

Prof. Dr. Manfred Prenzel
TUM School of Education

Challenge Teacher Training The Approach of TUM School of Education

IBE Research and Educational Policy Seminar Series
February 20th, 2012

Overview

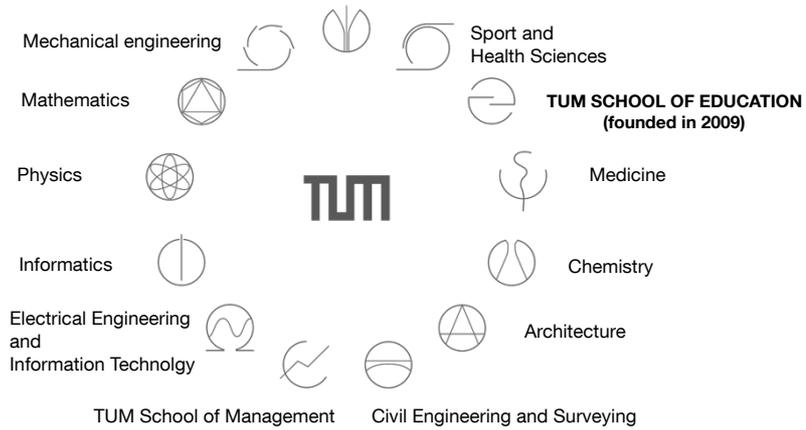
- 1. Teacher education at TUM – some facts and some constraints**
2. Why teacher education should be one of the pillars of an university
3. TUM School of Education:
Aims, organization, principles
4. Guiding teacher students through their studies into their professional career



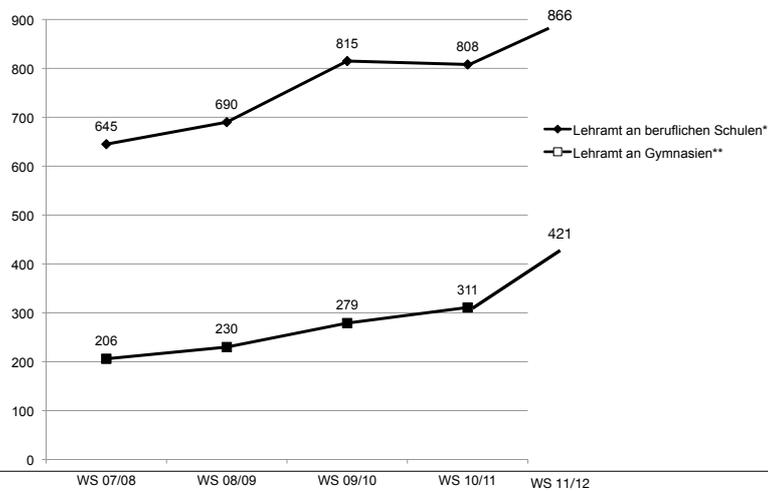


Faculties

Centre of Life and Food Sciences Weihenstephan



Studies and students (Aiming at “Gymnasium” and “Vocational Schools”)



Teacher Studies at TUM

Teacher for Gymnasium (Grammar School):

- Biology + Chemistry
- Mathematics + Chemistry
- Mathematics + Computer Studies
- Mathematics + Physics
- Mathematics + Physical education

Teacher for Vocational Schools

- Agriculture
- Nutritional Studies and Home Economics
- Health and Care Service
- Construction Technology
- Electrical Technology and Computer Technology,
- Metal Technology

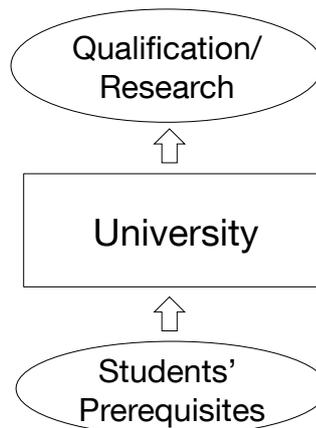
Teacher Education in Germany

- Is related to different school types/ levels
- Varies to some extent between the Federal States
- All teachers have to study at least two subjects (+ psychology and educational sciences)
- Three phases
 - Pre-service training at University (4-5 years), Degree: Master or “First State Examination”
 - Legal Traineeship “Referendariat” (2 years), “Second State Examination”
 - Continuing education (life long)
- Teachers normally are civil servants, and obliged to engage in continuing education

