



onTrain

Online Training, the treasure within

## A. Online Training

### 5. Course Management

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## Let's start



As already mentioned in the chapter E-Learning, online learning environments differ from those in presence. However, they also have some similarities when it comes to the organisation and planning of learning arrangements.

### What am I learning here and why?

In this learning unit we want to achieve that the trainer can structure his online courses well in advance and pay attention to certain things during the conception. For this reason, the basic learning theories are presented as well as the ADDIE-Model. These helps the trainer to structure suitable online trainings for the circumstances (target group, group size, choice of media, etc.).

### What content will I find here?

In this chapter the well-known learning theories (behaviorism, cognitivism, constructivism) are described. Based on this the learner get to know how to create an online course concept according the ADDIE-Model. At the end the online trainer is able to create well-prepared and motivating learning materials. Only the combination of all three components (consideration of the learning theories, the development of a course concept and the production of the learning contents/materials) leads to the fact that an online training can be successful.

## Learning theories

All Learning theories center around the question: How do humans learn best? The solutions for this question can be quite varied as you can read in the following explanations:

### Behaviourism

#### **The dog, the bowl and the bell: Pavlov's experiment**

You've probably heard of "Pavlov's dog". In this experiment, the dog was exposed to **two different stimuli**: a **bowl full of food** and a **ringing bell**. The effect of the stimuli was measured by checking the **dog's salivation**.

In the beginning the dog's salivation doesn't increase when the bell rings, but in the end it does. The term for this is **classical conditioning**. During the course of this experiment the dog learns to connect food and bell. Now he thinks that he is going to get food when the bell rings. The **conditioning** is trained and has to be activated from time to time to work, if not it is simply forgotten. Forgetting a conditioning is called "**extinction**".

## What is Behaviourism?

Behaviorism says, that a stimulus (e.g. food, bell) is followed by a reaction. This is the so-called **stimulus-response pattern**. The effect of the stimulus can be dampened by relating the stimulus to something negative.

## How can I use Behaviourism?

One of the core messages of Behaviourism is that we learn better, when seeing learning/studying as something positive. Simply apply this principle to your course. What could be positive stimuli?

- **Praise:** Praise the participants of your course individually for all the hurdles they overcome when studying and all the progress they make. Everybody started small.
- **Fun/excitement:** Show the participants of your course, that you are happy they take part. Also try to show your own excitement about the subject.
- **Motivation:** Motivate the participants and create a friendly and happy environment in your course.

# Cognitivism

## Man and machine

Cognitivism is a theory from the field of psychology. Cognitivism has a wider perspective on the learning process of humans than Behaviourism. Cognitivism says, that there are not only stimuli (z.B. the bell, the food) to consider but complex, internal processes (“cognitive processes”). Cognitivists see the human as a metaphoric machine.

- Man reacts to “**input**” from an objective reality, e.g. Somebody says “Wake up!”.
- This input is processed in our brain, meaning that for example the information “Wake up!” is noticed, not noticed or solved. These are the internal, **cognitive processes**.
- Human then give “**output**”, for example they might get up.

## What is cognitivism?

Cognitivism is a different answer to the question of how we learn best. Contrary to Behaviourism internal processes are considered and recognised as important and it becomes clear that everybody reacts differently to information.

## How can I use cognitivism?

Behaviourisms answer to learning is repetition; Cognitivism however says that repetition alone is not enough. It is also helpful to **understand** what you are learning:

- **Highlight!** Highlight important information (both in design and writing), so that the text is interesting but not to elaborate.

- **Activate prior knowledge!** What might the participants already know? Insert it in the course.
- **Short n cute.** Present the contents in a structured and short way!
- **Memorizing!** Cognitivism too, thinks that repetition is useful. Let the learners apply what they learned.
- **Feedback:** Maybe you'd like to correct what the participants do. But whatever you do: constructive criticism is the key!

## Constructivism

- Subjectivity
- Constructivism goes even further than Cognitivism. This theory focuses a lot more on **subjectiveness** of every person.

