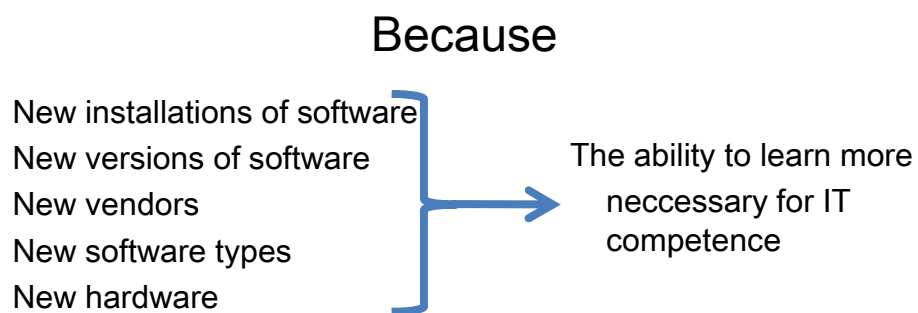Jens Kaasbøll, Department of Informatics, University of Oslo

Learning to learn

- Aim
  - To be able to design activities where people can become better learners of IT
- Literature:
  - Textbook chapter 8.

Because

New installations of software
New versions of software
New vendors
New software types
New hardware
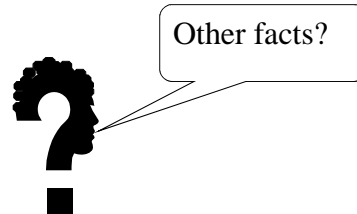
The ability to learn more neccessary for IT competence

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Understanding and facts ease learning

- Learning is based on what we already know
- Understanding
  - IT concepts
  - Information
  - Usefulness of IT
- Facts
  - Sample data
  - Name of operations
  - …

Other facts?

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Characteristics of "capable computer users"

- confident in their own skills and abilities
- patient and persistent, determined and calm
- risk taker, courage to experiment, try new things, not afraid to make mistakes
- methodical / logical thinker
- enthusiastic and motivated, enjoy using computers, positive attitude, personal interest
- technical knowledge
- love of learning
- constant use, deep immersion
- problem-solving abilities, deduction
  - Phelps at al (2001) The role of metacognitive and reflective learning processes in developing capable computer users

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Learning oriented people

- My brother is truly amazing. For myself, if something doesn't work I might try it again once but the majority of the time I will just 'give up'. My brother sees these 'failures' as challenges to be met and conquered. He delights in the fact that he never has to stop learning because there will always be a new challenge to conquer. He loves the fact the information technology is such a dynamic field that it is always changing, improving and making new breakthroughs.

Performance oriented people

- If something goes wrong when I am using the computer I freak out and panic, but when I see these people use the computer they seem to be able to work it out on their own. It is obvious to me that I learn differently to them when it comes to information technology.

Phelps at al (2001) The role of metacognitive and reflective learning processes in developing capable computer users

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Knowing more ways of learning ease learning

- Because
  - When needing to find out something
  - Select the more efficient way of learning
- How
  - Experience a way of learning
  - Discuss this way of learning

Externalise ways of learning

- Lesson for the IT trainer
  - Try triggering several ways of learning
    - Basic
    - Blended
  - Discuss the ways of learning with the learners

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Basic learning processes

Imitation
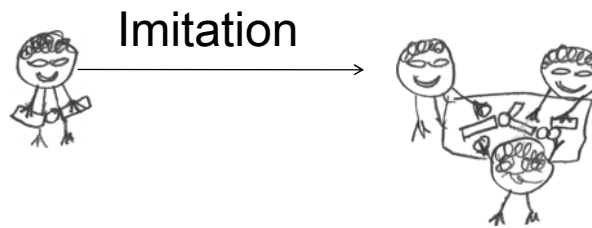
- Extending repertoire of skills
  - Observe others' behaviour
  - Mimic
- IT trainer
  - Quick demonstration
 - Comparing with instruction sheets

