



Instructions and Directions

- Aim
 - Being able to develop instruction sheets and videos
 - Being able to develop a skill training session
 - Being able to do Assignment 1
- Literature
 - Textbook chapter 2
- Additional literature
 - Clark (2007) Leveraging multimedia for learning: Use instructional methods proven to align with natural learning processes

1

Skill

- Practical competence
 - Ability to walk, bike, speak, type...
- IT user skill
 - Ability to use IT for a purpose
 - Type an SMS on a numeric keyboard
 - Format a document
 - Summarise columns in spreadsheets
 - Retouch a photo with an image editor
 - Point with the mouse
 - Search the web



Changing the typeball

Nervik & Nordheim: Ikke bare maskiner. Historien om IBM i Norge 1935-1985, s 57

2



Learning

Development of competence that provides a relatively stable change of behaviour

No Learning
learning

Discovering the Track Changes functionality
→Using it regularly

Finding out how to set up the internet connection
→Not being able to repeat it the next time needed

3

Repetition

- Practicing the same skill repeatedly
 - Doing it more efficiently
 - Automating it
 - Do it without attention
- Examples
 - Walking
 - Typing



4

Imitation

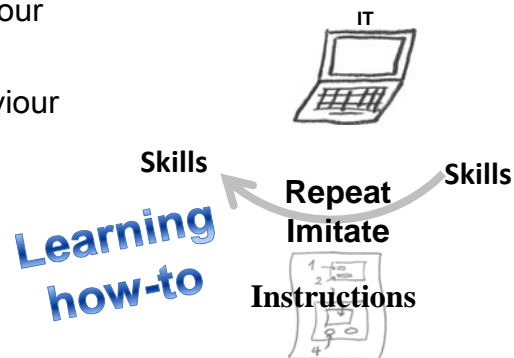
- Observing
 - Others' behaviour
 - Random
 - Teachers' instructions
 - Instruction videos
 - Instruction sheets
- Repeating it



Foto: Zentall Akins : Imitation in Animals: Evidence, Function, and Mechanisms.
<http://www.pigeon.psy.tufts.edu/avc/zentall/> 5

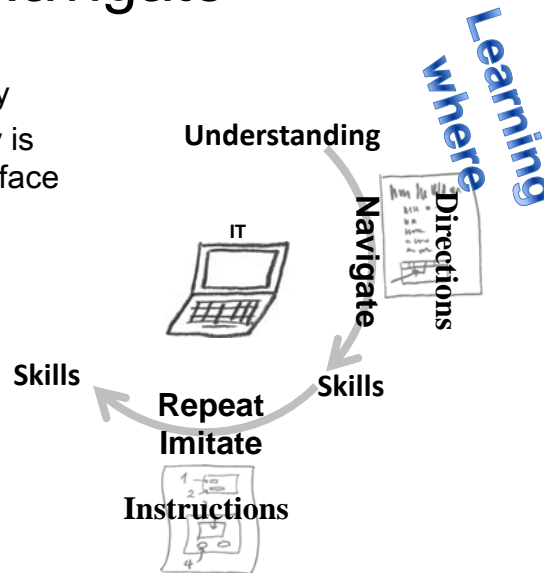
Improving skills

- Practical competence
- IT user skill
 - Ability to use IT for a purpose
- Learning
 - Development of competence that provides a relatively stable change of behaviour
- Imitation
 - Observing others' behaviour
 - Random
 - Teachers' instructions
 - Instruction videos
 - Instruction sheets
 - Repeating it



Navigate

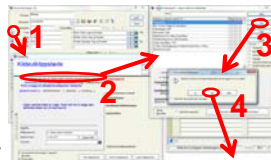
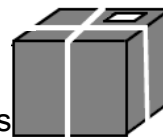
- Understand functionality
- Find **where** functionality is located in the user interface



7

Perception — Closeness

- People group stimuli
 - Located closely together
 - Constituting expected shapes
 - Similar
 - Shape
 - Font
 - Colour



8



Demonstrating with projector

- Point to what you are talking about
- The cursor
 - when moving it



9

Instructions for Imitation KISS – Keep It Small and Simple

Guiding the user through a series of operations

→ Sequential

Basis for imitation

→ Recognisable

Users interested in doing, not reading

→ Short

Avoid getting stuck

→ Complete

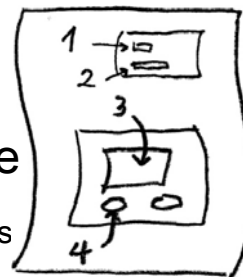
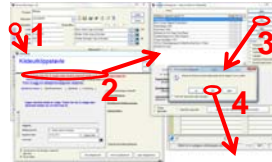