Explaining the theory with the help of the image on the right. Constructivism says:



- Every human takes in **senses** from reality, e.g. the smell of a rose. (picture)<sup>1</sup>.
- These senses are **processed** (e.g. interpreted) in the brain, e.g. the smell of the rose is interpreted as the smell of a rose and rated.

### What is Constructivism?

- Constructivism says: there is not an objective reality. We construct our reality based on our experiences. When we learn the personal background plays a huge role. Every piece of new information we learn is reconstructed in our brain in relation with our prior knowledge. Die Theorie des Konstruktivismus ist folgende: es gibt keine objektive Realität.
- If a teacher wanted to explain love to you, he might use words such as “closeness”, “connection”, “trust” and perhaps sexuality. We take these information in and reconstruct these in our brain. We might relate this to our **previous experiences** with strong feelings and or love, but we all relate something different to it.

When it comes to Constructivism you are more like an **instructor** than a teacher. You provide the information, but the **learners him-/herself has to reconstruct the information**. You can only **help** him/her with that.

- **Small bits:** Present content in a logical, well thought structure and in little bits of information.
- **Trying out:** Give learners the opportunity to try out what they learned.
- **Help!** Help the learners to understand what they learn<sup>2</sup>.

<sup>1</sup> Picture: Rosa “Red Chateau” HT, Kikuo Teranishi (1997) Jingu Rose Garden, Uji-Nakanokiri [Ise, Mie](https://creativecommons.org/licenses/by-sa/3.0/de/) Japan | Hamachidori | Diese Datei ist unter der Creative-Commons-Lizenz Attribution ShareYlike 3.0 CC-BY-SA | <https://creativecommons.org/licenses/by-sa/3.0/de/> | [https://de.wikipedia.org/wiki/Datei:Rosa\\_Red\\_Chateau01.jpg](https://de.wikipedia.org/wiki/Datei:Rosa_Red_Chateau01.jpg)

<sup>2</sup> Cf. GrandExpertS Learning-Unit 2: Methods (author: Elena Coroian, ILI-FAU: Learning theories.

## Development of an online training concept

Now you have a good overview about the learning theories and can certainly remember the different types of learners from Chapter 4 ("New role of the Learner").

But when exactly is a training concept "tailor-made" for my target group? What factors can I tell me? Which aspects do I have to consider?

Conceptually, a simple answer can be found to this question, since this always depends on the respective objectives, which are connected with the qualification measure. However, if you take a more concrete look at the development of the training measures, the answer to the question seems to become more difficult. Because there are a lot of factors which have a decisive influence on the development: In addition to the teaching and learning objectives, it depends on the size and structure of the learning group, in which, in turn, the various contexts from which they originate and their respective previous knowledge play a major role.



**Example 1:** Many older people are limited in their mobility (time, physical, etc.) and cannot take advantage of educational opportunities in an institution. An online learning offer would be best for this target group. A "tailor-made" training should therefore be designed in such a way that the persons can log in flexibly in terms of time and work out the knowledge content according to their needs, their learning speed and their learning path.

Especially in online learning environments it is very important to consider the different success factors when developing training concepts!

Seven phases can be distinguished in the development of qualification measures:

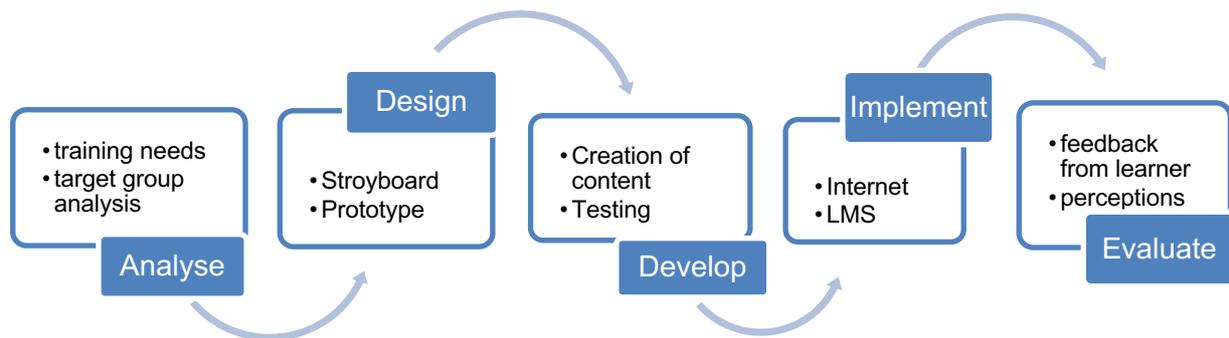
- the determination of requirements,
- the target group analysis,
- the (learning) target definition,
- concept development,
- the learning media/document development
- testing the concept and
- implementation and success control<sup>3</sup>.

### Develop a digital learning environment according to the ADDIE model

The basis of a good digital learning environment is always a well thought-out strategy and development process. One of the best known models in this context is the ADDIE model.

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<sup>3</sup> Cf. Burckhard Wedler: <https://www.weiterbildungsmarkt.net/magazin/passgenaue-trainingskonzepte-entwickeln/> (Stand: 09.08.2019).



Source of this graph: own depiction

## 1. Analyse:

A detailed analysis must be at the beginning of any development of an online learning environment. This first stage of the model is characterized by two important points:

- **Training needs analysis:** You begin with the analysis, because this way it is possible to clarify the necessity and sensibility of an E-Learning. With this analysis the expectations could be identified and how they could be measured.
- **Target group analysis:** If the training needs analysis shows that an online course is actually necessary, the target group (the learners) is analysed in a further step. Helpful questions are:
  - What level of knowledge do the learners have?
  - Is there any information about gender, age, origin, previous knowledge, previous education, etc.?

It is important to find out as much as possible about the target group. Because the more background information and details you have, the easier it is to tailor the online learning offer as precisely as possible to the learners. Once these two analyses have been carried out and completed, it is helpful to fix the insights gained in a project plan.

## 2. Design

With the term “design” there is not only meant the visual design, but also the “media didactic design”, well the pedagogical conception of materials.

Imagine if you had to build a house without a construction plan. That's right, you can't. It is exactly the same if you want to develop an e-learning without first developing a concrete concept.

You'll see: It is much easier to develop an online course if you already have a concrete idea

of how texts, media and navigation are coordinated. Furthermore, this approach helps you to estimate more precisely which resources are needed for the online course and how the available financial resources can be used sensibly. In the second phase of the ADDIE model, the design phase, the following points are to be mentioned:

- **Storyboard:** This document specifies which elements should be displayed on each course page. Depending on the type of e-learning, the storyboard must also be adapted accordingly.
- **Prototype:** This is a model or a first rough version of the online course to test certain functions or concepts.

Once a kind of "roadmap" for the online course has been created, the development of the course can also be started.

### 3. Develop

The development of the online course can now begin. Again, there are two steps to consider:

- **Creation of content:** This means the development of content, the implementation and design of the graphic elements, multimedia, colours, layout and fonts. In addition, there are thoughts on the implementation of navigation, interactions, tasks/learning tests or quizzes to make.
- **Testing:** As far as the content is created, it is necessary to test it. Components that are important in testing: Spelling, grammar, learning objectives, navigation and functions of the course. Testing usually takes place while development is still in full swing, so that any errors or problems that occur can be detected and corrected as early as possible.

### 4. Implement

After the course has been developed and thoroughly tested, it can be released for the learners of the target group. There are usually two ways to provide online learning: Internet or Learning Management System (LMS):

- **Internet:** If it is not primarily a matter of tracking learning behaviour, there is the possibility of uploading the online course directly to the Internet. Learners can access the course via a link previously generated by the trainer, which gives them direct access to the course. As mentioned above, with this option (Internet) the learning activities of individual learners cannot be tracked or reviewed. This also means that you do not get any information about whether the students started the course at all, whether they completed the course to the end, how long the individual's learning activity lasted or whether there were any difficulties, mistakes or problems in using the course.
- **LMS:** However, if it is important for a trainer to track the learning progress of the participants, it is advisable to make the online course available via an LMS. Depending on which LMS you use (open source or paid systems) you can access different functions. As a rule, however, each LMS has a so-called tracking function (can vary slightly in scope) in order to track the learning progress and activities of

the learners. As a trainer, you get a good overview of whether the participants have completed a module or not and how much processing time they have needed.

