TECHNISCHE UNIVERSITÄT WIEN
Vienna University of Technology

Competence Orientation in Vocational Schools – the Case of Industrial Information Technology in Austria

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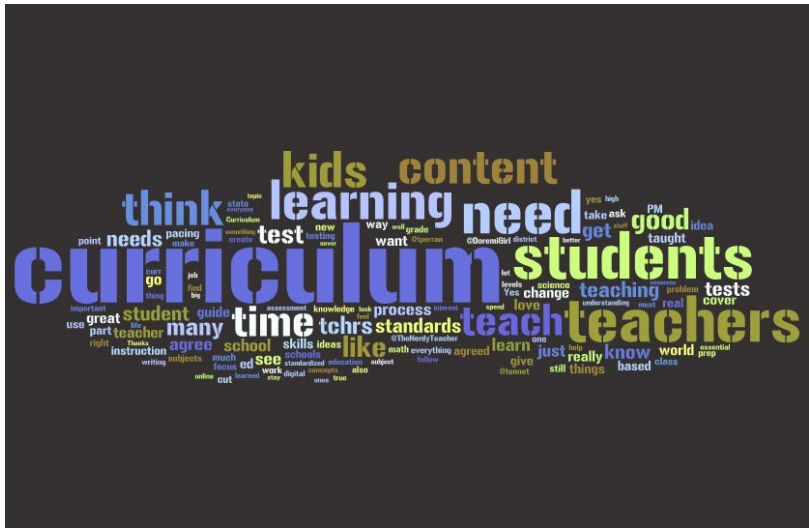
Introduction

- Change in Vocational Schools
  - Objectives
    - Quality increase
    - Comparability
- New curricula in 2011
  - Educational standards
  - Competence orientation
- Challenges
  - Paradigm shift in teaching
  - Competence attainment



