



Instructional Design – Knowledge and Task Analyses

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Analyses

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Why do we need knowledge and task analyses?

- Does Subject Matter Experts really need to do knowledge analyses?
- YES , they do!
- Sound Subject Matter Expertise is absolutely necessary, BUT

Knowledge and Task Analyses don't serve only to recognize the relationships between relevant concepts on the level of the subject matter:

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Why do we need Knowledge- and Task Analyses?

- **Kinds of Knowledge**
 - Declarative knowledge, mental models
 - Procedural knowledge (PL, motoric)
 - Conditional knowledge (strategic knowledge)
- **Learning hierarchies**
- **Kind of the tasks, Complexity**
 - 4C/ID Model differentiates "Recurrent tasks" (routine tasks) and "Non-recurrent tasks"
 - Complex tasks
- **Evaluation of the result of your instructional design**
 - Covering all relevant concepts and relationships

Selection of a specific ID model

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Why do we need knowledge and task analyses?

The aim of Knowledge Analyses is to **identify relationships**, which are **relevant for the learning processes**

1. **Defining units** of the instructional process (segmentation of the content): The more new concepts in one unit, the more difficult is the unit for beginners (Case 1986)
2. **Identifying learning pre-requisites** → identify appropriate sequences to convey the units of content
3. **Selecting (key) concepts** for the integration into a story (Serious Games, Explain Videos)
4. **Constructing** appropriate sets of **learning tasks**

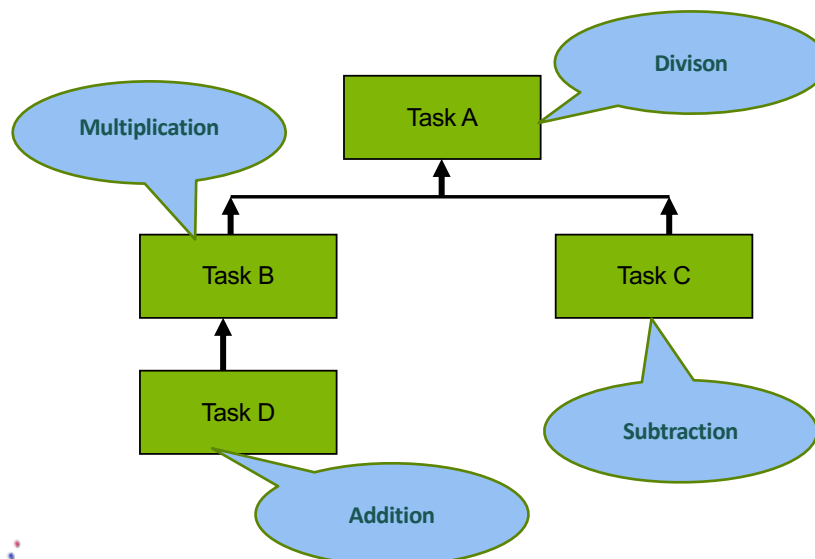
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Knowledge- and Task Analyses

- **Learning Hierarchies; Analyses of Learning Prerequisites**

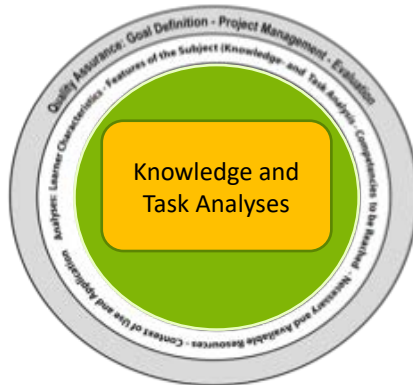


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Knowledge and Task Analyses



Methods and Tools

Knowledge Analyses

- Mind Mapping
- Concept Mapping
- UML

Task Analyses

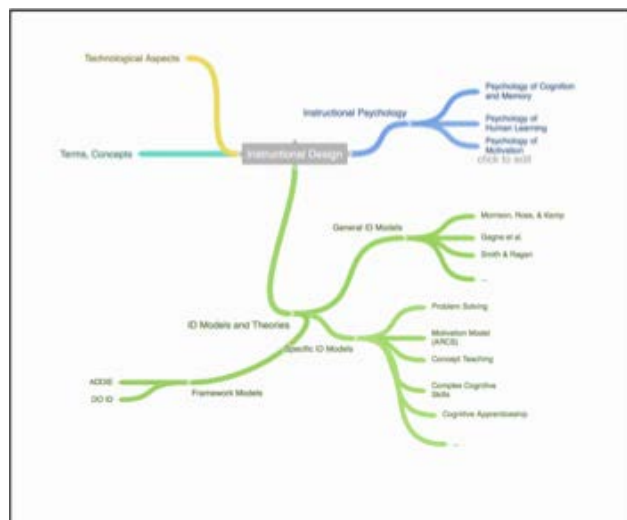
- Multiple procedures, e.g. Jonassen, Hannum, Tessmer (1989). *Handbook of Task Analysis Procedures*. New York: Praeger
- BPNM 2.0 → Yaoquiang

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Knowledge analysis: Mindmapping

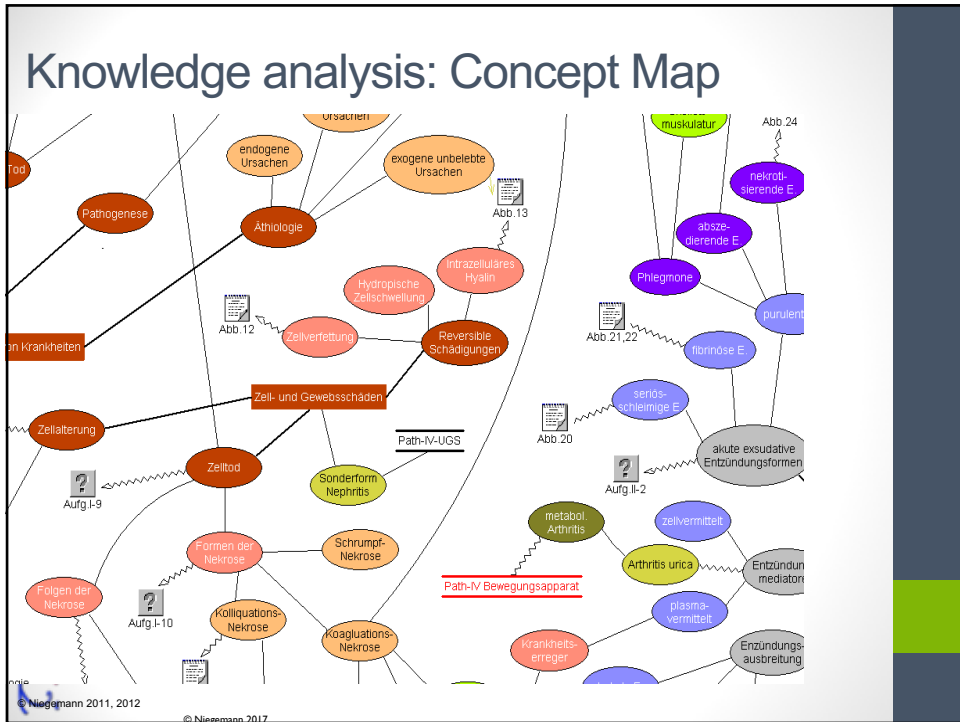


Mindmap "ID", produced with coggle.it

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Thank you for your attention.

Questions or comments now

or later @

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Now: Hands on

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