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Competence Oriented Assignments, Tasks and Problems

Peter Micheuz, peter.micheuz@uni-klu.ac.at

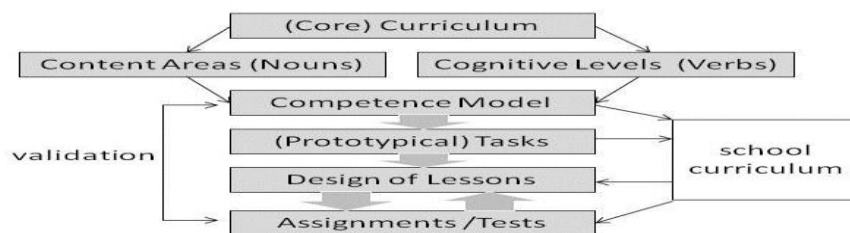
University of Klagenfurt, Didactics of Informatics, 9020 Klagenfurt, Austria

Proposal for a Professional Group [WG3.2]

Education authorities in all countries provide for guidelines on what should be taught and learnt in schools. Usually these guidelines exist in form of curriculum documents, syllabuses and recently as competence models and frameworks with objectives and more or less detailed descriptions, emphasizing output orientation in form of clear expectations about results of learning in schools. In this context the buzzword competence comes into play, focusing on students' applicability of knowledge and skills. These statements apply specifically also for computing at schools.

Input oriented and often abstract guidelines need to be substantiated by concrete assignments and tasks. Otherwise these guidelines hang in the air and do not reach the most important target group in education, namely pupils and students. Teachers want to know concretely what to teach in terms of external competence models, and moreover, how abstract models can be mapped into concrete objectives expressed in meaningful tasks and problems.

What is taught in schools is often determined by what is assessed. Assessments and their corresponding tasks and problems are therefore a focal point in all discussions about students' proficiencies and performances based on their competences.



Tasks are not only the endpoint of (competence oriented) curriculum documents. According to the standard model in the figure above, they interact with competence models. This mutual interdependency is the basis for a validation between the models and appropriate tasks. The development of good tasks can be regarded as a proof of concept of a competence model.

Based on international curriculum documents and frameworks within the broad field of Digital Competence and Informatics, participants of the Professional Group "Competence Oriented Assignments, Tasks and Problems" are invited to discuss and contribute to the following aspects:

Although rather long, the following list is without claim to completeness. It may serve as a starting point for a discussion before the meeting of the Professional

Group in Torun. All statements below refer to competences and tasks in the field of Computer Science/Informatics, IT and Digital Competence.

- Exemplary overview of CS/Informatics/IT Curriculum Documents and Competence Models
- Dimensions of Competences and their impact on task development
- What makes tasks competence oriented? Are good tasks automatically competence oriented tasks? What are good tasks?
- Ontology and Classification of Assignments and Tasks
 - About the distinction of the terms assignment, task and problem
 - Learning -, training -, diagnose and test tasks
 - Topics covered – Skills required – Intellectual Complexity
 - Age appropriateness of tasks
 - Beaver tasks for all versus Informatics Olympiad tasks for very few
- Discussion on findings of existing (empirical) research about tasks
- Discussion of IT Certification Tasks like ECDL and other industrial certifications
- 1024 Nifty Assignments and 1024 Questions initiative from SIGCSE/ACM
- The mutual interdependency of tasks and software tools
- Tasks at the transition from school to university
- Ways to assess key competencies in tasks
- Existing tasks repositories on the Web

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