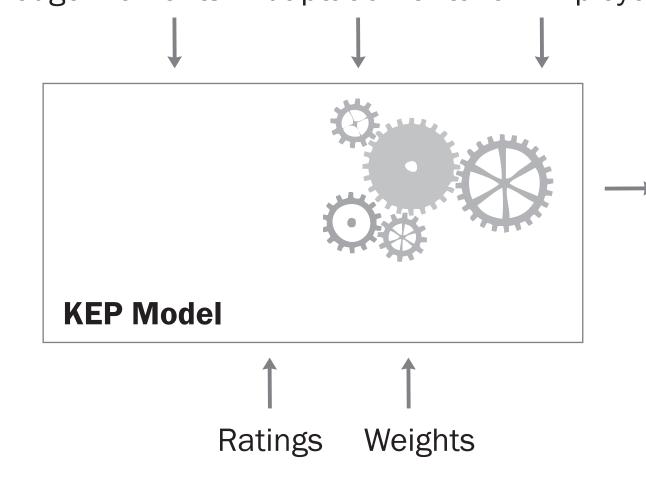
IMPLEMENTATION & EVALUATION OF THE KNOWLEDGE ELEMENT PREPARATION MODEL

PRELIMINARIES

- Knowledge Element Preparation Model (KEP Model) by Thalmann, 2012
- part of a decision support system considering benefits and efforts
- basis for the KEPTool

Knowledge Elements Adaptation Criteria Employees



Which knowledge elements should be prepared by which employee according to which adaptiation criteria?

RESEARCH OBJECTIVE

The Implementation and Formative Evaluation of the KEP Model and the KEPTool

evaluation of the ...

- proposal the KEPTool computed for the Layers Theory Camp
- factors influencing the benefits and efforts in the KEP Model
- weights balancing the factors in the KEP Model
- rating procedure of the factors influencing the benefits in the KEP Model

identification of ...

- requirements for the graphical user interface of the KEPTool
- further application scenarios of the KEPTool

Thalmann, Stefan. Decision Support Framework for Selecting Techniques to Prepare Knowledge Elements for Adaptive Use. PhD thesis, University of Innsbruck, 2012.

PROCEDURE

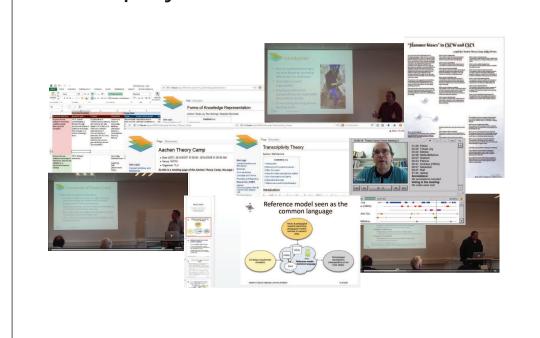
Implementation of the KEP Model

- LP solver selection: GLPK
- implementation in GMPL
- declarative
- easy integration



Case: Layers Theory Camp

- part of the Learning Layers Project
- creation of many articles, flash meetings, presentations, spreadsheets, videos & wiki pages
- 61 knowledge elements, 11 topics, 6 types, 5 adaptation criteria, 2 employees

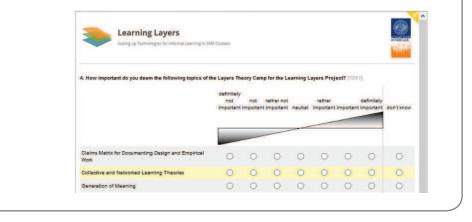


Rating of Efforts

- domain expert
- technical expert
- employees

Rating of Benefits

- self-administered questionnaire
- 21 respondents
- 7 volunteers for evaluation



Computation of Proposal for the Layers Theory Camp

Response to underlying assumption Wiki Page

Interviews and Data Analysis

- interviews á ~½ hour
- structured interviews following a guideline
- parts: factors in the KEP Model, proposal of the KEPTool and outlook for the KEPTool
- deductive and inductive coding after Mayring, 2014 and Miles et al. 2013
- summary

LIMITATIONS

- no consideration of automatic preparation / no setting of weights in proposal
- not generalisable or transferable
- subjectivity

Mayring, Philipp. Qualitative Content Analysis: Theoretical Foundation, Basic Procedures And Software Solution. Klagenfurt, 2014.

Miles, Matthew B., Huberman, A. M., and Saldana, Johnny. Qualitative Data Analysis: A Methods Sourcebook. Sage Publications, 2013

RESULTS

Suggestions: Factors in the KEP Model

- benefit factor depending on employee
- factor concerning time, date, or version factor concerning safety, security, or
- environmental aspects
- investigate how factors can be instantiated
- (automatic) rating procedures

Suggestions: Relationships in the KEP Model

- exclusion of topics, types, or adaptation criteria
- technical evaluation
- change types of knowledge elements
- only one adaptation criterion

Suggestions: Application & Evaluation of the KEPTool

- clear description
- collaborative ratings
- assignment of topics and types
- involvement of stakeholders
- guidance in rating
- setting of weights
- timely proposal

Suggestions: User Interface of the KEPTool

- keywords or icons
- different languages
- terminology
- aggregation
- key measures

Suggestions: Application Scenarios of the KEPTool

- didactical tool
- project work
- knowledge management

Application in a Real World Context +





place. Our particularly focus is on Small and Medium sized Enterprises (SMEs) within Regional Innovation Clusters. We develop mobile and social technologies that unlock and enable peer production within and across those SMEs. The technologies also act as "scaffolds" for the individuals so that they can learn in the right context and at the right time. Scaling informal learning then means that shared meaning of work practices emerges at the individual (workers and practitioners), the organisational (SMEs) and the interorganizational (Cluster) level of the network. We take a design research perspective and build open technologies so others can build on our results. For this reason, we have created

an Open Design Library to involve stakeholders interested in our design ideas, and an Open Developer

Library through which we showcase our prototypes and involve developers interested in our work.

In the Learning Layers Project, we develop technologies that support informal learning in the work-









