

Learning by building and using models in business education

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ISDC, Bergen 2000

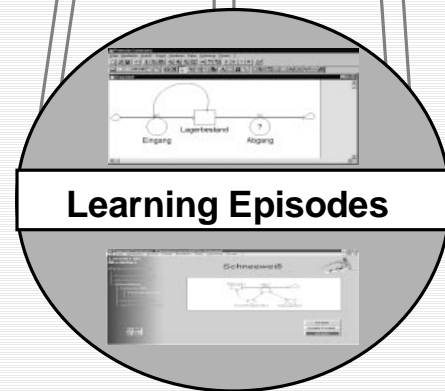
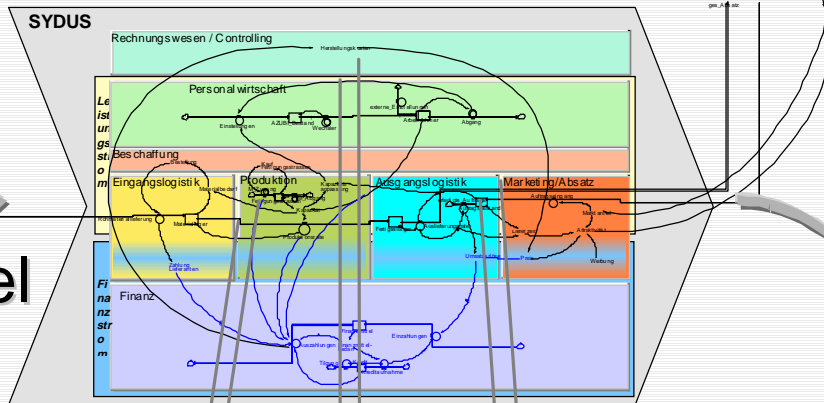
Agenda

- **Complex learning environment**
- **Approaches for learning episodes**
- **Elaboration of Mental Models by means of simulation and modeling**
- **Impact of simulation „Shifts of Elaboration“**
- **Analyzing the process of modeling with tracing-software**

A complex learning environment for simulation and modeling in vocational training

SYDUS

A glassbox model with generic, systemic, structures of an industrial enterprise



Learning Episodes

Episodes concerning to SYDUS for the elaboration of typical economic subject matters

Approaches for learning episodes

Learning modes (sensu Bliss 1993):