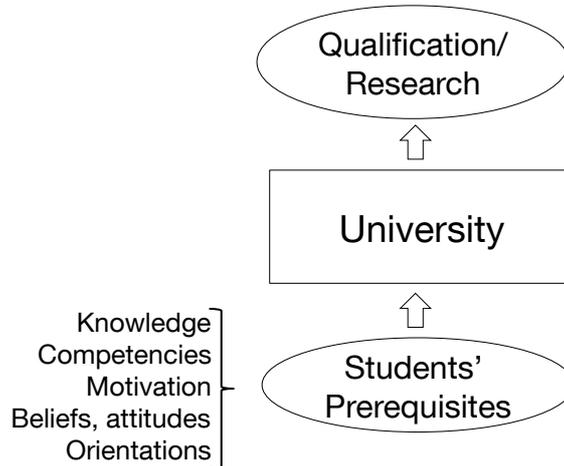
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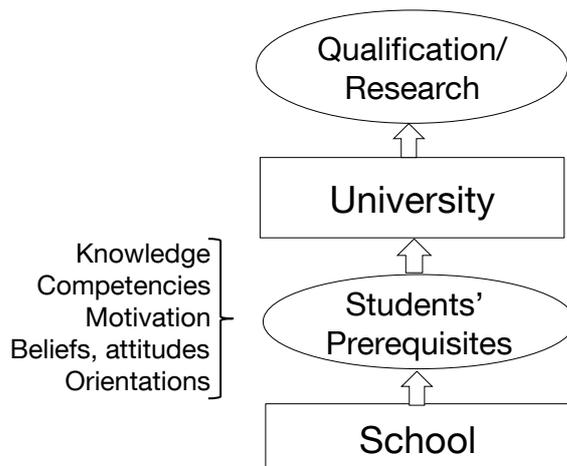
TUM School of Education **An innovative approach to pre-service teacher education**



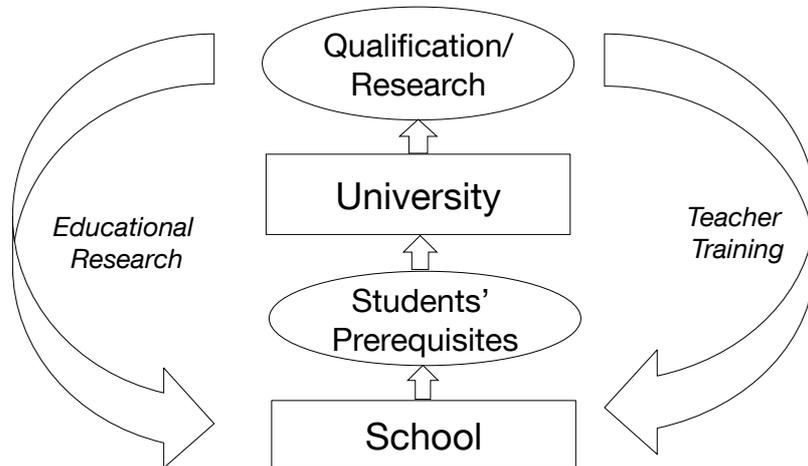
TUM School of Education An innovative approach to pre-service teacher education



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Aims of TUM School of Education

Profound scientific qualification with a strong connection to professional affordances and challenges, based on coordinated studies of

- Content and disciplinary knowledge
- Pedagogical content knowledge,
- Findings of educational, psychological and sociological research