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Exploration

- Extending repertoire of skills
  - Play with the technology
  - Observe what it is doing
- IT trainer
  "Find out what this program does"
  "Find other tasks where you could use this program"
  - Get the learners to say how they learnt
  - Point to activities that seemed productive

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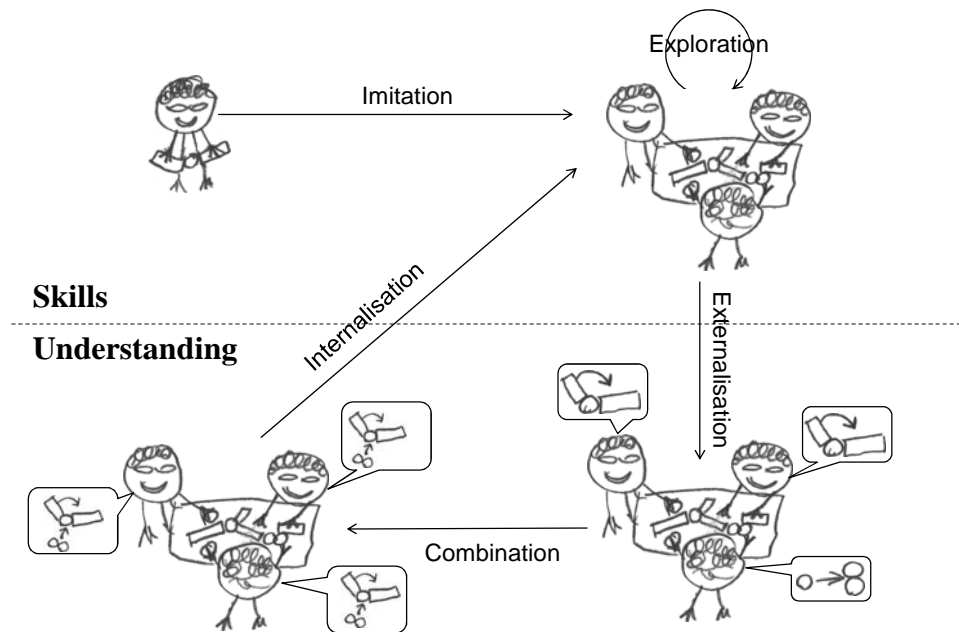

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Externalisation

- Creating explicit understanding based on skills
  - Use the IT
  - Express what happened
- IT trainer
  - Conceptual-practical training
  - Conditions for learning in this way
    - Theoretical material
    - Practical which fits

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Combination

- Combining elements of understanding into new ones

Footnotes ⟶ References ⟶ Cross-references

Styles ⟶ Heading styles ⟶ Table of contents
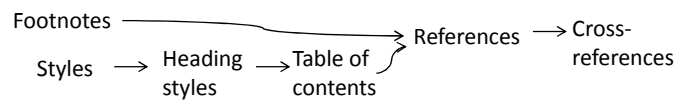
- IT trainer
  - Ensure that the learners have understood the basic concepts
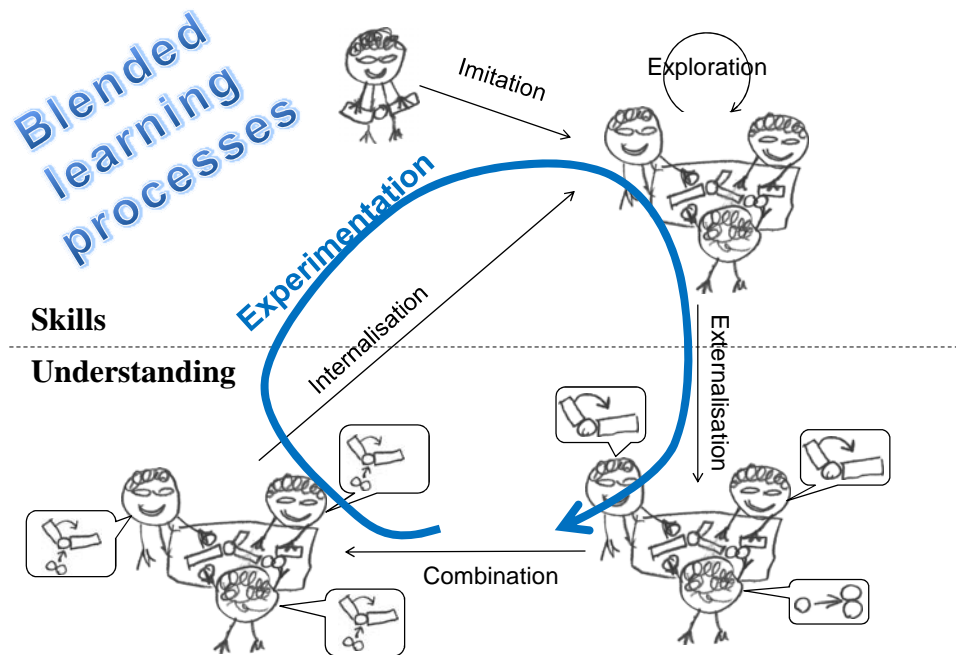 - Practice searching for explanations

