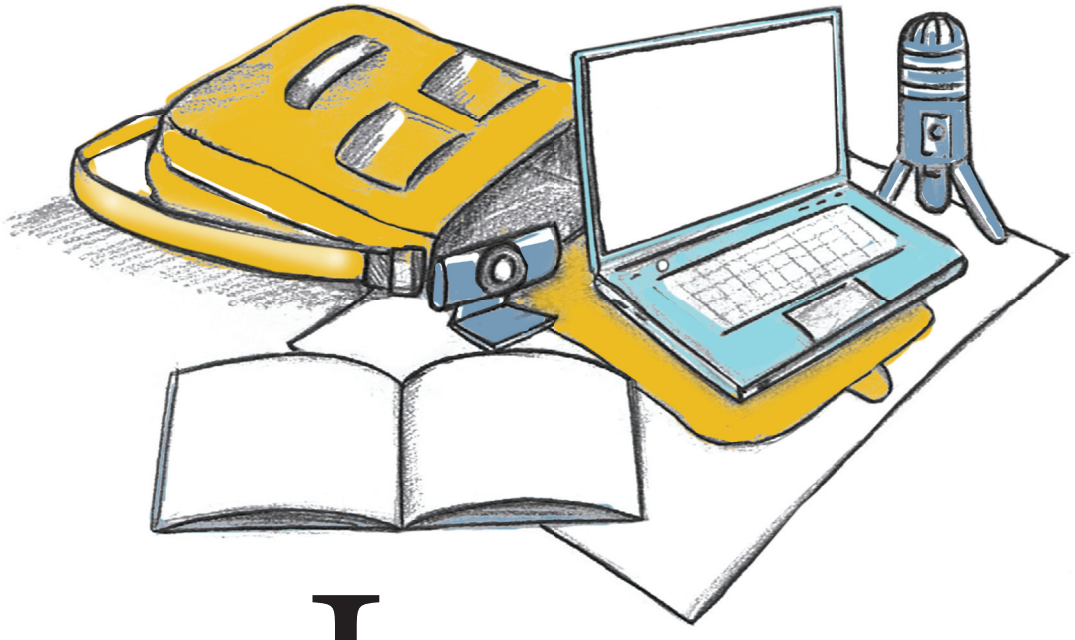


Learn and let learn

Jesse Terpstra, Hugo Veeger, Pieter Kaal and Reinder Bakker

ISBN 978-90-9028466-8

Learn and let learn
Edition 1.1

Written by
Jesse Terpstra, Hugo Veeger, Pieter Kaal and Reinder Bakker
Defacto | www.defacto.nl

Editorial
Maarten Jacobs, Taco Oldenburger and Hans Veeger
Defacto | www.defacto.nl

Design
Hilde Pruis
KOP11 vormgeving | www.kop11.nl

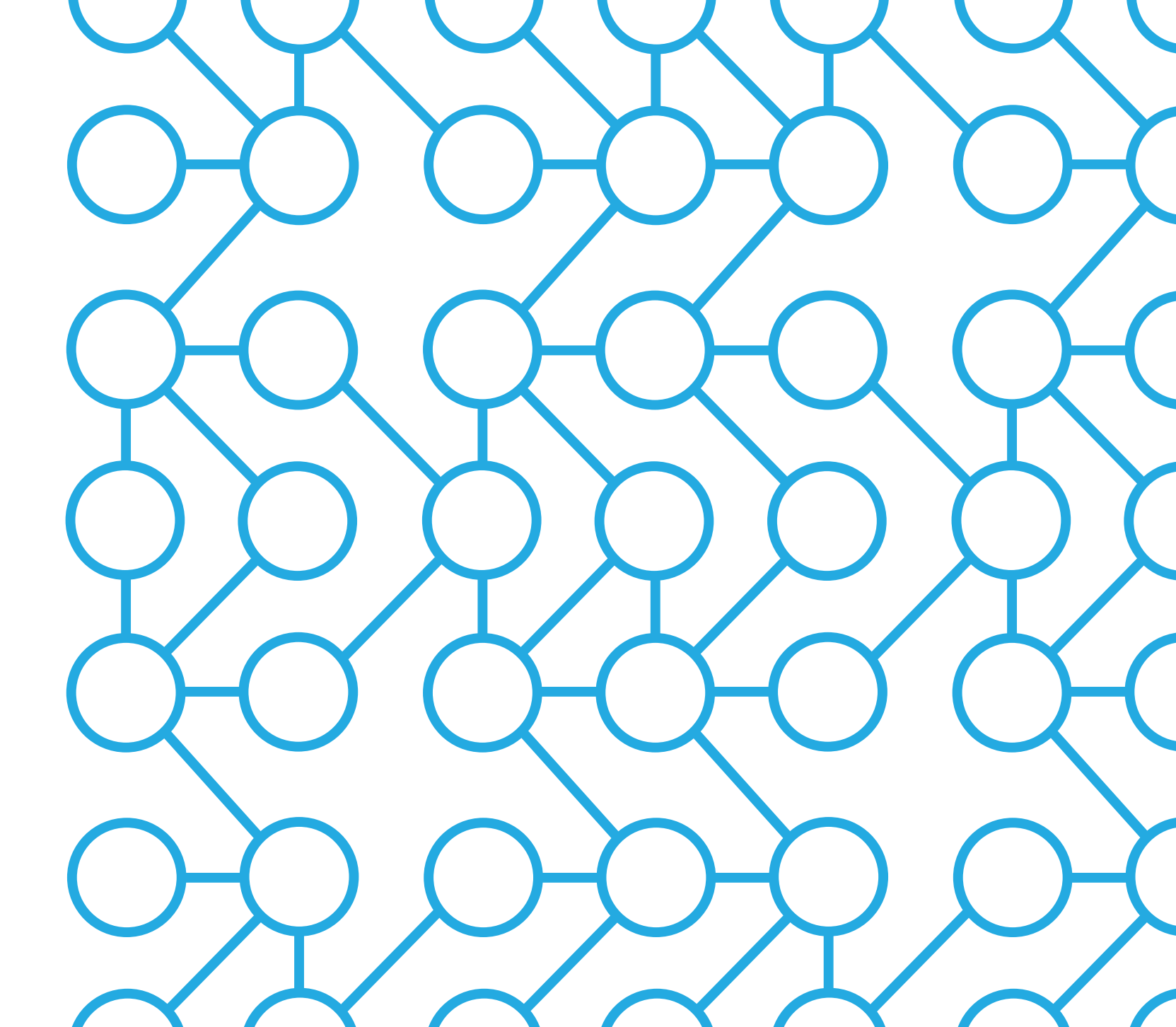
Illustrations
Minke Koopman | www.minkekoopman.nl

Translated from original:
Milda Skladaityte
Iwanna de Jonge

Learn and let learn

Learn how to easily create e-learning material

Contents



Before you start:

What do you think about these statements?

E-learning is, by definition, interactive

..... Yes ..... No

Use of multimedia goes hand in hand with e-learning

..... Yes ..... No

E-learning is something you do online

.....Yes ..... No

Chapter 1

What is e-learning?

Foreword

Twenty five years ago we were writing with a pen and had it typed, nowadays we can do everything ourselves. The digital revolution made it possible for us to be an author, a graphic designer and a printer. Creating educational material is easier, faster and cheaper, and often also more fun than in the past. In addition, we can create most of the material ourselves. Of course, the content needs to be factually correct, but most of us are no strangers to taking a photo, uploading a YouTube video, or recording a spoken text.

Unfortunately, most teachers and educational consultants are not familiar with producing digital material. They still think there is some kind of magic about creating 'e-learning'.
We believe they are mistaken.

In this manual we guide you through all the basic principles of making your own digital educational material in a quick and easy way.

