Learn more about IT

Guidelines to planning of IT training

About the guideline:

The guideline shortly describes how, you as a teacher, step by step, can plan IT training after a special IT educational concept, which is developed by Bjarne Herskin. The particular about the concept is that the training primarily focuses on what to use IT for. The participants also learn how IT works, but that is not the main focus for the training.

The target group for the guideline are teachers who will carry through the IT training based on the principles on which above concept is built. It is the idea that the guideline either can be used as “neighbour” training or as reference book. The guideline does not include examples of training material. Such examples can be found at www.it-formidler.dk (all is in Danish), where you also find a more clarifying description of the concept.

The overall idea behind the guideline is that materials developed as part of the “Learn more about IT” initiatives could be reused by other teachers. The guideline therefore focuses on how you can document your planning, so that others can use the training afterwards.

The progress of the training

The training itself is built up of so-called Hands-on lessons, which typically has a duration of approx. 40 minutes. The lessons consist of a presentation from the teacher, and an assignment phase, where, based on an assignment note and a navigation note, the participants work with what they were presented for. A lesson is closed with a summary from the teacher.

A full training consists of a number of hands-On lessons, which individually consist of a presentation, an assignment phase and a summary.

Presentation (duration 10 – 15 min)

P1 – problem phase: Presentation of a business case. Tell a good fact based story, which makes the participants recognize the need to learn more about the subject!

P2 – principle phase: Presentation through visualisation and examples. Draw the principles on the board together with e.g. stylized screen dumps.

P3 – procedure overview phase: Presentation through boxes on flip-over. Give the participants a tangible overview (“heliport perspective”) without details!

Assignment phase (duration 10-20 min)

The task must be a natural everyday task; it must not be too simple.

The participants should be resourceful, so supplementary assistance supporting their own efforts is better than willingness to help when solving their tasks.

Summary (**duration 5-10 min)**

- Principle questions
- Tricks
- Relation to the participants own situation

The phases and products of the planning

The planning of the individual Hands-on lessons includes partly documentation of the content and the progress of the lesson, partly preparation of documentation. If the subjects are complex, they must be split into more small lessons, which must be planned and carried out as individual Hands-On lessons.

During the planning, the progress should be documented temporarily in a manuscript. The manuscript should contain three columns of which the first one indicates the phase. The second indicates a description, whereas the third column is referring to the visual means to be used. The manuscript is adjusted finally after a test of the lesson.

Besides the manuscript a navigation note and a task note are prepared. The participants will receive both when they start to solve the tasks. The individual phases and products are subsequently elaborated in individual sections.

->Phases	-> Products
Presentation - (P1) Problem phase In the problem phase as a start you have to consider: 1. The situation of the participants? 2. In which situations do the participants need what they are about to learn in this lesson 3. Which points shall make the participants understand the need for the training? 4. What shall the story show the participants? 5. How must the story be presented?	The product is a specific every day life story of approx one minute. The story must illustrate what to make of having the IT-skills, which are the headlines in the lesson.
Presentation - (P2) Principle phase The hardest and most important part of the planning is to find the points which the participants must understand and then develop visual explanations which support the understanding. During the planning you have to clarify: 1. Which points must the participants understand? 2. How must the points be illustrated by examples and visualized? 3. Which media shall be used?	The principle phase is documented in the manuscript with description of the points and the explanations to support them. Besides this, refer to the visual means used to support the explanations.
Presentation 3 (P3) – Procedure overview phase In the planning it creates a good overview if you prepare the procedure overview, before planning the principle phase. Here you shall clarify: 1. Which steps shall be included? 2. Design of the procedure overview	A procedure overview is an illustration of the steps which the participants must pass through when they have to work with the subject themselves. The procedure overview is created by illustration of boxes connected by lines.
Task phase For the task phase materials are developed which the participants can use when solving the tasks. In this part of the planning you shall consider: 1. What must the participants know to be able to carry through the task? 2. How shall the task/tasks be elaborated?	A so-called navigation note and a task note are prepared for the participants.
Summary phase When the participants have finished the task solving, they are very accessible to information. In the summary phase it is important to exploit this by collecting questions and give the participants further information and tricks.	In the summary phase you can add further information or tricks which are extra compared to the presentation
Documentation, test and adjustment When development of a lesson is finished, it must be live tested and adjusted.	An adjusted manuscript.