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Internalisation

- Applying theory for developing skills
- IT trainer
  - Ask participants trying operations known from other programs
  - Helping users locate How-to guidelines on the web

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Experimentation

- Increase understanding
  1. Formulate hypothesis
  2. Design a test
  3. Perform the test
  4. Interpret the results
  5. Compare with hypothesis
- IT trainer
  - Experimenting with IT
    - Recall that in the presentation program, we could control the layout of slides with the master slide. How does the text processor compare on this functionality?
  - Experimenting with task support
    - This is a task which you might encounter at work. Find out whether the IT can support this!

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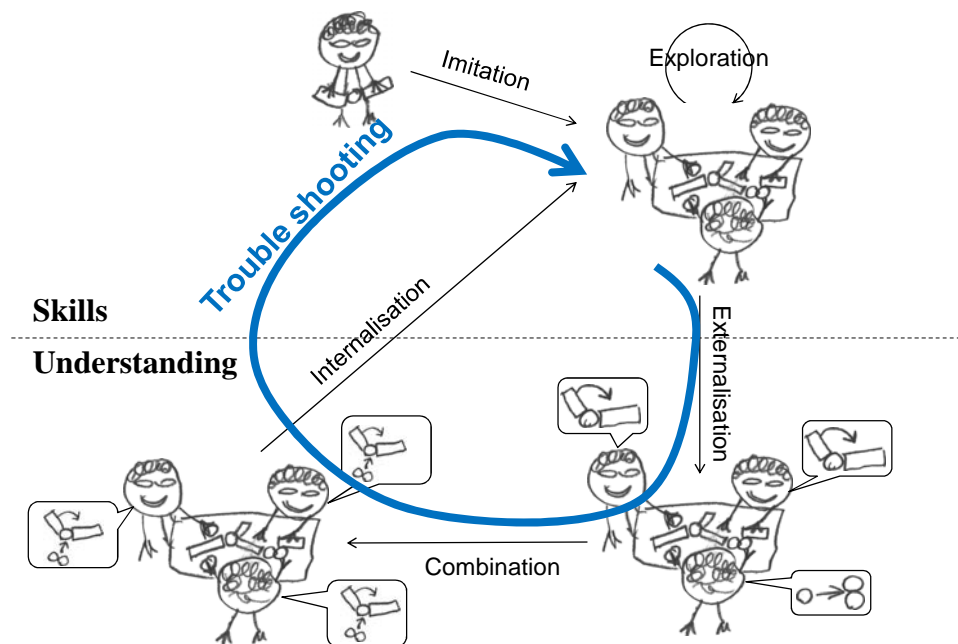
Trouble shooting

- Manage practical obstacle
    1. Observe unwanted results
    2. Interpret
    3. Search for similar situations
    4. Implement findings
    5. Compare with previous result
- IT trainer
    - Describe ways of observing
    - Help locating FAQs and other trouble shooting pages
    - Point to super-users and other support personnel

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