Hans Veeger

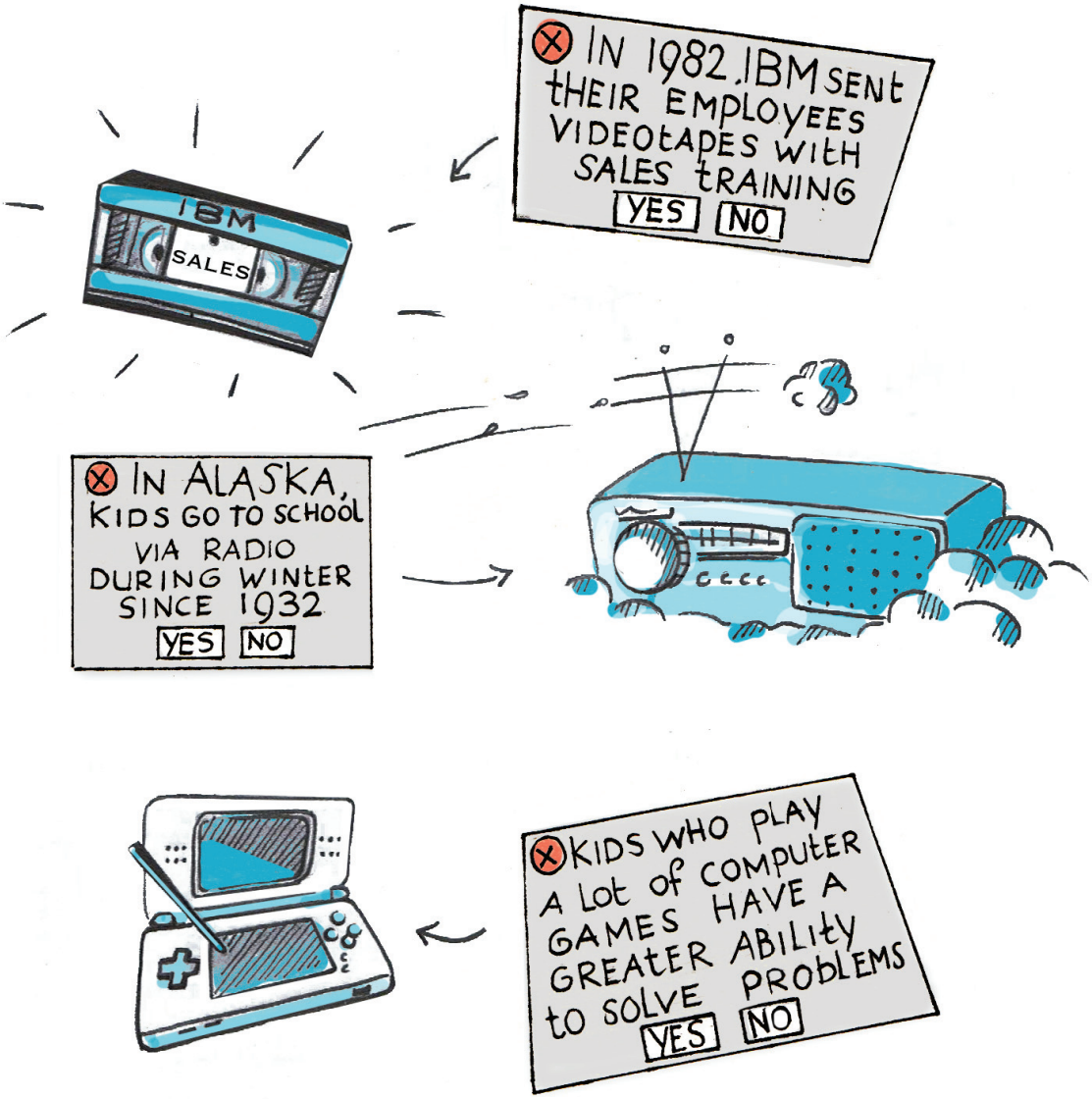
CEO Defacto

Is this e-learning?

E-learning is a notion which causes a lot of confusion. Some people associate e-learning with complex and interactive learning methods, others focus more on self-studying which involves a computer screen.

Discussions on the definition of e-learning can be interesting, but are perhaps not so fruitful when it comes to actually creating content. Ultimately your focus should be on the purpose, form and content of your e-learning project.

Before we can influence your ideas on e-learning, it might be good to reflect and ask yourself what e-learning means to you.



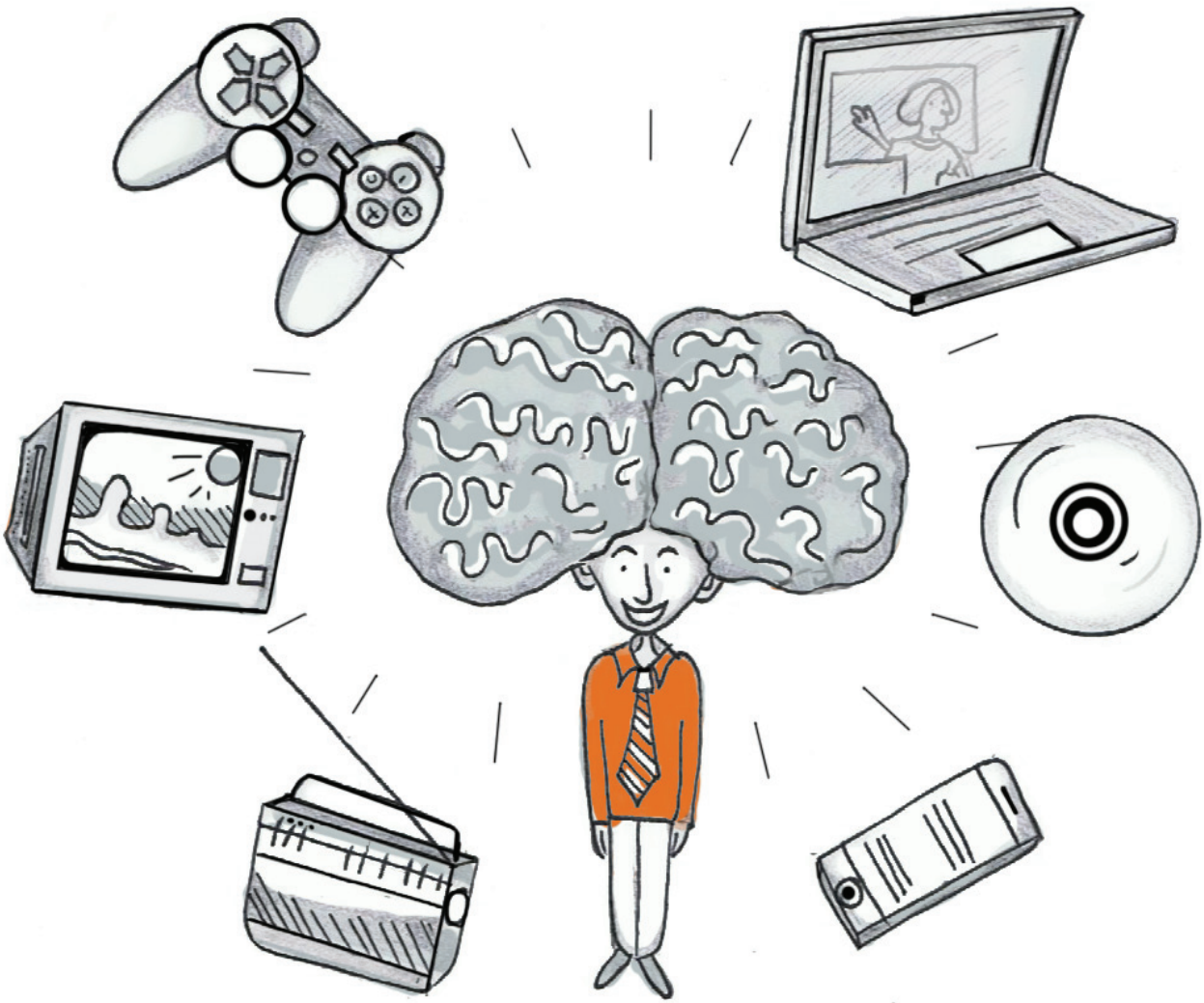
Is this e-learning?

We will provide you with 2 definitions of e-learning:

1. “E-learning is the delivery of a learning, training or education program by electronic means.”

2. “E-learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material.”

Sounds compelling? Maybe you have another definition of e-learning that you can share with us?



Is this also e-learning?

Do you use Google, WIKIPEDIA or YouTube ?

You want to plan a getaway. On Google you can find a nice destination which is near. A video on YouTube convinces you of the suitability of your choice. On Wikipedia you can look up some facts to make the invitation. To find the best route you use Google Maps.

In the past, people had to go to the library and read an encyclopedia in order to find necessary information. Today, we have go-to websites like Quora, Wikipedia or YouTube with tons of information.

If you are using any of these sites, you are a real e-learner!

Tip

If you are developing e-learning material always consider your audience. Explaining the usage and importance of Wikipedia or Youtube? Stop it! Don't explain the self-explanatory if your audience can figure it out themselves.

So e-learning = Google?

Not exactly. There are plenty of other e-learning forms and trends. For example, think about reading E-Books or online quizzes. And e-learning is not only about acquiring knowledge, but also about sharing knowledge.

Electronics chain Dixons noticed that sellers with the highest turnover were surprisingly knowledgeable about new products and gadgets in the range.

To make use of such valuable knowledge, Dixons decided to set up a website where employees could upload videos with reviews, information and sales tips about new products.

Other employees could respond to the videos. The website became a great success and was - surprisingly - mainly used on evenings and weekends.

But there is more!

Do you know what 'OER' and 'MOOC' mean?

You have probably heard of **TED.com** and the revolutionary **TED Talks** in which leading speakers give the most inspirational speeches. In fact, TED.com is just an online distribution channel for presentations, that makes great use of the opportunities the internet offers. You can watch TED Talks for free and without obligation. Ted Lectures are part of a growing group of Open Educational Resources (OER).

Another great example of 'Open e-learning' is **Khan Academy**, a source of short videos that cover mainly technical topics.

Besides **OERs**, we have **MOOCs:** Massive Open Online Courses. These are complete courses, often offered by universities, which can be accessed online. Normally, MOOC's include homework assignments and testing. After completion, one receives a certificate or proof of participation. Popular MOOC's such have hundreds of thousands of participants.

Coursera is a worldwide platform that hosts such courses. You could describe it as the university of the future, with courses, classes, homework, exams and credits. After a simple registration, you can freely participate in as many courses as you want. You can choose various subjects, ranging from social psychology to quantum mechanics.

You can find more MOOCs at Udacity.com and TedX.org.

Microlearning

Microlearning is offering learning material in extremely small portions that can be finished within 10 minutes. For example, think of repeating word lists when expanding your vocabulary in a foreign language. Dividing new material into small bits keeps the amount of new information manageable and accessible. Moreover, Microlearning is increasingly available through mobile devices, so it's always just a fingertip away. This type of e-learning often also has a social component, like allowing you to see how you are doing compared to your friends or colleagues.

A good example of Microlearning is **Duolingo**, a website and mobile application where languages can be learned for free. The site is also a platform for crowdsourced translation of text.
The program is designed so that more advanced users could help translations of simple sentences or even documents.
In addition, every user can compare his or her progress with the members of a peer group.
The program is built from the easiest to the most advanced level. Anyone can kick off on their own level and successfully complete certain standardized tests.
The advantage of Duolingo is that it provides short lessons with gamified elements.
You can also boost your motivation through its social element of peer to peer competition.

