>, page 24, accessed on 15.4.2020
22. <https://www.infoport.de/kostenfaktoren-fuer-die-erstellung-von-e-learning/>, page 24, accessed on 15.4.2020
23. <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementierung/>, page 27, accessed on 17.4.2020
24. <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementierung/>, page 27, accessed on 17.4.2020
25. <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementierung/>, page 28, accessed on 17.4.2020
26. <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementierung/>, page 28, accessed on 17.4.2020
27. <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreiche-implementierung/>, page 28, accessed on 17.4.2020
28. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 29, accessed on 20.4.2020
29. <https://www.lecturio.de/magazin/e-learning-lexikon/>, page 29, accessed on 20.4.2020
30. <https://www.seminarmarkt.de/Infothek/Application-Sharing>, 153001#fromList, page 29, accessed on 20.4.2020
31. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 30, accessed on 20.4.2020
32. <https://www.lecturio.de/magazin/e-learning-lexikon/>, page 30, accessed on 21.4.2020
33. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 30, accessed on 21.4.2020
34. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 30, accessed on 21.4.2020
35. <https://www.lecturio.de/magazin/e-learning-lexikon/>, page 30, accessed on 21.4.2020
36. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 31, accessed on 21.4.2020
37. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 31, accessed on 22.4.2020
38. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 31, accessed on 22.4.2020
39. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 31, accessed on 22.4.2020
40. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 31, accessed on 22.4.2020
41. [https://de.ryte.com/wiki/Digital\\_Native](https://de.ryte.com/wiki/Digital_Native), page 32, accessed on 22.4.2020

42. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 32, accessed on 23.4.2020
43. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 32, accessed on 23.4.2020
44. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 33, accessed on 23.4.2020
45. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 33, accessed on 23.4.2020
46. <https://www.medienkompetenzportal-nrw.de/handlungsfelder/schule/medienpaedagogisches-lernen/gamification-im-unterricht.html>, page 33, accessed on 23.4.2020
47. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 33, accessed on 24.4.2020
48. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 34, accessed on 24.4.2020
49. <https://www.lecturio.de/magazin/e-learning-lexikon/>, page 34, accessed on 24.4.2020
50. [https://www.haufe.de/personal/hr-management/microlearning-definition-beispiele-kosten\\_80\\_501544.html](https://www.haufe.de/personal/hr-management/microlearning-definition-beispiele-kosten_80_501544.html), page 35, accessed on 24.4.2020
51. <https://www.lecturio.de/magazin/e-learning-lexikon/>, page 35, accessed on 27.4.2020
52. <https://www.lecturio.de/magazin/e-learning-lexikon/>, page 35, accessed on 27.4.2020
53. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 36, accessed on 27.4.2020
54. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 36, accessed on 27.4.2020
55. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 36, accessed on 27.4.2020
56. <https://www.lecturio.de/magazin/e-learning-lexikon/>, page 36, accessed on 27.4.2020
57. <https://www.lecturio.de/magazin/e-learning-lexikon/>, page 37, accessed on 27.4.2020
58. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 37, accessed on 27.4.2020
59. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 37, accessed on 27.4.2020
60. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 38, accessed on 28.4.2020
61. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 38, accessed on 28.4.2020
62. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 38, accessed on 28.4.2020

63. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 39,  
accessed on 29.4.2020
64. <https://www.webinaris.com/was-ist-eigentlich-ein-webinar/>, page 39,  
accessed on 29.4.2020
65. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 39,  
accessed on 29.4.2020
66. <https://www.fct-akademie.com/fachbegriff-lexikon/>, page 40,  
accessed on 29.4.2020

## VII. LIST OF ILLUSTRATIONS

1. Cover picture: Source: Gerd Altmann on Pixabay, accessed on 4.8.2020
2. Figure 1: 5 Objectives of continuing vocational training from the company's point of view, page 6, Source: <https://www.lecturio.de/magazin/methoden-und-anwendungsgebiete-zur-employee-training/>, accessed on 2.4.2020
3. Figure 2: Trend Study MMBB Learning Delphi 2014, E-Learning in Germany 2017, page 7, Source: <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreicheimplementierung/>, accessed on 3.4.2020
4. Figure 3: Overview of the advantages and disadvantages of various forms of further training, page 8, Source: <https://unternehmer.de/it-technik/183128-e-learning-disruption-sog-digitale-revolution>, accessed on 3.4.2020
5. Figure 4: Which applications will be commercially very successful in eLearning in the next three years? Page 9, Source: <https://www.lecturio.de/magazin/teil-2-digitales-mitarbeiter-training-in-2017-erfolgreicheimplementierung/>, accessed on 3.4.2020
6. Figure 5: WIFI E-Learning of the Future Mindmap, page 10, Source: WIFI International 2020