## 5. Evaluate

In the final phase of the ADDIE model, the evaluation phase, the aim is to compare the findings of the needs analysis (from the beginning) with the online course that has now been completed. The following questions can be helpful: 1) Have the expectations been fulfilled? 2) Is the learning progress measurable?

Evaluation thus comprises two sides: on the one hand, the opinions of the target group on the course and, on the other hand, the achievement of objectives. Each phase of the model is designed to ensure that a high quality online course is ultimately developed and is best adapted to the needs of the learner<sup>4</sup>.

## Examples

### Teaching knowledge



You're known for being able to tie the perfect Windsor knot, so you decide to post a tutorial on your blog. Here are some of the things you would need to consider how to teach others information you have known for a long time; how to explain the steps to a beginner; how to visualize what to do with the tie. Also, how are you going to keep the reader interested even though they might fail a few times? Are there ways to make the information last?

## Exercises



When creating a good online training concept, there are a number of aspects that need to be considered. The learning success of the participants can only be ensured if all points are contained within an appropriate framework. A Theory that can help to identify the most important principles is the *cognitive theory of multimedia learning* from Richard E. Mayer (2001)<sup>5</sup>.

### Exercise 1: Create an online training concept



This chapter dealt with course design and the production of learning materials appropriate for an online course.

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<sup>4</sup> Cf. Eine digitale Lernumgebung nach dem ADDIE-Modell entwickeln | Klante, Sonja, Gundermann, Angelika | Creative-Commons-Lizenz Attribution ShareYlike 3.0 CC-BY-SA | <https://creativecommons.org/licenses/by-sa/3.0/de/> | Project EULE, Cofinanced by BMBF.

<sup>5</sup> Cf. Mayer, R. E. (2001): Multimedia Learning. Cambridge: University Press.

Try to create your own online training concept based on the above described principles ( see the principles of the *cognitive theory of multimedia learning* from Richard E. Mayer (2001):

1. What do you need to keep in mind?
2. What is different from classroom training?

## Exercise 2: Flashlight method



Test the different design possibilities with the participants in your online courses. What is well received? What should you do or change next time? Were the media suitable for communicating the content? At the end of the training, you can easily request feedback on your online course by using a "short flashlight" (query method). Flashlight is a feedback method by which the mood, opinion, satisfaction with the content and relationships in a group can be determined (using chat for synchronous learning; using forums in asynchronous learning arrangements). From the resulting picture of the flashlight round, insights can be drawn which help to adapt the materials to the target group and to constantly improve the entire online course offering<sup>6</sup>.



This chapter relates to the **chapter 4.A “New role of the online learner”** and **chapter 5.B “Motivating the online learner”**.

## Summary



The learner gets an overview of how he can organize his own online learning arrangements and which components are important. For example, at the beginning it is essential to get a brief overview of the various learning theories. These in combination with the reference to the different learning types (see chapter 3) form the basis for the development of a training concept. When creating a training concept, the future online trainer can orientate himself on the ADDIE model and work through the various phases step by step until he/she has a well-structured concept at the end. Now a good training concept has been developed, everything revolves around the creation of the content and learning materials and the question "How do I implement the aspects developed in the training concept in the online session?"

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<sup>6</sup> Cf. Reich, K. (Hg.): Methodenpool. In: URL: <http://methodenpool.uni-koeln.de> 2007ff. online unter <http://methodenpool.uni-koeln.de/download/blitzlicht.pdf> (Stand: 20.08.2019).

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*Construcitivism: Rose*

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