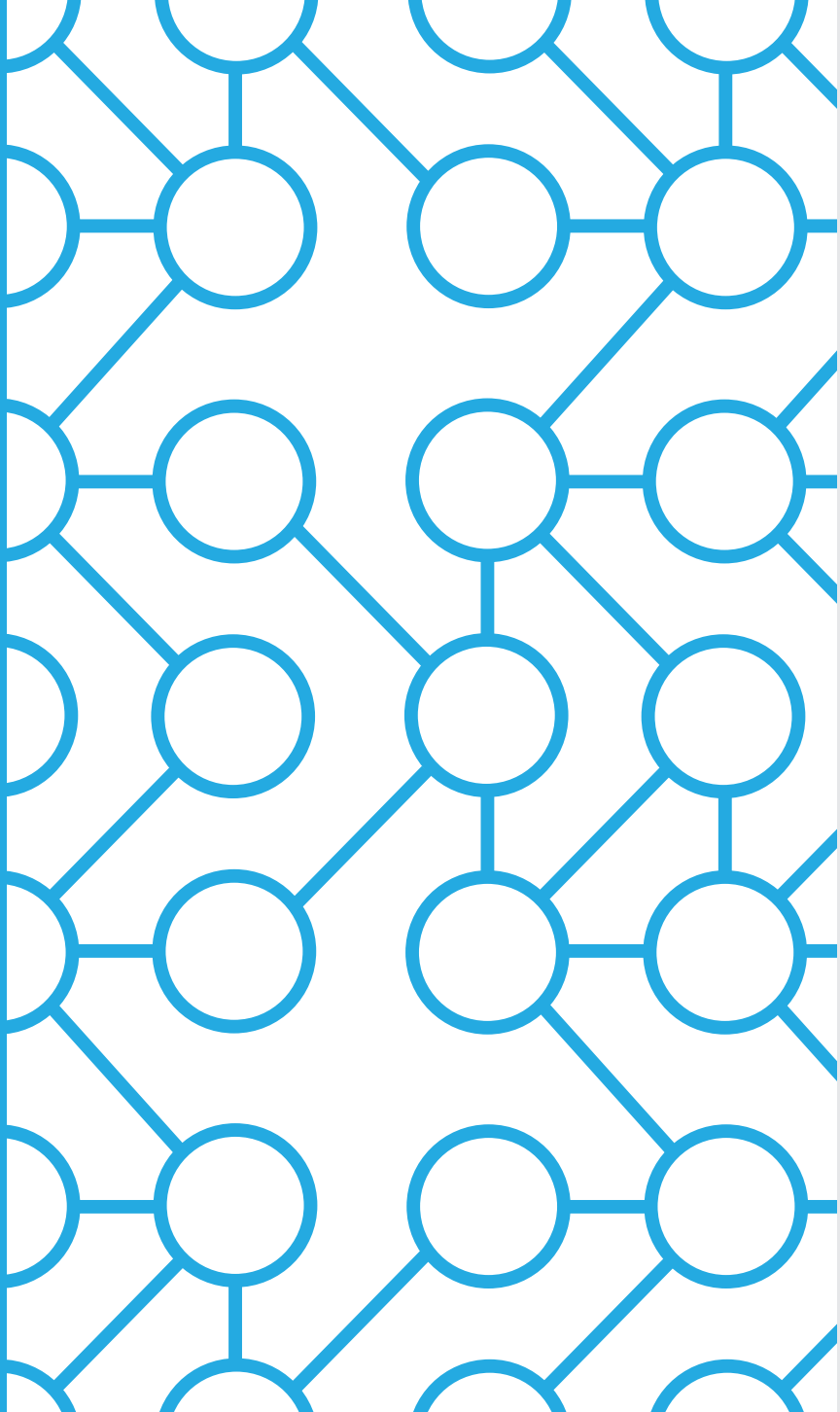
"Let's look that up on Wikipedia!"

E-learning is as small - or as large - as you want to make it.

"Following a course at a leading university alongside 150,000 other people."

!

People tend to make e-learning bigger than necessary, because of all the things you can do with it.
Of course it is possible to offer interactive education programs online to 15.000 people at the same time. But looking up a simple definition or the translation of a certain term with the use of internet are also examples of e-learning.



But what is an e-learning module?

An e-learning module is a bundled collection of different types of digital content. Content can vary from text and images to sound and video - occasionally accompanied with interactive elements or quizzes.

Quizzes are often offered as individual e-learning modules!

Benefits of e-learning modules

The content of an e-learning module is clearly defined and determined by the purpose of the module. The purpose of the module itself is closely linked to the objectives the department or organisation pursues. It is important to carefully curate and compile content that fits seamlessly with the learning goals of an organisation. We will discuss this further in the next chapter. Bundling content in a module allows us to keep the subject matter manageable for participant. When using an virtual electronic learning environment (VLE), e-learning modules allow us to track the behaviour of participants. This way we can gather information about the effect of our

e-learning material, and the knowledge of our participants.
Modules can become outdated as a result of new insights, changing legislation or strategy. Creating your own learning material allows you to easily update its content, making it is less likely that an e-learning module will become obsolete. An alternative to this is to create a short additional module that deals with the changes.

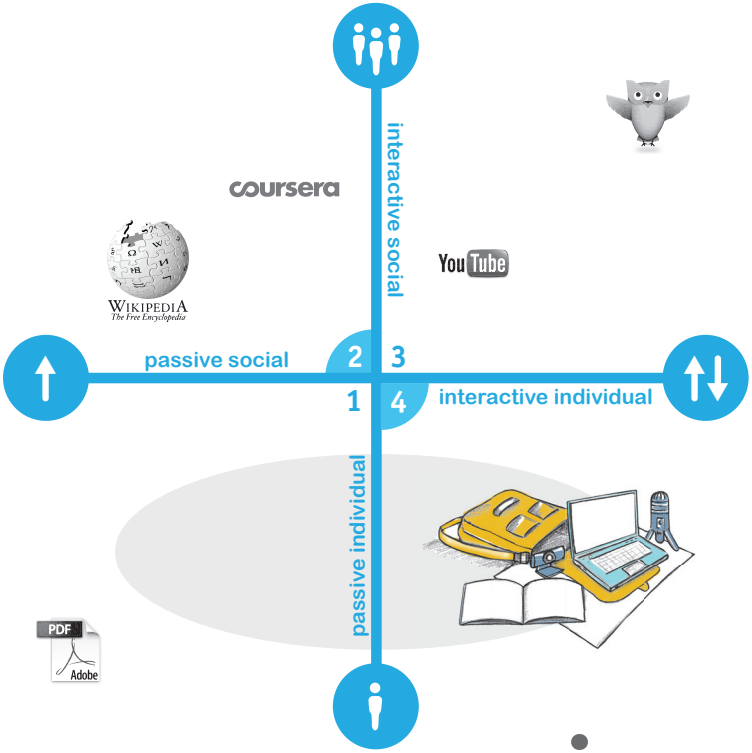
E-learning modules don't have to be complex or elaborate. The purpose of using e-learning is to transfer knowledge in the most cost and time efficient way. Once you deploy an e-learning course it becomes easy to provide broad, on-demand knowledge to your organisation. The participants can follow the module at home or at the office, from their computer, tablet or smartphone. The curriculum is now available regardless of time and place. Moreover, it is technically possible to monitor the results of an e-learning course. Usually this can be done through a virtual learning environment or learning management system (LMS). This process is called 'tracking'.

"So my modules are boring?"

No, this does not have to be true! There are several ways to make your e-learning module attractive. We will elaborate on this in the further chapters of the book.

Learning quadrant

In this chapter we have dealt with different types and aspects of e-learning. So how do they compare and relate to each other? A nice way to look at this is to visualise it in the quadrant on this page. The horizontal axis indicates the extent to which a subject is offered in **passive** (left) or **interactive** way (right).
The vertical axis indicates whether the learning takes place **individually** (bottom) , or in a **social** context (above). This way we get four quadrants for the classification of e-learning.



E-learning modules within the quadrant

Your first e-learning modules will probably have little to no social learning elements (but don't worry, you can apply the social aspect at the end of the course through an evaluation process).
These modules can be found on the lower end of the learning grid.

Quadrant 1
(Passive - Individual)

You are learning while using an electronic device, but the learning path is rather fixed and limited. There is no possibility of communication or interaction.
Think learning with PDFs, Office documents, newsletters and e-books).

Quadrant 2
(Passive - Social)

You can participate and communicate and you can get input from other participants, but there is little interactivity in your learning path.
Think of Wikipedia, Coursera or Khan Academy. Participants can gather the information themselves, or you can provide it tailored. There are various 'levels of involvement' possible.

Quadrant 3
(Interactive - Social)

You learn through active information collection. Your input defines your learning path. Furthermore, you can learn with and from others. This type of e-learning is highly social and can include some gamification features. Interaction and communication are fundamental in this form of learning.
For example, think of competing with each other on Duolingo. This form of learning often involves leaderboards to keep scores in real-time!

Quadrant 4
(Interactive - Individual)

Actions during the e-learning process determine your learning path. You learn individually, and there is no communication, competition or collaboration possible throughout the process.
Think about taking an online test to check your knowledge or skills after the Khan Academy course, or an e-learning module where the content changes based on your proficiency.

Overview of e-learning

In the chart on the previous page you can see how different types of e-learning relate to each other.

All these things, everything you learn using a digital medium such as a computer, a tablet or a smartphone, we consider e-learning.

Remember the first question of the book? 'What is e-learning to you?' How would you define e-learning now?

Chapter 2

What to think about in advance

Introduction:

In the previous chapter, we discussed the concept of e-learning and all of its facets, concepts and different types of e-learning. From now on we will mainly focus on the development of e-learning modules.

The use of e-learning

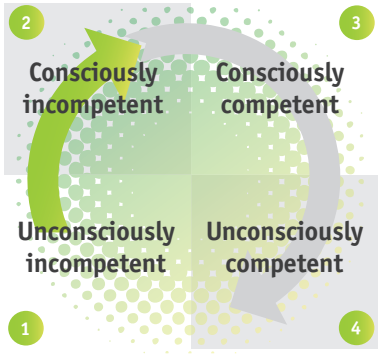
To develop an efficient e-learning course, we have to look into the pros and cons. There are many ways to develop fantastic and engaging e-learning modules. On the other hand, there are even more ways to develop terribly bad modules.
In this chapter, we highlight the best practices for creating an e-learning course.