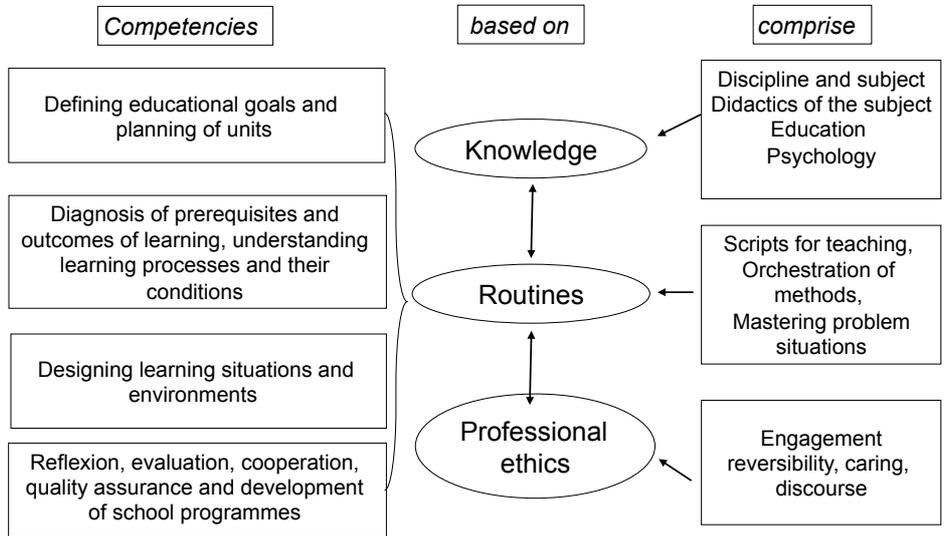
In order to qualify teachers

- ⇒ for providing a cognitive demanding, supportive and motivating instruction, and
- ⇒ For professional collaboration and cooperative improvement of teaching and learning

Focussing the professional field

- Providing knowledge that teachers need for their professional actions
- Helping future teachers to understand conditions of instruction and schooling
- Referring to typical and relevant professional situations where teachers have to decide on actions
- Understanding relevant student, classroom and school problems
- Fostering knowledge, routines and professional ethics
- Recent challenges (e.g., educational standards, professional collaboration, evaluation)

Components of teacher's competence



(vgl. z.B.: KMK-Perspektiven der Lehrerbildung)

Organization of TUM School of Education

- The School of Education administers the resources for teacher training across all faculties
- The School of Education is responsible for a coherent and relevant study programmes and for the quality of teacher training
- The School cooperates with a network of selected high-quality schools (that are also providing internships for our teacher students),
- The School is the professional home for all teacher students
- The School initiates and supports educational research



Settings for learning and teaching at TUM School of Education

- TUM itself with the faculties and departments
- Schools (network of Reference- and Partner-Schools, School-clusters; TUMKolleg)
- Laboratory for Media learning
- TUMLAB (Deutsches Museum)
- TUM*Science Labs* and student research centres
- Manifold co-operations (Girls in Science and Technology, TheoPrax, Hands-on Universe...)



Principles of TUM School of Education

Advice from the **b**eginning

Curriculum orientation

Didactics

Evaluation

...and ...

Mentoring

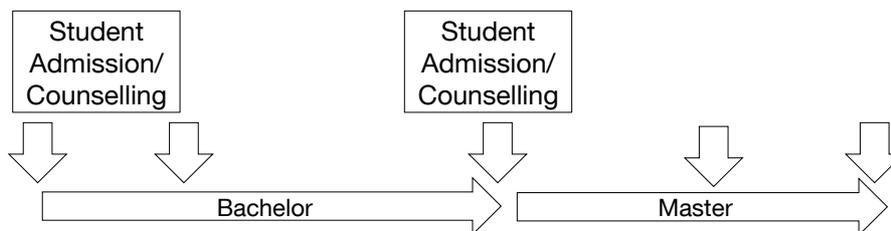
Practice

Research

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Goal-oriented mentoring and guidance





