Informatics Management Systems for Quality Management Improvement in Higher Education and Scientific Research SIMCEC

By: Dr. Lidia Niculita
Dr. Iolanda Colda
Ms. Steluta Nastasa

Technical University of Civil Engineering Bucharest

Resources follow quality
The whole set of rights and obligations as well as the norms underlying the life of the university community in Romania are:

National legislation for HE & R

- Law on Accreditation of Higher Education Institutions & Recognition of Diplomas no.88/1993 modified 144/1999;
- Education Law no. 84/1995, republished;
- Statute of Teaching Staff (Law 128/1997), republished;
- Law no.62/2002 for the approval of the Government Ordinance no.60/1998 on the setting-up of Romanian university extensions abroad;
- Law on university consortia no.287/2004;
- Law on the organization of university studies no.288/2004;
- Government Decision on the organization of License university studies no. 88 of 10 February 2005;
- Government Decision concerning doctoral studies no.567/2005;
- Emergency Ordinance on Quality Assurance in Education no. 75/2005.

continued
**Internal assessment of HE & R quality**

- Quality management systems. Requirements – ISO 9001: 2008 (voluntary);

**External assessment of HE & R quality**

- The Romanian Agency of Quality Assurance in Higher Education – ARACIS, an independent public institution with competences in accreditation, academic evaluation and quality assurance;
- National Qualification Framework for Higher Education (NQFHE) - as the single tool that determines the qualifications structure and ensures the national recognition.

The guidelines of quality assurance for Romanian HE & R are permanently correlated to the actions supported at the European and world level.

---

**What is SIMCEC?**


An integrated system for the collection, processing, editing and multidimensional analyses of statistical data.
The background

**CONFORMITY**

External Quality Assurance

INSTITUTIONAL EXTERNAL ASSESSMENT

**CRITERIA:**

- mission of the university; links between planning, resources allocation and quality management (institutional capacity)

- teaching and learning, research and community engagement (educational efficacy)

*continued*
CRITERIA:

- policy and procedures for quality assurance;
- approval, monitoring and periodic review of programs and awards;
- assessment of students;
- quality assurance of teaching staff;
- learning resources and student support;
- information systems;
- public information.

Links between public resources allocation (PRA) and quality assurance:

- Full – Time Equivalent Student (70% from PRA)
- 13 quality assurance criteria, structured in 4 groups (30% from PRA)
- 4 groups:
  - Quantitative criteria
    - number of full-time students
    - cost-per-student
    - per study programs
    - per level of studies
  - Qualitative criteria
    - teaching personnel
    - impact of research activity on teaching process
    - material support
    - academic management
Key issues

- the absence or insufficient knowledge / abilities in HE & R of quality management personnel;
- the inadequation of educational standards;
- the ignorance of techniques and tools of quality management;
- conceptual work: “correct nonconformities to prevent recurrence” instead of “prevent the occurrence of nonconformities”;
- the absence or insufficient objectives (with indicators and values), policies, strategies in quality area, on short, medium and long terms;
- excessive believe in quality system documents (including system certification) to the prejudice of managerial decisions and quality assurance regulated actions;
- Romania does not have an official system of university ranking measuring education quality.

How are we going to resolve the issue based on the results of experiments on SIMCEC?

- no. of national grants
- no. of international research projects
- no. of private research projects / year/ faculty/ department/ researcher/ customer/ stage of work
- doctoral thesis
- no. of national research projects – private sector
- no. of international quoted reviews
- no. of articles in Science Citation Index
- no. of highly cited researchers
- no. of books in well known publishing houses
- no. of patents
- no. of research center
- no. of academic prizes

/year/ faculty/ department/
researcher/ customer/ stage of work
Informatics System for Scientific Research – technical modules

- design inputs (material, financial, human)
- design outputs
- design and development verifications
- design and development validations
- purchasing and purchased products
- product characteristics

WEB FORMS APPLICATIONS

- research income collection
  - by detailed funding category
  - research publications collection
  - patents collection
  - research in progress
  - research performance by faculty and all sections
  - Performance benchmarking – relative standardized performance by faculty / by indicator

WEB REPORTS APPLICATIONS

- human resources
- special lab equipment
- research income by funding category
- research publications
- research projects
- patents
- research prizes
- research centers

WEB DATA BASIS

http://dcpc.utcb.ro/
Performance indicators for scientific research process

continued
How will SIMCEC change the way of viewing the concept of quality assurance

R-D AND POSTGRADUATED EDUCATION
- PROVIDE COMPETENT QMS PERSONNEL
- PROVIDE COMPETENCE REQUIREMENTS
- PROVIDE NECESSARY INFRASTRUCTURE
- PROVIDE SUITABLE WORK ENVIRONMENT

EXTERNAL QUALITY ASSURANCE
- PROVIDE RESEARCH POLICY AND REGULATIONS
- PROVIDE STRATEGIES FOR R-D AND POST GRADUATED EDUCATION
- PROVIDE COLLABORATIVE SUPPORT AT LOCAL / REGIONAL / NATIONAL / INTERNATIONAL LEVEL
- PROVIDE INDIVIDUAL RESEARCH

INTERNAL QUALITY ASSURANCE
- Rigorous ex post control of funding;
- The planning and concrete realization of the expected results of learning, teaching and research activity;
- Monitoring results;
- Internal assessment of results;
- External assessment of results;
- The ongoing improvement of results in HE & R.

EXTERNAL QUALITY ASSURANCE
- Assessment of the institutional ability of the organization providing education;
- Assessment of the quality management at the institutional level;
- Assessment of the accordance between the internal evaluation and the real situation;
- Comparative trans-institutional assessment of the same type of study program offered by different organizations providing education.
Contact info:

Dr. Lidia Niculita
Phone: +40 21 31 74 631
Fax: +40 21 31 74 631
niculita@gmail.com

Thank you for your attention!

Any questions?