The deployment of an e-learning course within an organisation can become a powerful education and training tool to transfer knowledge and skills.

Sometimes, a single simple e-learning module can substitute a classroom or in-office training. When it comes to software instruction, an e-learning module is often even the best choice. Obviously, not every skill can be taught through e-learning alone. The use of a new machine is best learned in the workplace. And many skills that have to do with human interaction can best be trained in a practical situation - like learning interview techniques.

E-learning can often play a supporting role for practical or workplace learning. A module that deals with the theoretical background, short videos and some questions can prepare participants for a practical lesson.

With e-learning, everybody can pick up the material and work on it at their own pace. This way, participants will get familiarised with the information and issues that will be discussed in the future. Therefore, the base level of the participants will not vary as much. As a result, more time and attention can be paid to the practical lesson.



In addition, e-learning can support practical learning by making people aware of what they **do not know** or **can not do**. Following a preparatory e-learning module helps participants become conscious of their abilities and incompetencies. This, in turn, makes it easier to highlight the important steps one has to make to become fully competent.

The acceptance of e-learning modules is easier if one is aware of the additional value that it provides. The best way to measure the impact of the e-learning module is:

$$E = Q \cdot A$$

(Effect = Quality x Acceptance)

In other words, a lack of acceptance of e-learning material will lead to a very small impact within the company.
It is important that an e-learning module is taken seriously, therefore the aims and goals of the module have to be defined with a clear explanation. The retention will be higher when one understands why something is being done.

The deployment of an e-learning course can positively influence the training opportunities within your organisation. Keep in mind that e-learning does not automatically mean that it will solve learning and development issues within your company.

Your Module's Audience

Before you start developing an e-learning module, it is important to know which employees, teammates or clients will follow the module. Is the module only intended for employees with a specific position, or are you targeting a diverse group of new customers? The more the content and style of your module connect to your audience, the better. Keep the following questions in mind when creating e-learning material:

- Is your audience heterogeneous or homogeneous?
- What prior knowledge does your audience have that relates to the content of your module?
- What is the education level of your participants?
- Are there any restrictions in your audience that you should take into account?
- To what extent is the target group involved with electronics, usability of internet, etc.?

An example of a module for a very heterogeneous target group is: "Introduction security protocol HJP Bank", aimed at all bank employees, from tellers to business directors. The education level and prior knowledge within this group will undoubtedly vary significantly. Also, the participants' affinity with e-learning can differ greatly.

The risk of such a diverse audience is that the content of the module is too complicated for some and not challenging enough for others. Still, it is possible to serve a broad audience with a single module. For example, you could allow participants to choose their own learning paths within the module. Additional information, background information and other explanations can be optional for users that need it. And you can allow participants with more experience to skip the basic introduction.

Keep your audience in mind at any time!

Sometimes the target group is so broad that it is rather impossible to develop a module that would fit everyone. Do not hesitate to make a radical decision in these situations. If needed, you can develop two different modules. Or you can choose to make only one module for the largest target audience or only treat the overlapping part of the content in a module.

Organisational goals

Most organisations have a mission, a vision and policies to bring that mission to fruition. These policies are embedded into organisational and departmental goals that have to be achieved collectively. In order to achieve certain subgoals, the development and training of staff is crucial. This goal can be partially achieved through e-learning. The point is not to clarify the organisational goals by using e-learning, but to create specific e-learning material that supports the training efforts. It should be clear which goal you want to achieve with the use of a particular e-learning module.

For example, one of the goals could be to achieve a certain accreditation in a two-year period. For this accreditation, at least 80% of employees must have obtained a certificate. E-learning can then be deployed to help employees to prepare for the test that is required to obtain this certificate. In some cases even the test itself can be presented in the form of an e-learning module. Obviously, to develop this learning material, the module's content has to be specified further.

Organisational and departmental goals can have a particular name in your organisation, such as 'Key Points 2020' or 'Together on the road.' If possible, tie your e-learning material to these type of goals, while making sure you consult all stakeholders.

The objective of an e-learning module

In addition to a target group, every e-learning course should have a clear objective. This objective is best derived from a clearly defined goal at the departmental or organisational level.
For example, an organisational goal could be **reducing the number of prescription errors by 10% percent annually**. From this we can derive a well-defined subgoal: to improve the skills necessary to calculate the required amounts of medication for patients.

This is a great case for e-learning. The objective of the module 'Dosage Calculations' can be: improving the dosage calculation skills of all nurses, so that after completion of the module at least 10% fewer errors are made.
In order to develop a suitable module, the module's objective has to be further specified into learning objectives.

To avoid future issues, it is advised to make a list of objectives prior to development. This list can be used to guide the development process and to evaluate the module after development has finished. It also prevents losing sight of the learning objectives, and can give insight into the effectiveness of e-learning.

Learning objectives

From the module's objective, concrete learning objectives can be derived. For example, the learning objectives of the module 'Dosage Calculations' could include:

- The participant can convert quantities from grams to milligrams;
- The participant can calculate the required numbers of tablets based on the required dose and stock strength;
- The participant can calculate the mass of a dosage given a volume of fluid and a concentration expressed in percent.

Use the learning objectives (and if necessary an external norm or standard) to determine the expected results from the participants. The real measurement, of course, can later be based on practical evidence that shows that there are, indeed, significantly fewer mistakes made.

Can-do's are specific key behaviors that can be learned and assessed through the use of e-learning modules.

"I can name several laws that have to do with..." or: "I can clearly explain to clients why I use sterile needles."

You want to use an e-learning module to prepare people for a practical session about interview techniques.
Before the course begins, participants should be able to distinguish three types of questions and know about the LSQ principle (Listening, Summarizing, Asking Questions).
You will lose the attention of your participants if you embed a thirty minute interview in your module, followed by difficult theoretical questions.

The essence of e-learning is to transfer the learning objectives in the most compact, clear and efficient way possible.

In this example it would probably make sense to use footage (video with sound) to aid the participants with learning and recognising different types of questions and interview techniques!

The use of short video clips (20-30 seconds) that are each clearly related to a single learning objective would be an obvious choice. By using recognisable images from your organisation, participants will find your examples directly applicable in the workplace. For example, think about including recognizable scenarios like frequently asked questions or problematic performance reviews. Include test questions for self-evaluation and to provide feedback to the participants.

Hierarchy of goals

Organisational goal

Which part of the vision of the organisation is elaborated into a goal?
'Within two years, 80% of our workforce will be certified.'

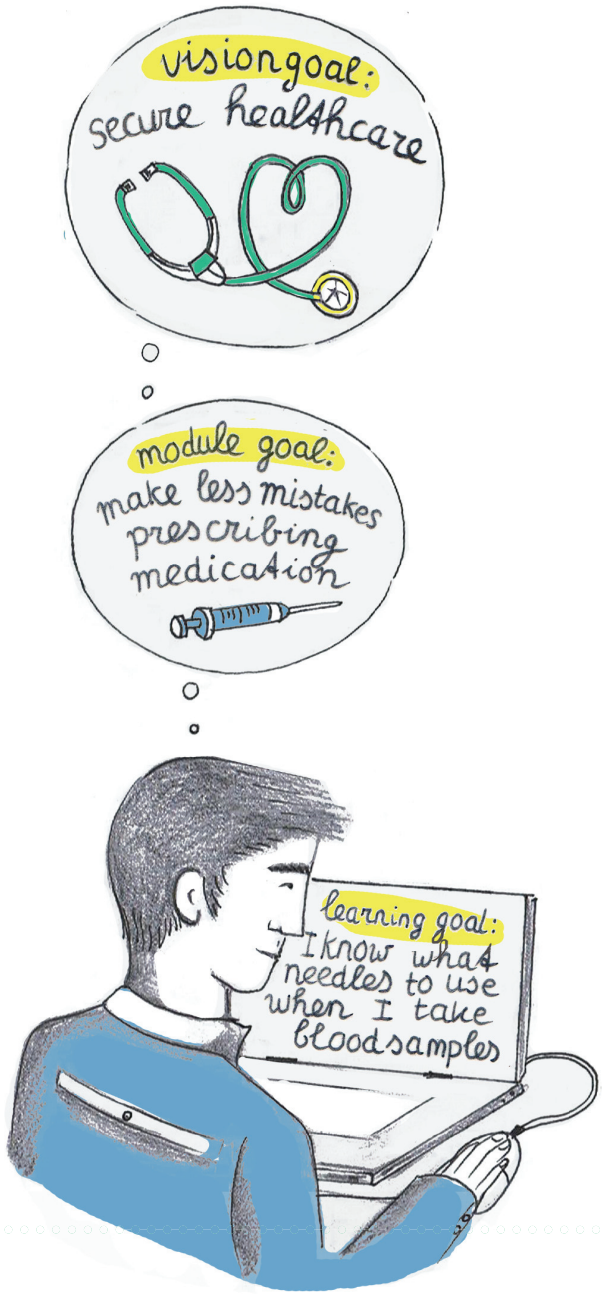
Module goal

How does the module contribute to the organisational goal?
Staff are aware of the most recent legislation and apply this legislation to provide service to our clients.'

Learning Objectives

'Employees know the latest laws and regulations in the relevant fields, e.g.:

- The client's right to compensation if a plane is delayed or cancelled;
- The client's right to food and shelter in case of delays or rebooking.'


visiongoal:
secure healthcare
module goal:
make less mistakes
prescribing
medication
learning goal:
I know what
needles to use
when I take
bloodsamples

The Bigger Picture

There are several ways in which demand for training or knowledge sharing emerges. Sometimes an organization seeks accreditation or there has been a remarkable number of incidents in a particular department.
Following a training may also be required by an employer or a legislature. In almost all cases, such a question arises under the umbrella of the organisation's strategy and policies.

