

Strengthening Teaching Competences
in Higher Education
in Natural and Mathematical Sciences



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STRENGTHENING
TEACHING COMPETENCES
– A FEW QUESTIONS AT
THE BEGINNING

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The main issues to be analyzed and questioned

- **Importance and motivation** for strengthening teaching competences in university surrounding
- The main pedagogic and **educational goal/goals** we want to achieve
- The basic **pedagogic principles** we should rely on
- Readiness to implement **new teaching practices**
- Readiness to implement **new technology** in educational practice.



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Importance and motivation

- Are teaching competences important for the quality of teaching practice?
- Are all the stakeholders aware of how important strengthening teaching competences is for achieving quality teaching? (European Commission, National Ministry of Education, universities, university teachers, students...)
- Do university teachers continuously improve their teaching competences?
- What are the factors that motivate university teachers to improve their teaching competences?
- How can this project help them?

*The greatest wrong,
the greatest treason,
is to do the right thing
for the wrong reason.*

~ T.S. Eliot, *Murder in
the Cathedral*



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Teaching competences – instruments for achieving greater goals

It is quality enhancement of teaching and learning processes and better outcomes for students, teachers and institution.

- Do we want to achieve a reflective educational practice?
- And, if yes, how will we do it?
- Do we want to achieve engaging and challenging learning environment?
- And, if yes, how will we do it?



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How do reflective practice and engaging environment look like?



Reflective practice

Self-monitoring

Flexible

Adaptable

Sustainable

Formative
assessment

Engaging environment

Motivating

Student-centered

Collaborative

Active participation

Constructivist

Pedagogic principles

- Which pedagogical principles should our teaching be based on?
- Are they present in our educational practice?
- Do our teachers believe the listed principles provide quality?
- Are our teachers ready to develop transferable skills at the expense of formal knowledge?
- Academic challenge
- Concern and respect for students' learning
- Interaction and Collaboration
- Engagement and motivation
- Individualization
- Personal development and integrity
- Pedagogical pluralism

Teaching practices

- Does **content - based teaching** still dominates university classrooms?
- How prepared are our teachers to function in **learner-centered classrooms** and support personalized instructions?
- How ready are our teachers to **engage students** not just as consumers but also as producers of content?
- Are our teachers ready to **genuinely connect and collaborate with students**?
- Do our teachers really understand learning process?



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New technologies in education

- How prepared are our teachers to continuously learn new technologies?
- Are they ready to apply **blended learning**, i.e. to combine face-to face teaching with online resources?
- Are they ready to apply **flipped classroom** methods?
- Are they ready for web supported pedagogy (Social networks, blogs, Wikimedia) with accent on students sharing, not consuming content?
- In what way we can best use ICT in our practice, to engage, to connect, to personalize, to provide feedback...?

ICT and open education principles complement each other like two sides of the same coin.

M. Menon



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Overview

Goals

- Reflective practice
- Engaging environment

Principles

- Academic challenge
- Interaction and collaboration
- Engagement and motivation
- Individualization
- Personal development and integrity
- Pedagogical pluralism

Teaching methods

- Active learning
- Student centered
- Problem-solving, discussions
- Group or team work, workshops

ICT

- Individual engagement
- Social engagement
- Communication
- Opinion and knowledge sharing
- Providing feedback
- Critical and creative thinking

**Thank you
for your patience!**



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