Photo: LIFE free-best-wallpaper.com

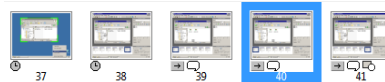
10

Sequential

Numbered sheet



Video



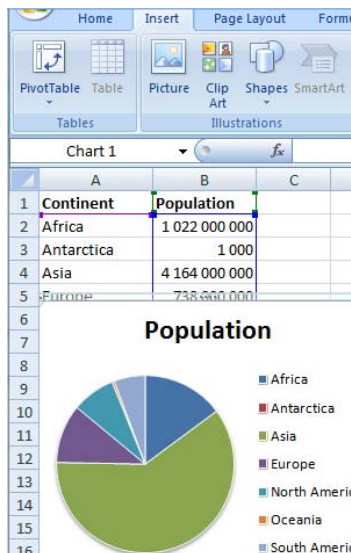
Instructor actions



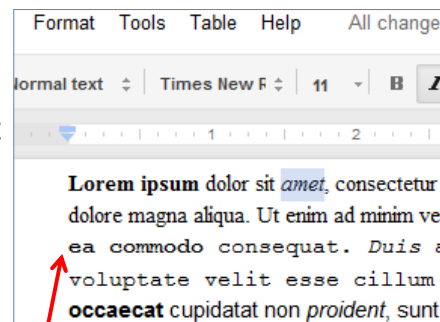
11

Recognisable

Screenshot



Example



- Recognisable format
 - Unrecognisable content
- Content does NOT attract attention

12

Short

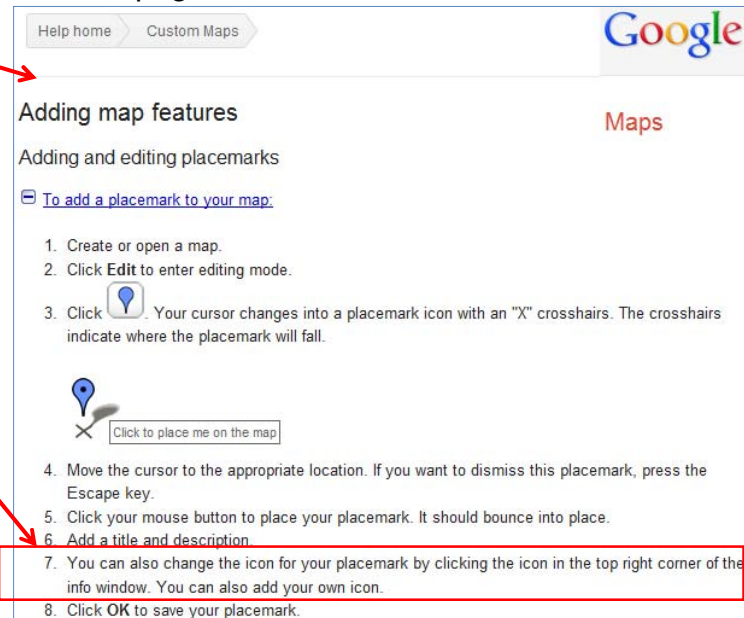
One page or slide or minute

- Example

No example

- Operations

Options
could have
been
removed




The screenshot shows the Google Maps interface with a help page titled "Adding map features". The page includes a navigation bar with "Help home" and "Custom Maps" buttons, and the Google logo. The main content is under the heading "Adding map features" and "Adding and editing placemarks". It contains a link "To add a placemark to your map:" followed by an 8-step numbered list. Step 7 is highlighted with a red box. A red arrow points from the text "Options could have been removed" to step 7. Another red arrow points from the text "No example" to the top navigation bar.


Help home Custom Maps Google

Adding map features Maps

Adding and editing placemarks

[To add a placemark to your map:](#)

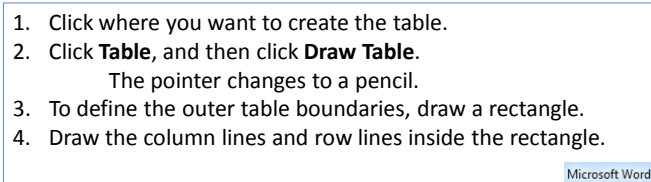
1. Create or open a map.
2. Click **Edit** to enter editing mode.
3. Click . Your cursor changes into a placemark icon with an "X" crosshairs. The crosshairs indicate where the placemark will fall.