E.g., an organisational goal for a hospital is to provide safe care. One of the conditions necessary to achieve this goal is to make the relevant expertise of the medical staff visible. This is a perfect case to become a core part of an e-learning program.

It is important to know your starting point when developing e-learning modules.
By placing a module in the context of the organisation's policy, you create a foundation and justification for creating and deploying your module. This way, a question from the workfloor can seamlessly fit within the vision of the organization.

The **module goal** is a specific goal that relates to a single **organisational goal**.
The **learning objectives** (Can do's) are further elaborations of the module goal. The module's intended **audience** determines how the learning goals are implemented and presented in an e-learning module.

E-learning and goals, an example

The organisational goal is 'Safer care by 2015. Demonstrably'.
In healthcare, safety and competence are of great importance. An organisational goal could be 'To offer safe care'. Organisational goals can be further operationalised and measured over a certain period of time (usually yearly).
Examples of this are:

- Measurable increase in patient satisfaction;
- Reduction of reported incidents;
- Positive accreditation by auditors.

E-learning module goal
Module goals directly contribute to organisational goals.
Analysis to improve safety shows that there is a relatively large

number of incident reports related to wrong dosages of the administered medication, in particular due to errors in calculation. In order to improve, the module 'Medication Safety' is developed.

Deploying the module 'Medication Safety':

- Reduces the number of errors made during administration of medication;
- Results in less registered errors, fewer complaints and an increase in patient satisfaction.

E-Learning modules contributed to achieving the organisational goal "Safer care by 2015. Demonstrably" by increasing the competence and expertise of the medical staff.

Learning objectives are concrete cases that users learn in the module. (Can do's)

The module "Medication Safety" has a number of learning objectives:

- Practicing calculating and converting prescribed doses of medication;
- Explanation of the hand hygiene protocol;
- Which instruments to use and when;
- Explanation and use of the SIR (Safe Incidents Report) form.

Based on these learning objectives, the content can be arranged and composed into a module. Testing before and after the module can help determine if a participant has sufficiently improved.

In this chapter we have described how the goal and content of e-learning modules are derived from goals at multiple levels within the organization.

It is through the module's demarcation and manageability that we can create concrete learning objectives that contribute to the performance of the organisation.

The organisation's strategy can provide guidelines for determining priority when it comes to developing modules.
Learning objectives (Can do's) provide tools for testing and evaluating modules, and to determine their content.

Chapter 3

Content

Foreword

In the previous section, we discussed the goals, audience and the outcomes of an e-learning module. These are essential when determining the appropriate content and format of a module. In this chapter, we look at the Rapid e-learning methodology, determining and organizing the content of a module, and the usage of different types of content.

Blueprint of the e-learning module

If the learning objectives of your module and the audience are clear, and you have support from the organisation, you can commit yourself to developing an e-learning module.

Before you collect or create material, you need to ask yourself how you want to divide and present the contents of the module. You also have to decide whether you want to use tests within your module. If so, how will you implement them and what is their purpose? Also, think about the type of material and its availability.

Those steps are best taken in the following order. For larger projects, going through these steps may be an iterative process.

- Make sure you have support from the relevant departments and people;
- Determine the purpose of your e-learning module;
- Determine the target audience, their knowledge and practical experience;
- Identify the learning objectives of the module (what should users know and be able to do after following the module);
- Determine the content of your e-learning module;
- Think about testing possibilities;
- Divide the content of your e-learning module into logical parts, for example in sub-modules, sectors, etc. Every single part of your module should form a logical whole;
- Determine what type of material you will use for your content, both existing and new material;
- Think about the user interface;
- Find out what resources and/ or people you need and their availability;
- Create a schedule and script.

With every step, keep track of the scope and desired content of your e-learning module.

Rapid e-learning

This manual is based on the principle of **Rapid e-learning**.

Rapid e-learning is a method to quickly collect, create and deploy e-learning material within your organisation. For example, you can use an existing PowerPoint presentation, and add an explanatory voice-over. With the help of authoring software, this combination of material, possibly aided with a short quiz can quickly be turned into an e-learning module.

These Rapid e-learning modules can be deployed through a learning management system or a simple website. This way the module is quickly available for the users.

Content for Rapid e-learning

The content of a module can be presented in various forms, like text, audio, video and illustrations. These different forms of information can be called content. In this chapter, we discuss the different types of content that will be used in (Rapid) e-learning and how you can create or acquire that content.
Each type of content has its own characteristics, but the effect of these characteristics may vary by component and by target.

In some cases, videos and animation are ideal for transferring information. On the other hand, videos can also be distracting, which can harm the effectiveness of the module. The shape of the content must match the level of experience of the user.
For example, think about experience with the use of computers, internet and smartphones.

From the learning objectives and the target audience of an e-learning module, you can determine the content and which types of content are best suited to present the learning material.

Kill your Darlings

The expression 'Kill Your Darlings' is a term that originated in poetry, where poets would remove their most beautiful phrases for the benefit of the final poem.

Relevant information only

Critically determine what issues are relevant for the user in respect to the learning objectives and delete any information that does not directly contribute.

Keep in mind that additional information exists that can be interesting for users, but that is not always necessary for the learning objectives.

There are several ways to ensure a user will see the additional information. For example, you could put a link to a Wikipedia page in the module. Remember that it is not necessary to embed all the information into the module itself. The users who are interested can view this information independently.

Different types of content can be used in various learning situations. For instance, texts are perfect for regulations to learn, including enumerations.
On the other hand, the use of a new device can be much better demonstrated by employing a video with an accompanying text or an audio recording.

Your goal is to keep employees focused on the information that is shared.

This is a known downfall for content experts. They have a lot of knowledge on a subject, but only some of that knowledge is relevant for the intended audience. Determine clearly what users have to know after following an e-learning module and stick to it.

Audio, Video and Rapid e-learning

You don't have to be an expert to effectively make use of sound and images in e-learning modules. Rapid e-learning development is about creating modules quickly and easily and making it directly available to the user.

It doesn't mean that they have to be Hollywood productions as long as the information appeals to the target audience.
All the knowledge you already have about audio and video is great, but don't exaggerate. It remains a supporting tool of the information transfer.

Only use audio and video if it enhances your story!

Here are a few tips on making audio or video recordings.

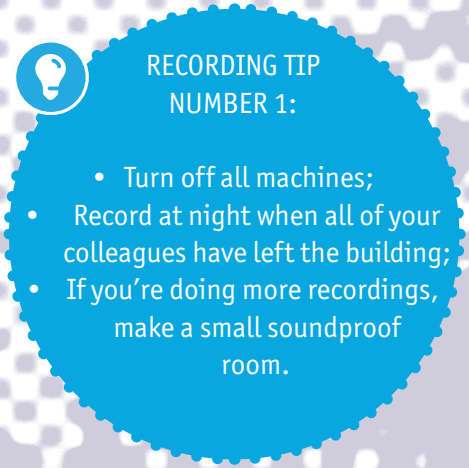
Audio for Rapid e-learning

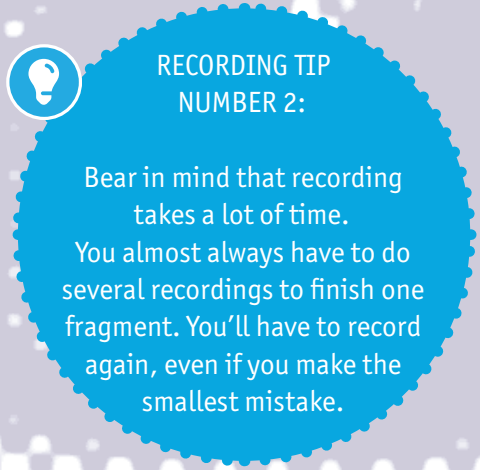
If the content of a module benefits from the use of audio, then the quality of the recording is particularly important. This quality is expressed in kilobytes per second (kbps). The more kilobytes of information the audio contains per second, the higher the quality.

Create a recording in the best possible quality by taking the clip in a quiet room with no background noise. This includes machines that are running in the distance, colleagues in the hallway, the sound of a crane next to the building, and so on. The microphone picks up everything.

Ask someone with a pleasant voice to do the recording. If possible, find someone who has experience in voice-overs. Prepare the narration by letting the actor or actress rehearse in advance. It's helpful if the speaker understands the meaning of the content.

It's okay if the sound is not crystal clear; it is only meant to transfer the information. Realize, however, that a tired, gloomy, or low voice will have a negative impact on your message.





Video with Rapid e-learning

You can easily make appropriate image material, even without an expensive digital camera.
An HD webcam, a mobile phone or a tablet may already be sufficient. Just make sure to always use landscape mode (hold up your phone or tablet horizontally), so the positioning corresponds to the final product.

Before you start
When playing a video in an e-learning module, users need a fast internet connection, or bandwidth. Video playback can falter at a slow connection, or it can take too long before the video is loaded. Check and verify the video playback capabilities on the network with your ICT management. It's also possible that additional software on the workstation is required. If video usage results in performance problems, think of how much value it has in respect to the learning objectives of the module.
You don't want employees to wait long periods of time just to play videos. Apart from the loss of time, this has a negative impact on the overall opinion of the module.
Is the use of a video required?
If so, then consider the next tip...

Shorter is better
How do you deal with videos on sites like YouTube or TheHuffingtonPost.com?
When a video is not loading or does not immediately show what you are looking for, do you search for another video? Other users are just like you. Therefore, keep your videos always AS SHORT AS POSSIBLE!

Short videos are smaller, load faster and cause less problems when playing.

Please take a look at how long TV commercials are and check out instruction videos on YouTube. What do you notice? Which are too long and why? How can they be made better or shorter?

Recording of a presentation
EA common, simple form of video combined with audio in Rapid e-learning is the presentation. The presenter speaks to the e-learning module users.

