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Visualising the hidden

- Literature:
 - [Lecture Notes 3 for INF4280](#)
- Other material
 - Hearst, M. (2003) [Information Visualization: Principles, Promise, and Pragmatics](#). CHI 2003 tutorial.
 - Tufte (2009) [The work of Edward Tufte and Graphics Press](#)

1

A process of learning concepts

- **Action**
 - Carry out an action which exemplifies the concept
- **Process**
 - Refer to the input and output of the action when talking about it, without actually doing it
 - In order to have one cell refer to another, one has to get the coordinates of the other cell into the formula
- **Object**
 - Refer to the action like an object of its own
 - which can be part of other actions
 - Cell-referencing is an ingredient in formulas

Abstraction



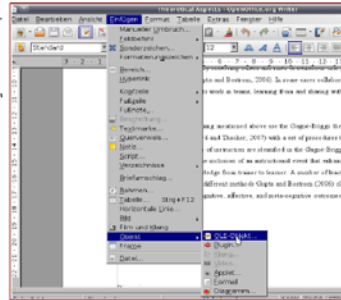
2

Visualising for supporting Action

- For recognising steps

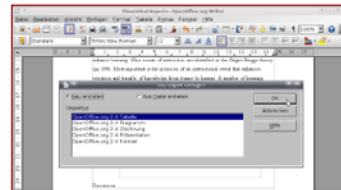
Creating a new object in the Word document:

1) Click on: „Insert“ → „Object“ → „OLE-Object“

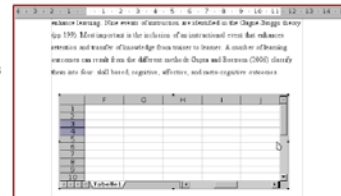


2) A new dialogue appears.

Select: „Create new“ and click „OK“

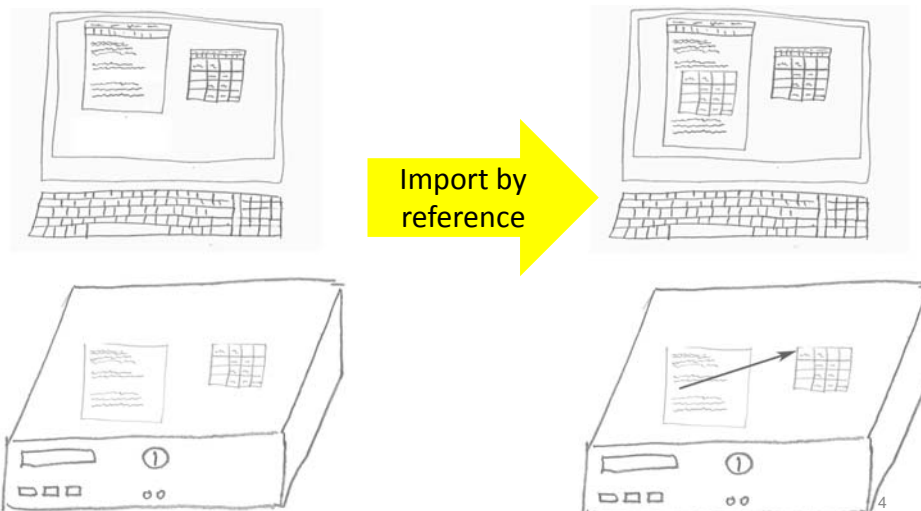


3) A new object is placed in the text document. In this object you can create tables easier than in Word itself. But unfortunately not all features from Excel are supported.



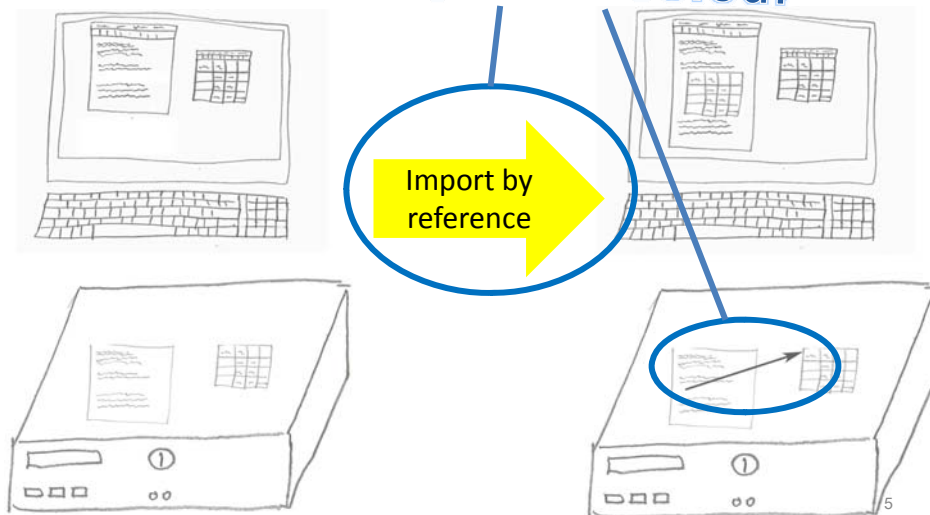
Visualising for supporting Process

- For comprehending the beginning and end states
- Parts of which may not be visible at the interface



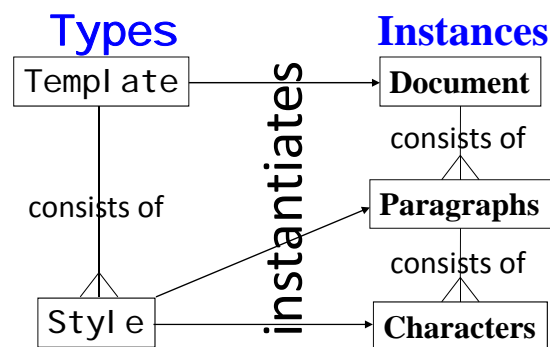
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Make sure that symbols denoting different things vary in shape and colour



Visualising for supporting Object

- Giving meaning to and contrasting concepts



Consists-of relates a whole to its parts
Instantiation relates a type to its instances

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LAB TASK

Visualising data structures

- Start out with the data structure diagram which you made for either
 - Word processor document
 - Spread sheet
 - Presentation
 - Relational database
 - File system on a PC
- Revise it so that it supports learning of
 1. The data structure of the application
 2. Data structures in general