 Click to place me on the map

4. Move the cursor to the appropriate location. If you want to dismiss this placemark, press the Escape key.
5. Click your mouse button to place your placemark. It should bounce into place.
6. **Add a title and description.**
7. You can also change the icon for your placemark by clicking the icon in the top right corner of the info window. You can also add your own icon.
8. Click **OK** to save your placemark.

Complete

- All steps



The screenshot shows a Microsoft Word help page with a numbered list of 4 steps for creating a table. The text is enclosed in a blue border. A "Microsoft Word" logo is visible in the bottom right corner.

1. Click where you want to create the table.
2. Click **Table**, and then click **Draw Table**.
The pointer changes to a pencil.
3. To define the outer table boundaries, draw a rectangle.
4. Draw the column lines and row lines inside the rectangle.

Microsoft Word

- Often forgotten

- Last step of saving, etc

- Last step should allow for feedback

- Visible result

- Checking whether the goal is achieved

Directions for Navigation



- **Functionality**
- **Where** to locate it

Functionality

Instructions

Draw a table
You can draw a complex table — for example, one that contains cells of different heights or a varying number of columns per row.

1. Click where you want to create the table.
2. Under **Insert**, click **Table** and then click **Draw Table**.
The pointer changes to a pencil.
3. To define the outer table boundaries, draw a rectangle.
4. Draw the column lines and row lines inside the rectangle.

Microsoft Word

15

Locating directions

- Designers' terms do not match users'
80% - 90% cases
- Users do not find the button for the functionality
 - The button has an unfamiliar name
 - There are maaaaaaany buttons and menu choices
- Users look up in software documentation
 - Users do not find the place for the functionality
 - The documentation uses an unfamiliar name

16



→ Directions should be written by users

- Blogs
- E-mail groups
- Frequently Asked Questions
- Access for general software



- Internal business information systems
 - Links from user interface
 - Intranet search
 - Skills

17

Tools for making instruction sheets

- Screen capture

Snipping Tool

- Windows 2007



Applications → Accessories → Take Screenshot → Grab

- Ubuntu Linux

- Media generation

Slides

- Impress
- PowerPoint
- Prezi

18



Professional production of user documentation

- Screenshots
 - Portable Network Graphics format .png
- Graphics and text
 - Scalable Vector Graphics format .svg
 - Adobe Illustrator CSS
 - Inkscape (freeware)
- DocBook or another XML storage format .xml



Tagged text format
Similar to HTML

Serna Free
emacs

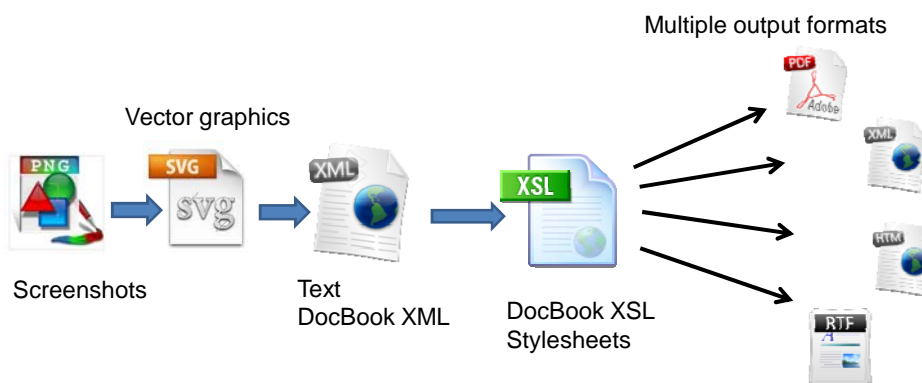
```
<TABLE>
<TR><TD>this</TD><TD>is</TD><TD>a</TD></TR>
<TR><TD>simple</TD><TD>table</TD><TD>example</TD></TR>
<TR><TD>with</TD><TD>3</TD><TD>columns</TD></TR>
<TR><TD>and</TD><TD>4</TD><TD>lines</TD></TR>
</TABLE>
```

→ Basis for generation in any media

this	is	a
simple	table	example
with	3	columns
and	4	lines

19

Technical production sequence



DocBook only specifies the content.
Stylesheets transform DocBook XML to a presentation format.