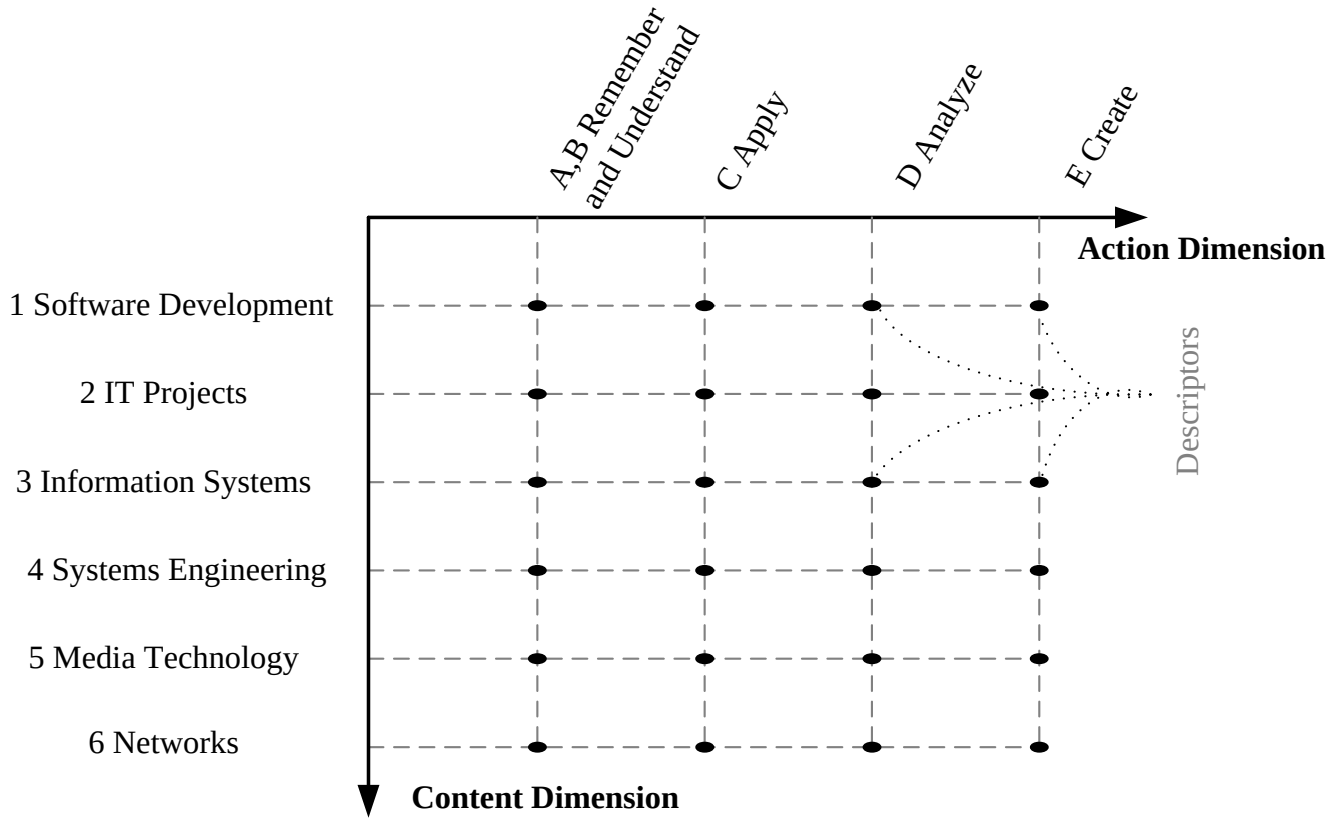
Competence Orientation

- Teaching competencies
  - Structured teaching with clearly defined objectives
  - Diversity of methods, variable forms of learning
  - Assessment-free space for exercises
  - Facilitation of experiencing competence increase
  - Motivating environment
  - Development of the ability to accept criticism
  - Sufficient time for learning processes

Lifelong Learning

TU WIEN

Competence Model



Descriptors

- Coding syntax

<school type><school focus> - <content> . <index> - <action>

- Examples

IT-5.1-B “I am able to explain the main scalar data types of a high-level programming language”

IT-3.23-D “I am able to assess an operating system and to choose an appropriate one for a given purpose”

HTL IT Krems

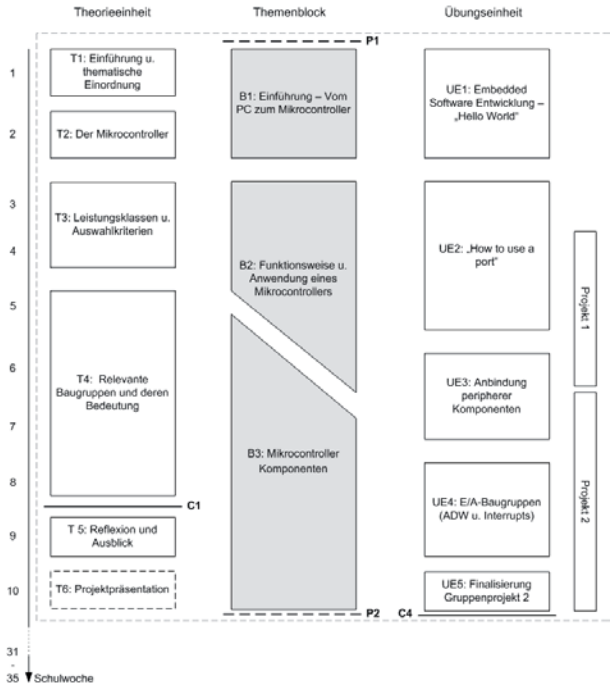
Weekly hours: about half for IT specific subjects

- software development
- IT projects
- systems engineering
  - industrial information technology (INIT)
  - electrical engineering and electronics for IT
  - basics of informatics
  - operating systems
  - system integration and infrastructure
  - decentralized systems
- information systems
- media technology
- networks

Case Study

- Vocational School for IT (HTL IT)
  - Upper secondary: years 9 – 13
  - Certified professional qualification
  - University access

- New didactic concept
  - Ensure educational standards
  - Ensure individual learning goals
  - Implementation dependent on school
  - Foster creativity & intrinsic motivation



Discussion

- CO challenging for teachers and students
  - obstacles in administration and organization
  - change to student-centered teaching
  - allow sufficient space for the student’s own exploration
  - necessary self-discipline
  - Phases for correction of the instructional process
- Student-centered methods
  - not always appreciated
- Implementation
  - overly ambitious
  - major difficulty: two hour limit for practical exercises

Discussion

- individualization
  - individual learning goals for practical exercises
  - motivating for other students
- intrinsic motivation
  - contents and exercises
  - suitable hardware kits
- multidisciplinary aspects
  - project management
  - far beyond the content requirements

Conclusions

- Important steps done, details missing
- Comparability increased
- Quality increase to be seen