Student Assessment and Admission Center

Technische Universität München

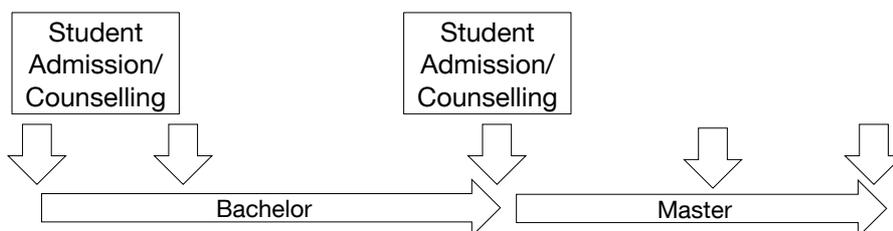


- At TUM students have to apply for teacher education
- Student assessment makes challenges for teacher training and for the profession visible
- Interviews help to clarify individual strengths and weaknesses (with regard to our goals)
- Exploring new diagnostic approaches
- Providing strong recommendations
- Starting point for counselling

Goal-oriented guidance

Referring to student's:

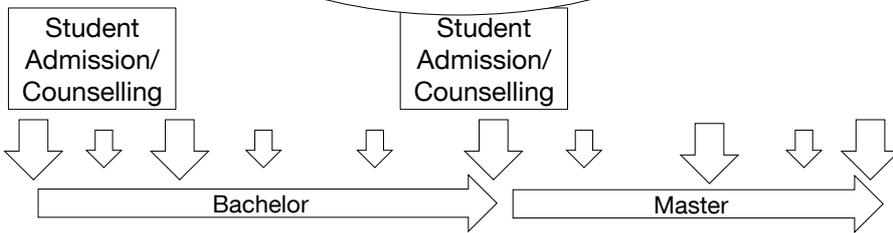
- Content knowledge
- Pedagogical content knowledge
- Educational/psychological knowledge
- Personality and professional ethos



Leading role

Coordinated by: TUMpaedagogicum
Practical studies in schools & Seminars

- Collaboration with schools
- Workshops for mentors
- Scripts, tasks, portfolios
- Information basis



TUMpaed
TUMpaedagogicum



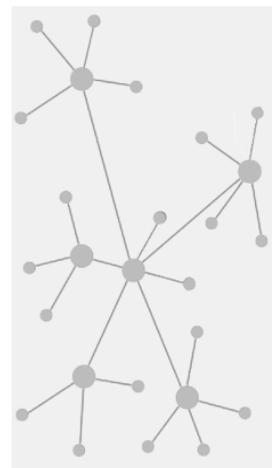
Bridging the gap between
theory and practice

TUMpaedagogicum

- Systematic early contacts with schools (reference schools)
- Mentoring
- First insights into the range of tasks and activities of a teacher
- Opportunities for planning and designing lessons
- First practical experiences
- Reflection of the personal skills, aptitudes and qualifications for teaching

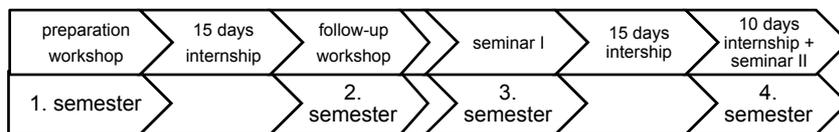
The TUM network of schools

- Nearly 200 “Partner Schools”
- About 50 “Reference Schools”
- Reference Schools show high interest and quality in teaching and learning as well as professional development
- The reference schools offer an inspiring and high quality environment for internships
- Contracts for internships
- “TUMpaed Forum”: Regularly workshops with the mentors and principals