20



Videos

- Four principles
 - Medium is sequential
 - Screenshot video is recognisable
 - Example should be well known
 - One minute length
 - One example of the operation
 - The learner can replay
 - Complete
 - Include start and stop
- Replace written text with oral
- Only essential mouse movements



Photo: LIFE free-best-wallpaper.com

21

Making videos from the computer screen

1. Screenshots
 - A series of frames
2. Editing frames



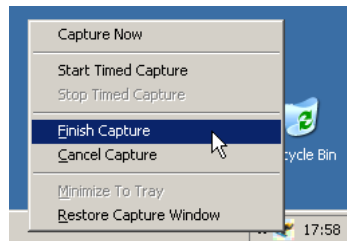
3. Rendering
 - Video files
 - Animated vector graphics – Flash .swf
 - Compressed video – MPEG-4 .mp4

22



Wink

1. Recording. File → New → Choose Screen or Window
Switching capture on/off



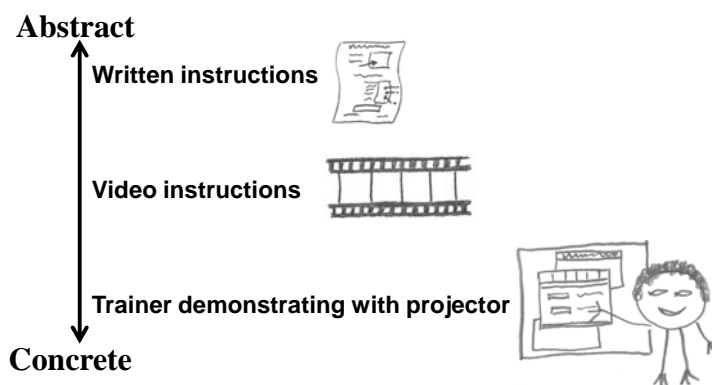
2. Edit frames with Properties, right column
3. Project → Render

Details:

Download Wink tutorials from INF3280 website

23

Instructions in learning



- Some users don't follow instructions
 - Those with poor skills
 - Those who already know a way

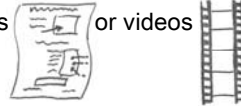
24



Trainer's instruction

- A. Learners quickly forget details of computer operation
- B. Reviewing training material is **twice** as successful as searching for help when solving problems

→ Always include instruction sheets or videos in training



- C. Imitating a person is easier than imitating anything else
- D. Low skilled users do not follow instructions

Novices or complex tasks

→ Also demonstrate at the projector



25

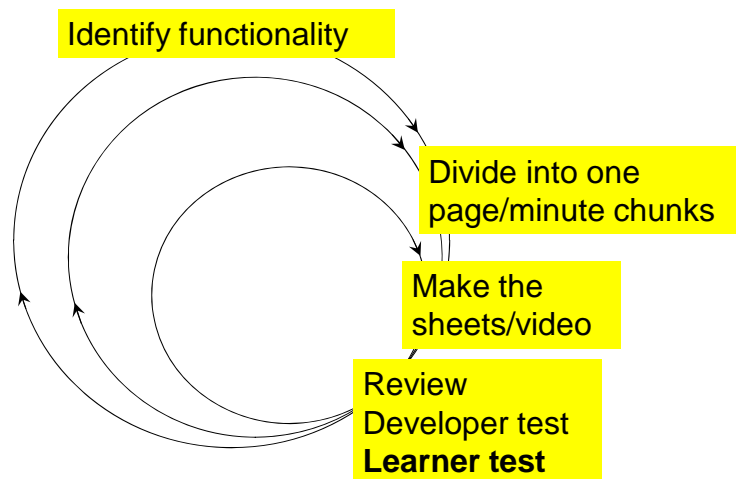
Sequence of teaching skills

1. If novices or complex tasks
 - Demonstrate computer operations with projector
2. Make the learners follow instructions in sheets or videos
3. Make the learners do a similar task
4. Make the learners do a less similar task

Stop when everybody have completed 3

26

Development process



27

Learner tests

- Give the learners the instructions
- Observe closely what they do
- Note down when they
 - deviate from the instructions
 - get stuck
- Afterwards
 - Ask them about what happened when they did not follow the instruction
 - Where they got stuck
 - Check the instructions



28