Explorative

- exploration of given models
- interactive simulation
- interpretation

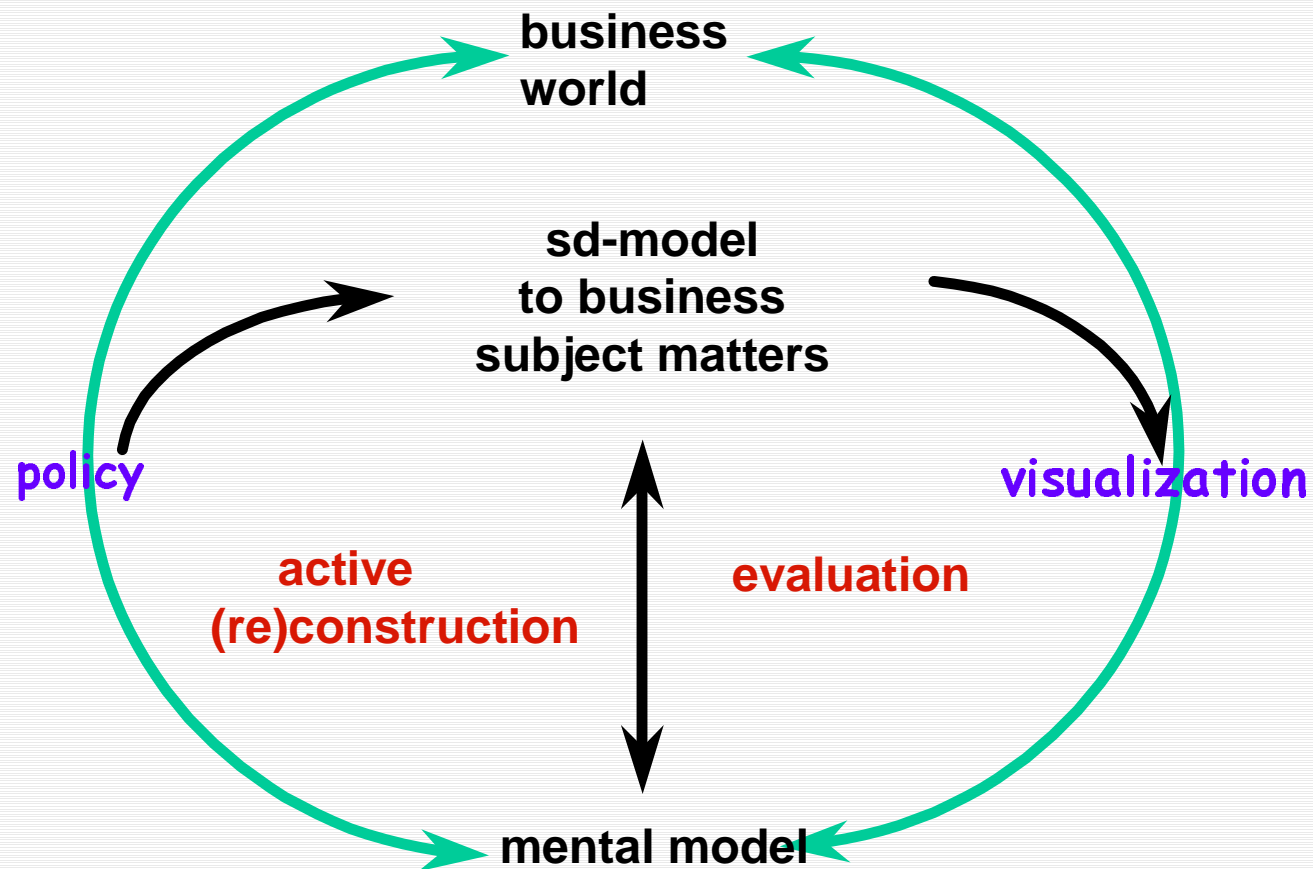
similar to applications of management flight simulators (training)

Expressive

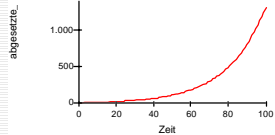
- construction of models by students
- interactive simulation
- interpretation

used as cognitive tool to elicitate, visualize and respectively re(construct) student mental model of business subject matters

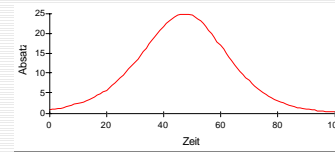
Elaboration of the Mental Model



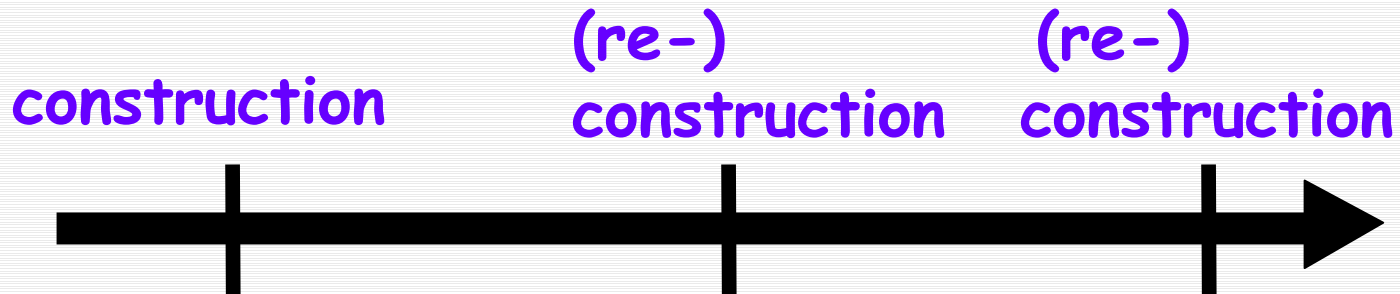
Impact of simulation on the process of modeling



simulation



simulation



Hypothesis: „Shifts of elaboration “

First results and perspectives

- **Students are able to build appropriate SD-models to business subject matters and to explain their behavior with instructional support given**
- **Multidimensional representation of the individual elaborations based on the models developed with inclusion of the corresponding explanations (content analysis / knowledge structure)**