P1 -> Planning of the **Problem Phase**

Presentation – (P1) Problem phase In the problem phase, you can as a start consider: 1. The situation of the participants? 2. In which situations do the participants need what they are about to learn in this lesson? 3. Which points will make the participants understand the need for the training? 4. What shall the story show the participants? 5. How must the story be presented?	The product is a specific every day life story of approx one minute. The story must illustrate what to make of having the IT-skills, which are the headlines of the lesson.
The purpose of the first phase in the presentation (P1) is to motivate the participants by telling a specific story. The story must be based on their every day life, and prove the use of what they are going to learn in stead of focusing on the system for the sake of the system. The participants must immediately be able to relate what they are about to learn to the current and future every-day life.	The story must therefore create a perception of relevance, and if there are distinctive advantages of the IT-solution they are about to learn, this shall of course also be evident. The means is an exact example of a story of the daily life. The story shall illustrate the need for the IT-skills which the relevant hand-on lesson is about.

Design of the problem phase

- It is important that the story is problem oriented, so that the participants can understand the need.
- The story must be as realistic as possible; this will have a better effect of the participants. Specific actors must be included, either fictitious or real.
- The story must also be used for exemplifying the principle phase, so it is important that it is designed so that is leads to the aspects in focus of this phase.
- Consider if the story shall be supported by a visualisation, illustrating the points, e.g. how difficult a certain task has been so far. The visualisation of the story makes it easier for other teachers to use the material.

Presentation

- The more specific story, the easier it is to present it in a vivid way.
- The story is often told by words alone, but visualisations can be used.

P2 -> Planning of the **Principle Phase**

Presentation – (P2) Principle phase The hardest and most important part of the planning is to find the points which the participants must understand and then develop visual explanations which support the understanding. During the planning you have to clarify: 1. Which points must the participants understand? 2. How shall the points be illustrated by examples and visualized? 3. Which media shall be used?	The principle phase is documented in the manuscript with description of the points and the explanations to support them. Besides this, refer to the visual means used to support the explanations.
The purpose of the principle phase is to give the participants an overall understanding of what they are about to learn. This phase is the most important part of the presentation because the understanding of the principle is the precondition for the participants becoming resourceful. It is quite often a difficult process to identify the principles contributing to create understanding among the participants.	At the same time it can be difficult to separate principles and procedures. The basis for the planning is to identify the points, which the participants must understand, and then develop principle explanations supporting the points. The basic means in the principle phase is visual explanations, which are simple and which can be understood by all participants, irrespective of their different backgrounds.

Design of the principle phase

- The most important points and principles must be identified and prioritised.
- Visual means are developed, illustrating the principles.
- Normally the visual explanation must be constructed progressively, so that the points are presented one by one.
- Colour symbolism helps create understanding and correlations.
- Points and principles are described in the manuscript.
- Refer in the manuscript to visual means, which are documented and numbered in a separate document.

Examples of principles

- How is it possible to send an e-mail.
- The difference between an e-mail address and a web-address.
- How a simple Google search functions
- How the display of the browser is built up

Presentation

- It is a big advantage if the principle explanation is based on the specific problem oriented example from P1.
- Points and principles are illustrated continuously through visualisation on the board.
- It is important to practise the formulation of the points in advance.

P3 -> Planning of the **Procedure Overview Phase**

Presentation 3 (P3) – Procedure overview phase In the planning it creates a good overview if you prepare the procedure overview, before planning the principle phase. Here you shall clarify: 1. Which steps must be included? 2. Design of the procedure overview	A procedure overview is an illustration of the steps the participants must go through when they have to work with the subject. The procedure overview is created by an illustration of boxes connected by lines.
The purpose of the procedure overview phase is to give the participants an overview of the logic steps they have to go through before being able to solve their task. They will get the overview in a visual form through boxes, which could be supported by colour symbolism. The steps do not indicate the number of displays the participants must go through when working on the task.	Contrary they focus on the purpose of the individual activities so the participants understand what they are about to do. In the planning phase it is an advantage to prepare the procedure overview phase before the principle phase, because it creates a good overview which can be used to structure the composition of the principle phase.

Design of the procedure overview phase

- The overview typically contains 4-6 boxes.
- The text in the boxes must create an intermediate understanding of the logic act which the participants must go through.
- The text in the box is typically one single verb.
- Colour symbolism can be used to emphasize the points.
- Broken line boxes can be used to symbolise that phase does not appear every time.
- Broken line arrows can be used to symbolise that you can go back to a previous action. Important: To keep the clarity, do not use too may arrows!