When you tape a presentation for an e-learning module, try to film everything at once so you don't have to revise the material as much afterwards. Editing footage often takes a lot of time, and it can harm the video quality as well. Filming the presentation until you are satisfied with the result is more practical and saves time. If possible, film simultaneously from various camera angles. Recording an excerpt from a different point of view will look more natural after you have edited it.

Filmed scenes for Rapid e-learning
Another form of video used in Rapid e-learning is the inclusion of a workplace simulation. This is called a filmed scene.

Just like in a feature film such a scene should be directed. So you have a goal, now you are ready to make the video. That can be harder than it seems, even after setting your goal.
Make use of a script or scenario while always making your goal visible. If you do decide to improvise, please describe at least part of the scene. Tell the actors what they can expect well in advance and let them practice first. It is better to use 'real' people from the organisation on location. Not only is it cheaper and faster, you will also increase recognition while getting the module approved.

Create a plan
Create a schedule that shows when and where you will film certain parts. During the first time, you will find that lunch will be shortened and recording time may be extended. Also, remember to keep track of how long the recording takes to be better prepared for next time. Visualize how the video will look like for the people involved. This ensures that everyone has the same perception of it in advance.

Film (too) much!
Assume that each scene has to be done multiple times.
Therefore, film short clips (as short as possible) and film each clip more than once. When assembling the video, you will have more material to choose from. You will be able to get the perfect video from the best clips available. Make shots from at least two different camera angles. A cut in a recording without changing the camera angle is distracting to the viewer. Don't use zoom, this will cause inconsistencies in the recorded quality!

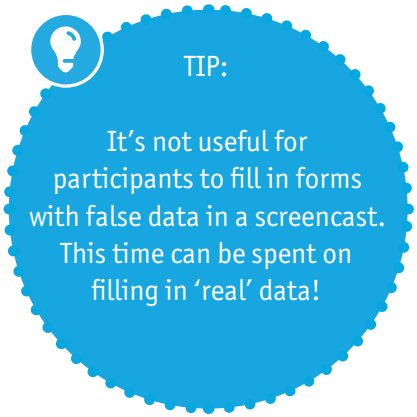
Make sure you have good lighting
You don't have to buy expensive studio equipment such as mirror screens to get good lighting for your recordings.
The most important thing is that all the recordings are as evenly lighted as possible. Use a projector for extra light, and use indirect lighting! Outdoor filming is best on a cloudy day because filming in the sun will give you too much contrast.
In addition, the light in the morning is different to light in the evening. This can give you discontinuity in recordings.

Use a tripod
Try to avoid filming off the cuff. Use a tripod so the image appears still. A fixed camera angle also increases usability when you are editing the clips

Screencasts
A screencast is a digital recording of a computer monitor. You make use of software to capture what happens on the screen. There are useful tools available for these screencasts, including QuickTime and Articulate Storyline. Software can be very well demonstrated with a screencast in a Rapid e-learning module. A voice-over or text is often used to clarify a screencast.

Beware of the length of the screencast. An alternative method can be to take screenshots. By using arrows, text and audio you can simulate an interactive 'look and feel' to make it even more clear what is expected of the user.

If there has to be an emphasis on certain screens or elements, it is better with one or more screenshots rather than an entire screencast.



Combine your audio and video (afterwards)

It is not always best to record audio and video simultaneously. Sometimes, it's better to record the sound later, with better quality. If you record the audio immediately, make sure you have a good microphone. Position the microphone as close to the sound source as you can. Most integrated microphones (webcam) and table models are particularly suitable for recording audio for screencasts and presentations.
When working on a filmed scene, it's best to use a directional microphone, which makes less noise and helps create a better sound quality.

Images in Rapid e-learning

Images are widely used in teaching materials. So, of course, we use it in e-learning too. One image often says more than a thousand words! Complicated descriptions or procedures can be clarified with an image or a graphic and a clarifying text or voice-over. Always think about why and when you want to use images and if the image itself provides sufficient information to the user.

File formats images

There are many types of digital images, each with its own specific properties. One of the main differences in the properties of these file formats is the way the images are saved. For e-learning, the difference between vector-based and pixel-based file formats are of particular interest.

Vector orientated illustrations build the image up from lines and anchor points and are later filled with color.
Pixel-based images contain the color information of each spot of the image in a particular format.

When you have a pixel-based image and you enlarge it, the 'pixels' itself will also be bigger. This creates the so-called 'pixel effect'. You can make vector-based images as big or as small as you like without any loss of quality. In e-learning, pixel-based images of good quality are okay to use.
Just remember - when you want to magnify an image - sometimes the loss of quality is unacceptable.

The same goes for images: create an image in the highest possible quality and store the original file carefully.

Find out information about different types of images, such as TIF, JPG, GIF and PNG!

TIP:

The total number of pixels of an image determines its size. There are a number of default settings especially for this purpose. But, you can also apply your own settings when you save the file. Always keep in mind that reducing the size of an image is easier and gives you a better result than magnifying afterwards.

Graphic software

When creating Rapid e-learning, it comes in handy to have experience with software that edits images.
Two widely used programs are **Microsoft Paint** and **Adobe Photoshop**, but there are many more programs. There are also graphic programs available to help you edit images in your browser (web-based).

An example of an in-browser photo editing program is **Pixlr.com.** You may already have another program that you'd like to work with. If you like it, don't change it. It makes no sense to learn how to use a new program if your current one works perfectly for you.
However, compare the package you're using now with the above-mentioned graphics programs. Perhaps you will see a number of features and tricks that aren't currently available.

Standard image material

Maybe your organisation has a PR or communications department. They probably have some guidelines on photo and other publication material available.
It can't hurt to ask about these guidelines and existing images. You'll at least know for sure that these images fit in with the image the organization wants to portray. You can use this when creating e-learning material, conforming to the guidelines. The use of standards increases recognition and, therefore, the acceptance of your e-learning module.

Interactive elements

You'll engage the user of your e-learning module through the use of interactive elements in your content.
Note that the type of content has to be suitable for this purpose. This includes short videos, where the outcome depends on the answers that the user specifies or on an image where the right 'location' has to be clicked. You can also see the short test questions within the module as an interaction. Moreover, the use of interactive elements should contribute to the learning objectives without a need for excess.

"If it doesn't add anything to the learning process, it will be a distraction"

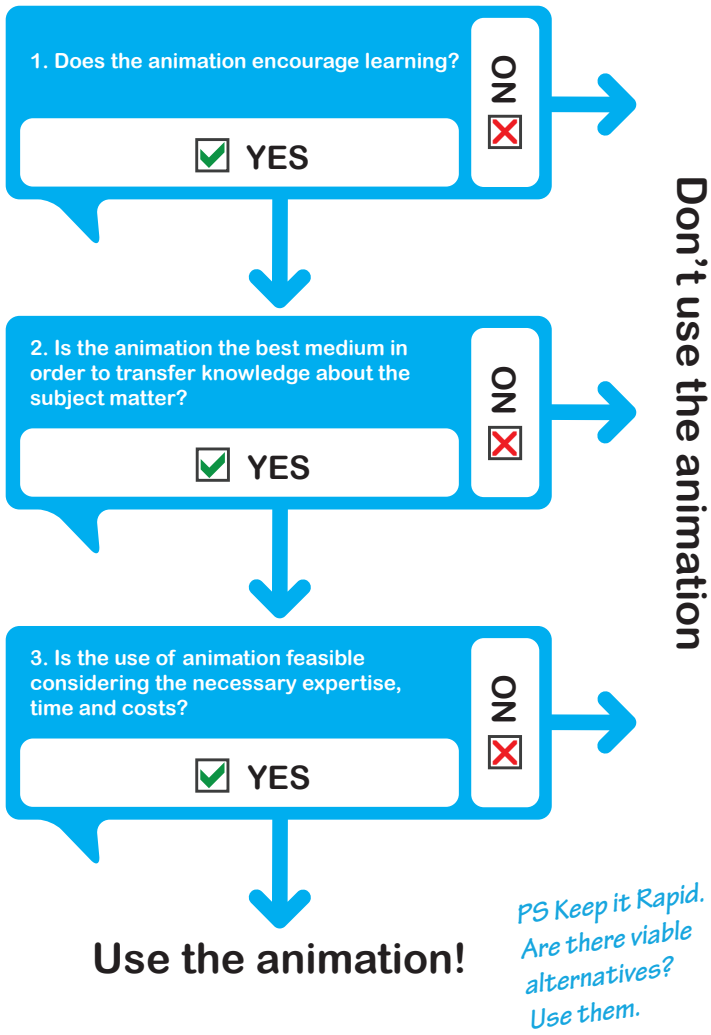
Animation and Rapid e-learning

Perhaps, you'll once get a request for a module where animation will be the ideal solution. Think about a module where assignments must be performed in a simulated environment, such as in a 3D-operating room.

Animation can be designed to view and to learn, but it can be made interactive much easier.

Animation may take the form of a cartoon, but can also be a moving drawing or other type of image. Hand-drawn or computer-generated animations increases the complexity and the required expertise of your module.
In the context of Rapid e-learning this may not be a logical choice. Just remember what the added value of the animation within your e-learning module is before you choose to include this type of content.

Technical possibilities
Animation can be a video made up of still shots (images or photographs), a moving drawing that explains something, but also a .GIF.



Choose your new type of content for Rapid e-learning

When creating an e-learning module, it is important to decide in advance whether you will use a type of content you don't have any experience in, such as an interactive video with sound. In that case, you should make an inventory of the practical problems you could meet and whether this outweighs the benefits. Someone who can film, someone who can make the video interactive, and so on. Hiring an expert can entail limitations (pricey, long-term production, et cetera).
The question will then be: "Will the benefits of interactive film as a new type of content outweigh the disadvantages?"

Also, determine if the use of this content is possible with the software used to create e-learning.