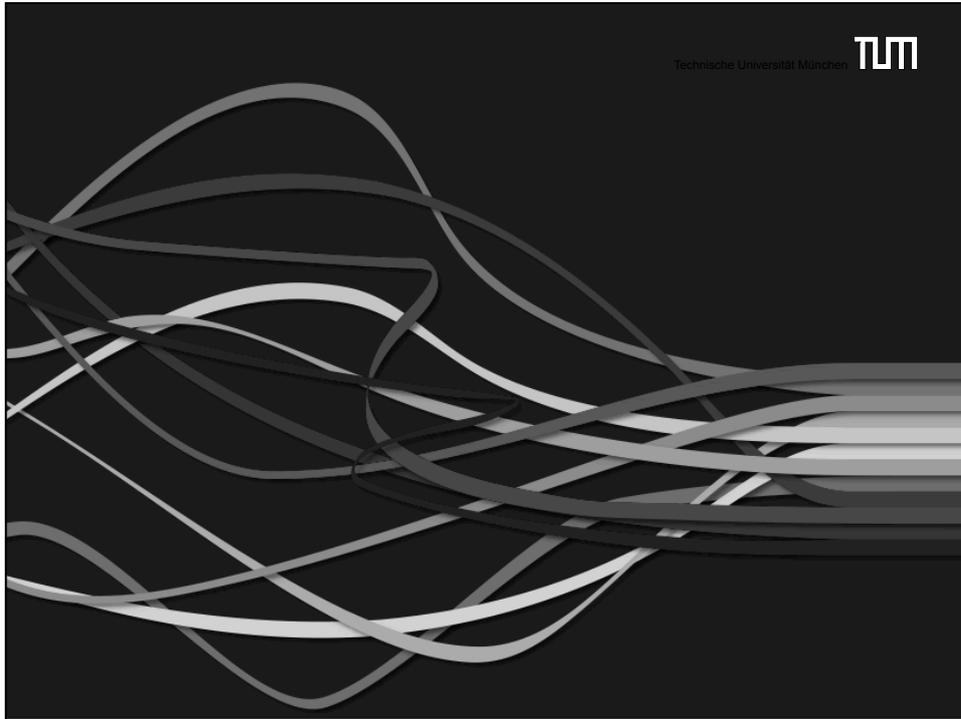
Internships are linked to the study programme

- Systematic preparation of the internship in seminars and workshops
- Teacher students spend around 40 days during their Bachelor studies in one reference school
- Students use a portfolio :
 - For documentation of their experience
 - For the reflection of their progress towards the teaching profession
 - For carrying out tasks



Research emphasis at TUM School of Education

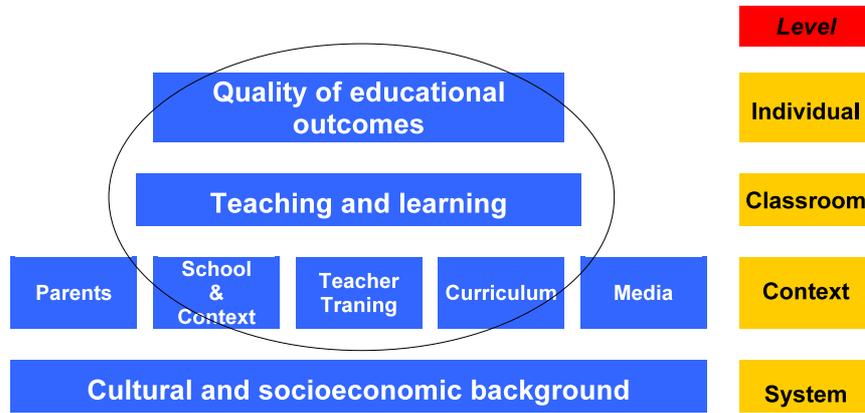
- Teaching and learning in schools and universities (patterns of instruction and their effects, innovative approaches)
- Assessment and development of competencies
- Qualifications of teachers and educational staff (diagnosis, competences, development)
- School settings (cooperation, leadership, management, programme, quality assurance)
- Learning outside of school (informal settings, museums, laboratories)



Professorships at TUM School of Education

- Educational Research
- Vocational Education
- Teaching and Learning
- School Education
- Education in Secondary Schools
- Mathematics Education
- Didactics in Computer Science
- Science Education/Life Sciences
- Sociology
- Political Science
- Philosophy of Science
- History of Science
- Science Communication
- Museum Education
- Gender Studies

Levels of action in an educational system



(Prenzel, 2005)