Presentation

- The procedure overview is drawn at a flip over or a board before the lesson starts.
- The procedure overview is explained to the participants before solving the tasks.
- The steps are explained quickly to give the participants an overview. Avoid reference to what the participants must click at, when sitting at the computer.
- It is an advantage if you can coordinate the procedure overview with the illustration made for the principle explanations on the board, e.g. through colour symbolism.
- It is important to leave the procedure overview on the board so that the participants always have an opportunity to look at it, if they are in doubt about the next step during the problem solving.
- In some cases it is appropriate to explain the procedure overview before the principle explanations. In these matters it is extra important to give a quick overview and avoid falling into details.

Planning of the **Task Phase**

Task phase For the task phase materials are developed which the participants can use when solving the tasks. In this part of the planning you shall consider: 1. What must the participants know to be able to carry through the task? 2. How shall the task/tasks be elaborated?	A so-called navigation note and a task note are prepared for the participants.
The purpose of the task phase is that the participants work independently with the things they have learnt. If they need help for problem solving the help must support them, so the participants do not get dependent on support from a teacher.	The participants get two tools to use when solving the task: A navigation note and a task note.

The intention of the task note:

- It must be useful both during the training and in the daily work.
- Must contribute to creation of resourceful participants, meaning they should be able to solve the problems without help from teacher or super user.
- Must create overview.
- Must only include the information which the participants cannot find him/herself or understand from the monitor.

DESIGN

1. The navigation note does normally not include screen dumps.
2. Different types of information is placed in different places:
    - Heading indicates in which situations the navigation note is to be used
    - First column gives the participants a procedure overview of the logic phases of the task
    - Second column gives or supports the understanding of the participants
    - Third column informs on how to navigate in the system
3. Navigation notes are normally max one A4 –page
4. The navigation note must not be designed exactly to the task the participants receive during the training session, but should be useable for all similar tasks.

Presentation

- Show the participants how to use the navigation note when they ask for help during the task solving.

Planning of the **Summary Phase**

Summary phase When the participants have finished the task solving, they are very open to information. It is important to exploit this in the summary phase to collect questions and give the participants further information.	In the manuscript you can enter further information or tricks which are extra compared to the presentation
The purpose of the summary phase is to answer and elaborate questions which are relevant to all, and to present other tricks which could not be included in the presentation. The 5-10 minutes summary should of course not be as planned as the presentation; because the summary to a wide extent is dependent on the questions from the participants. Some times the summary will consist of a discussion of these questions including additional tricks.	The summary can also be used for additional principle explanations, the so-called mini modules. These principle explanations correspond totally to those presented before the task phase, but they are typically small-scale. Here it is also important to work with visual explanations. The best solution is if the visual explanations in the summary can be built on the visualisations used in the presentations. It partly saves time, and it partly creates a correlation in the explanations which makes them easier to understand.

Documentation and adjustment

When the development of a lesson is finished, it must always be live tested and necessary adjustments should be made. It is recommended to work according to the following template:

Preliminary documentation in the form of a manuscript	The purpose of the preliminary documentation is only to ensure that the test can be carried out according to plan. How much documentation is needed is very individual.
Live test	Typically only the presentation is tested. The intention is to ensure that the explanations and thereby the tools function according to intention.
Adjustment	Based on the experiences gained in connection with the test, the lesson is adjusted. If it implies major changes a new test can be recommended.
Final documentation	When the lesson is ready, it must be so well documented that other teachers can re-use all or parts of the lesson.

Documentation and reuse

Normally it is very difficult to use training material developed by others. Partly because the documentation often is insufficient, partly because it is difficult, not to mention it is almost impossible to understand the didactic ideas behind the material. If new teachers must be able to reuse material developed by others following three things are required:

1. **A specific didactic concept**
   If the developed training material follows a specific didactic concept, the one re-using the material can far easier decode the educational ideas being embedded in the material. In other words, those developing the material and those using the material must have the same didactic frame of reference.

2. **A high didactic quality**
   If training material does not include a high educational quality it will create problems for the teachers re-using the material. It is therefore important that all lessons are tested and evaluated by a wide group of teachers and following that the lessons are adjusted before final documentation.

3. **Thorough documentation**
   The manuscript method ensures that new teachers reusing the material exactly understand how to use the material. The manuscript describes content and points whereas documentation of the visualisations specifies how the explanations must be

presented. It is important to note that the manuscript can be used in the preparation phase, but definitively not as speaker's notes in the lesson itself.

Who is behind IT-Formidler (IT-intermediary):

It is part of a network cooperation by the name "Learn more about IT". It consists of a number of organisations with the joint target to give any citizen in Denmark the option to learn how to use IT.

- Ministry for Science, Technology and Development
- The Union of Danish Librarians
- The Association of Head Librarians
- Danish IT
- The Danish Metal Workers' Union

+ many more

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