Test the deployment of a new type of content
When you are sure you are going to use new content, it is of great importance to test it's effectiveness on key-users or a composite group of people. Make a clear description of the desired behavior.

Remember!
Existing material easily leads to the reuse of ingrained misconceptions.

Woolworth quality

In the growing e-learning market, more and more companies specialize in providing 'low-budget' audio-visual material of good quality.

User interface

For the acceptance of a Rapid e-learning module and achieving the learning objectives, a consistent user interface is as important as proper and exciting content.

The **user interface** is the portion of the software provided that enables the interaction between the user and the computer. In our case, it means that the way in which the different types of content in the e-learning module are presented to the user.
In addition, the interaction with the user is regulated as well as possible.

Menu and navigation

Be aware that any ambiguity in navigation and your e-learning module menu instantly creates problems. Confusion should be avoided at all times, so people do not come to see the module as an obstacle.
For example, consider complex websites where the information you seek seems untraceable. These websites create confusion and are far from inviting.

Here are a few tips to prevent confusion as much as possible:

- Ensure that pages are formatted in exactly the same position and are aligned;
- Make sure the color is consistent, for example, put 'go' on a green button;
- Give buttons/icons with the same function the same appearance and description;
- Provide a consistent and clear navigation and menu structure;
- Incorporate the identity of your organization as much as you can;
- Use a consistent terminology and use - again: as much as possible - the jargon of your audience;
- Develop a simple style guide or template for a consistent look and feel.

There are also a lot of websites where you can find clear and useful tips on user interfaces; **find and use this information!**

It is also recommended to critically test the user interface of your e-learning module with a group of potential users before publication.

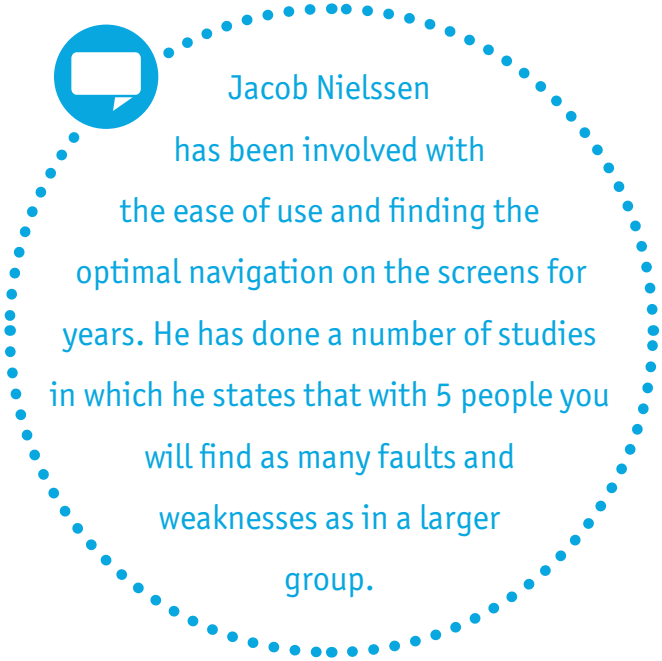
Testing the user interface

The purpose of testing the user interface is to make sure that the module is navigable. It must be clear to everyone, and there should be no dead-end pages. In other words, can anyone easily access the part that he or she wants to find?

Here are some tips for your interface testing:

- Test for consistency (color, names, buttons, terminology and navigation) of the user interface;
- Encourage experimentation, but make the scope of the module clear;
- Explain the meta-information: What is the purpose of the module? Which idea is behind it? What are the outcomes? Does the user interface contribute to that purpose?
- Tell the tester what the user needs to learn: “I can identify different types of needles and tell when to use each needle”. It makes the learning focus points concrete and transparent.

To get the right feedback from the testers, draw up a list with the scope of the module and some direct questions, such as: the point where I do not know what I have to do is... **(attach a screenshot)**.



How many testers do you need?
If you’re wondering how many users you have to test the user interface with, there is a major usability test standard:

- One person finds 10% of possible improvements;
- Two people find 25% of possible improvements;
- Five people find 80% of possible improvements. You will never need more than five!


ERROR
!
Avoid irritating the end user.

Pitfalls in practice

Rapid e-learning: knowledge and skills are transferred quickly, brightly and pleasantly.

Here, we describe two examples of creating an e-learning module with the same goal under the Rapid e-learning methodology. Read both examples carefully and give feedback. What would you do differently and what do you like about it?

StormBeard (a private company) and Optimus & Sons are two similar organizations.

Example one: StormBeard

StormBeard decides to deploy e-learning to familiarize new employees in the organisation.

A work group is to be established to realize the new module. After several brainstorming sessions, the work group decided to involve all departments in making this module. They let a film crew go through the company and take interviews to process these in the e-learning module. Later, when compiling the module, it shows that the logical sequencing of the interviews of the various employees is more complicated than expected. This problem is solved by connecting all the interviews with the organisational chart of StormBeard. Finally, a number of internal standard documents are linked to the module so that the new employees are provided more insight into general working conditions, timesheets, expense claims and leave.

The end product is an e-learning module that is comprehensive and clearly understands the ins and outs of StormBeard. In the test group of colleagues, there is a lot of praise for the content of the module. Playback of the module takes approximately 90 minutes. The testers find it very nice to receive more, and oftentimes, new information on other areas of their business.

The method in the above example has an excellent module according to the test group for StormBeard, but can you indicate the downfalls in this example?

The pitfalls

- There is no pre-determined goal: what is the purpose of the module and what are the objectives? The module will expand greatly while being created. This includes the deployment of a film crew, the hours of employees who are interviewed and installing the module.
- The working group consists of too many employees. Only after several times brainstorming everyone is aligned.
- It was decided to do a video with sound, so scenes were filmed by a film crew. This requires a large investment in time and money for production and in the maintenance of the module (replacement of dated material).
- The final product has become too extensive. Employees are spending too much time completing the module by using a lot of video recordings.
- The audience (new employees) is not served properly. Current employees who go through the module as a tester indicate that a lot of information is new to them. From this, we can conclude that this information is not essential when starting at StormBeard.

Now, read on to the next page to see the second example of a Rapid e-learning module.

Example two: Optimus & Sons

Optimus & Sons will open a new department and made the decision to introduce the new employees by also making an e-learning module.

Two employees arrange the job. They view the current introduction package as critical and rank the relevant business into topics. Most pre-existing text is adapted and offered in short pieces by subject and arranged by screen.

They add a few short test questions for self-evaluation. ('Do I know enough about this subject?')
The explanation of time registration is supported with a few screenshots with text within images and a voice-over. Finally, they decide to film a short presentation by the director of Optimus, who greets the new staff and briefly explains what Optimus' mission is and why he is proud of his company. The module begins with this video. Within three weeks, the module and testing are completed. Going through this module takes approximately 20 minutes.

This module contains all the important information for newcomers and is also easy to adapt as things change. New employees read most of the information in the module, but this documentation can easily be turned into a PDF document. The screenshots allow them to understand the time registration system, and they can complete the module within 20 minutes.

Ultimately, it is all about reaching the end of the module!

In this chapter, we discussed the downfalls when creating a Rapid e-learning module. The demand for such a module does not fall from the sky, but as an oncoming Rapid e-learning guru you must look to make the right connection in your organization. Create commitment from your client(s) by centering the content of your e-learning module around the goals of their organisation or department. Communicate this as loudly and as often as needed.

You also learned how to create a module design, how to choose the appropriate type of content and how to make or acquire e-learning materials.

Now, you know what to do to make the content of the module accessible and understandable for your audience. And, last but not least, know your users!

Chapter 4

Teaching tips and tricks

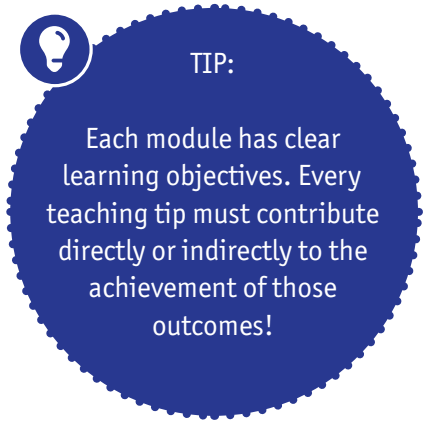
Teaching Guidelines

No rules, but guidelines

In the previous chapter, we talked about Rapid e-learning and the design and development of an e-learning module with this methodology.

In this chapter, we provide some useful, immediately applicable teaching tips and tricks to make the e-learning modules appropriate and effective in a simple manner. We offer these guidelines to assist in the development of appropriate (Rapid) e-learning modules.
These grips are based on practical experience.
In the end, it is up to the author of a module if or how he/she wants to apply these tips.

We assume that anyone who is going to make an e-learning module is in an environment where ICT skills (knowledge of Word, e-mail, internet, et cetera) are present.



Didactics and E-learning

You now have learned how to set up a Rapid e-learning module, how to make the content for it, how to collect this data and what you should consider if you are going to create a user interface.

Now, you are faced with the question of how to get the material into your e-learning module to provide the users with the information they need to learn.
The field that deals with this is called **didactics**.

When creating e-learning materials, it's the same as making traditional teaching materials. You use teaching guidelines, based on three basic questions:

- How does someone learn? (Which is important to incorporate the new information);
- How is learning assessed? (Tests, evaluation interviews, self-monitoring in combination with other feedback mechanisms);
- What resources can support the learning process and how do you use these most effectively?

Didactics is the discipline that deals with the question of how knowledge, skills and learning attitudes can be taught by a teacher to students. This obviously also applies to the training materials created in this context.

We assume that you've had enough teaching experience in this area and in manufacturing more traditional materials. Therefore, we will focus mainly on applying some teaching guidelines when creating e-learning materials.

The didactics of Rapid e-learning

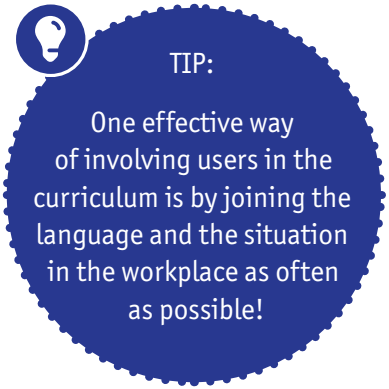
The didactics of e-learning is still in its infancy, but we'll now briefly explain the relationship between educational theory and practice for creating e-learning materials.
The opposite diagram is widely used in practice. These didactic principles and their practical application are the basis for the tips and tricks in the following paragraphs.

General instruction	Practical application	9 Steps instruction
1. Need-to-know: people are more motivated by a task or learning objective when it has meaning for them.	Pay attention to the explanation of the purpose of the module and the learning objectives.	1. Draw attention. 2. Make it a clear learning objective.
2. Self-concept of the learner: people want to be responsible for the choices they make. **3. Experimental learning:** people want to apply what they learn. Once it is applied, it becomes an experience. Experience provides insight into the process of learning.	Briefly point out the competencies of the users and what is going to be taught. With this, you give 'inside information' about the course of the module and it gives the user the opportunity to navigate by himself.	3. Repeat the foreknowledge. 4. Present new substance. 5. How is the new substance presented? 6. Involve the learner in the learning process.
4. 'To be ready': People are willing to learn when they see a direct application in their everyday life. **5. Problem-based learning:** People love to learn how to solve problems. Knowledge that they gain should be applicable for known or potential problems.	Provide information about the 'why' of the module and the positive impact on the workplace situation. For example, give cases with dabs to knowledge which is directly applicable. Use examples of problems and practical situations from their own organization. It also helps to use your own images and slang.	7. Offer useful feedback. 8. Test the learned knowledge.
6. Motivation: Intrinsic motivation works best. Therefore explain that the living or working conditions will improve as a result of following the modules.	Make the users curious. On any subject, there is ultimately more to learn about. Provide additional, background information if possible. For instance, you can give links to in-depth information or possibly make an in-depth e-learning module.	9. Provide options to proceed with the knowledge.

Meaning and motivation

Meaning is important when creating e-learning materials. By explaining the aim of the module clearly, you ensure the content is better understood. Previously, we have discussed the famous formula $E = Q \cdot A$ (Impact = Quality x Acceptance).
In this case, the formula also applies. By speaking to people directly and having a close relationship with the workplace, you are responsible for better recognition and more acceptance. The effect of the module will then be greater.

Establishing a relationship between the content of a module and the workplace can be done in several ways. For example, let a practical situation in the workplace be seen in the module or use the jargon of an organisation. If a user can decide what he/she wants to learn at the time, it creates more involvement.



Think like your user

Applying previous teaching guidelines to create an e-learning module means the following:

- Make it clear to the user what he/she will learn from the module;
- Match the contents of the module to the knowledge of the users;
- Tickle the curiosity of the participants and captivate them;
- Connect to the frame of reference of your participants;
- Make a clear relationship between what the user already knows and new information;
- Clear any new information not in line with the learning goals. Use illustrations and jokes only if they help to achieve the learning objectives by focusing attention on a key element!
- Use the type of content that best conveys your message;
- Test at the right time if the user has understood the material.

TIP:

Another proven way to speak to the staff is to connect as much as possible in the daily practice of work.

Bite-size

Because of the way our memory operates, a person best retains new information when it's offered into small, organized units. Selective use of repetition can also have a positive impact on retention. In particular, (Rapid) e-learning offers excellent technical facilities, enhanced by the possibility of self-evaluation in combination with repetition of subject matter.

- Provide information organized in small sections. Cut down information into pieces and organize to create your overview;
- Provide only relevant information, if possible, arranged per screen;
- Provide the information in a challenging form (for example: pictures along with text);
- Use key questions and make selective use of the material based on results.

Audiovisual content

E-learning has the advantage that different types of content can be offered at the same time and possibly interactively. There are a mix of incentives that can be offered so the content can be optimally tailored to best suit the user. If you as an e-learning contributor are deliberately using this, it could be a big boost to your learning experience.

Keep in mind that when too many incentives are offered, it has a negative impact on the information processed by the user!

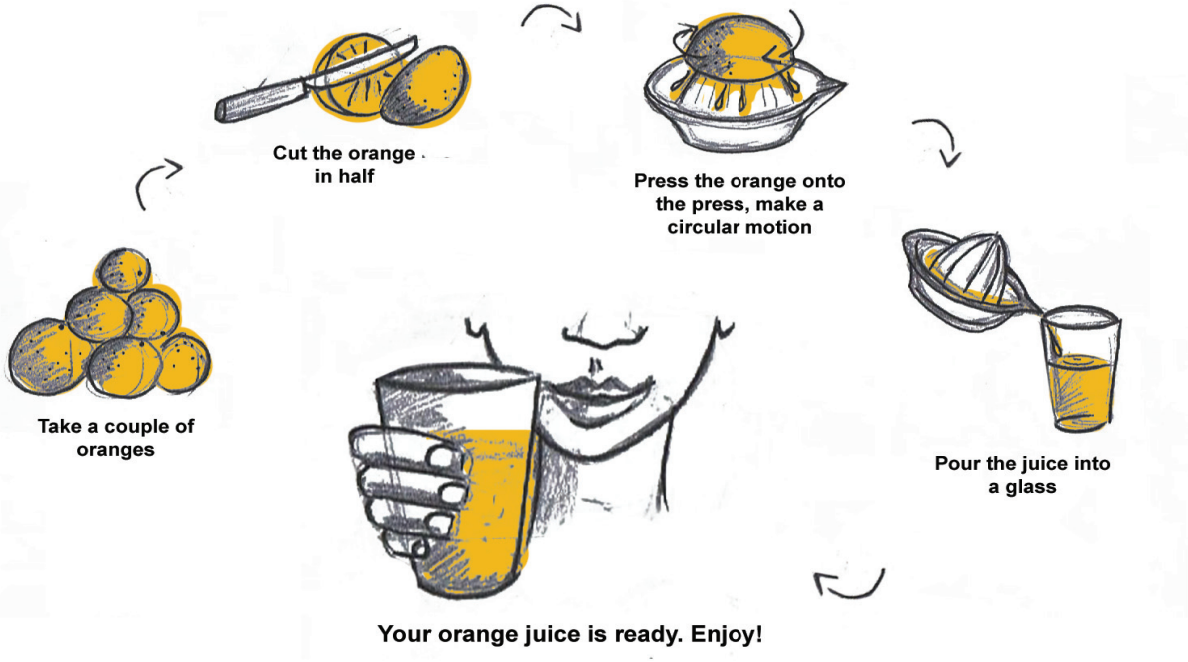
Below are some tips on this:

- Supplement text with diagrams and images (supporting, not decorative);
- A combination of text and images lead to better information recording;
- No more than two stimuli should be activated simultaneously. This can lead to cognitive overload;
- Set accompanying text in the image if possible, not below or beside it;
- If graphics are used to transmit information, order it and give short links to mark connecting relationships.

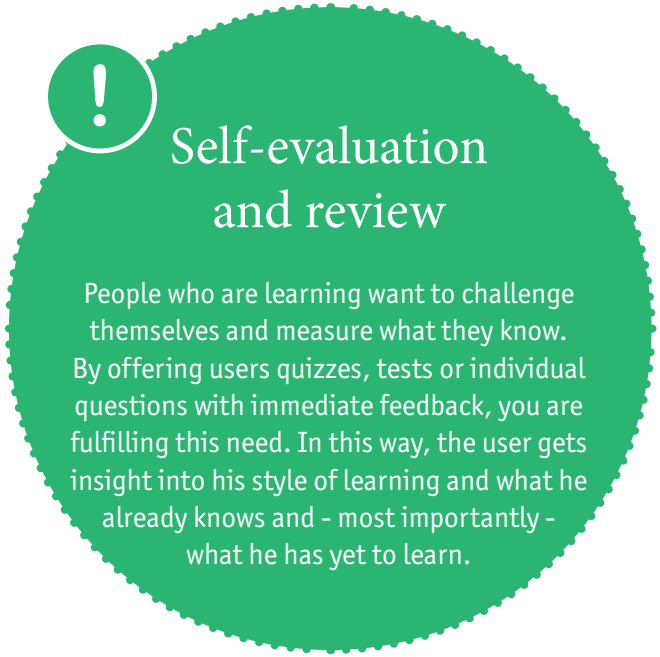
Use of images before use of videos

Here are some tips that relate to the selective use of videos or still images (pictures):

- Movies have a fixed length, which causes loss of autonomy of the information processed by the user.
- Watching movies is a passive activity.
- If you do use film material or a moving image, than you should give the user partial autonomy. Allow skip, fast forward or faster to play.
- Use a series of pictures as a representation of a process to stimulate the brain. Then, the user has to complete the intermediate steps and get insight into cause and effect, in logical and desired order.
- Images stationary. The user can look at it as long as he or she wants without having to put anything on hold. The information can be processed at their own pace.



A good example of a schematically shown process.



Self-evaluation and review

People who are learning want to challenge themselves and measure what they know. By offering users quizzes, tests or individual questions with immediate feedback, you are fulfilling this need. In this way, the user gets insight into his style of learning and what he already knows and - most importantly - what he has yet to learn.

Tips for Self-evaluation

- Ask short, meaningful questions about the newly learned material, so that the participant can verify his own knowledge.
- Use self-evaluation as an active learning component. The user himself fills in an answer. This prevents a passive click-through module.
- Ask and answer questions about previously learned material. The user gets insight into what he does or does not remember.
- If possible, repeat already discussed material and test again.
- Ask questions about an item before this information is given in a module. The participant is then forced to actively think about the subject matter before he starts this section.