



Universität für Bodenkultur Wien

Quality Management at BOKU

Tempus SMHES

April 16, 2013

Thomas Guggenberger



April 17, 2013



Content

- Framework: European & national
- BOKU: Facts & figures
- BOKU QM concept
 - Major QM activities at BOKU
 - Evaluation of departments
 - Evaluation of professors
 - Course evaluation
- Quality Assurance of international Master programmes



Universität für Bodenkultur Wien

Bologna Process

Berlin Conference 2003

“As for Quality Assurance, Ministers stressed that consistent with the principle of institutional autonomy, **the primary responsibility for quality assurance in higher education lies with each institution itself.**”

Bergen Conference 2005

Approval of ENQA Standards and Guidelines for the Quality Assurance of the European Higher Education Area

London Conference 2007

Setting up European Register (EQAR) for Quality Assurance Agencies

Leuven/Louvain 2009

National qualification frameworks based on learning outcomes and workload

Bucharest Conference 2012

EQAR-registered agencies allowed to perform their activities across EHEA



New University Act 2002

- **Autonomy**
- **Contract management**

§ 14: Universities have to design **an own Quality Management System**
Evaluations are a crucial component of Quality Management System
Evaluations have to follow international standards
Evaluations as an ongoing exercise
All scientific staff has to be evaluated every 5 years
Results of evaluations have to be considered



Quality Assurance Act for Higher Education 2012

- Quality Audits for public universities every 7 years
 - 4 standards: quality strategy,
 assure achievement of goals,
 monitoring and information systems.
 systematic incorporation of interest groups
 - 5 areas: education incl. continuous education,
 Research & research management,
 administration,
 staff management,
 internationalisation and societal objectives
-

BOKU: Facts and Figures



Universität für Bodenkultur Wien

Students: 11.000

Staff: 1.600

60 Profs., 130 Assoc. Profs., 850 Scientists external funds

Overall Budget: 100 Mio.

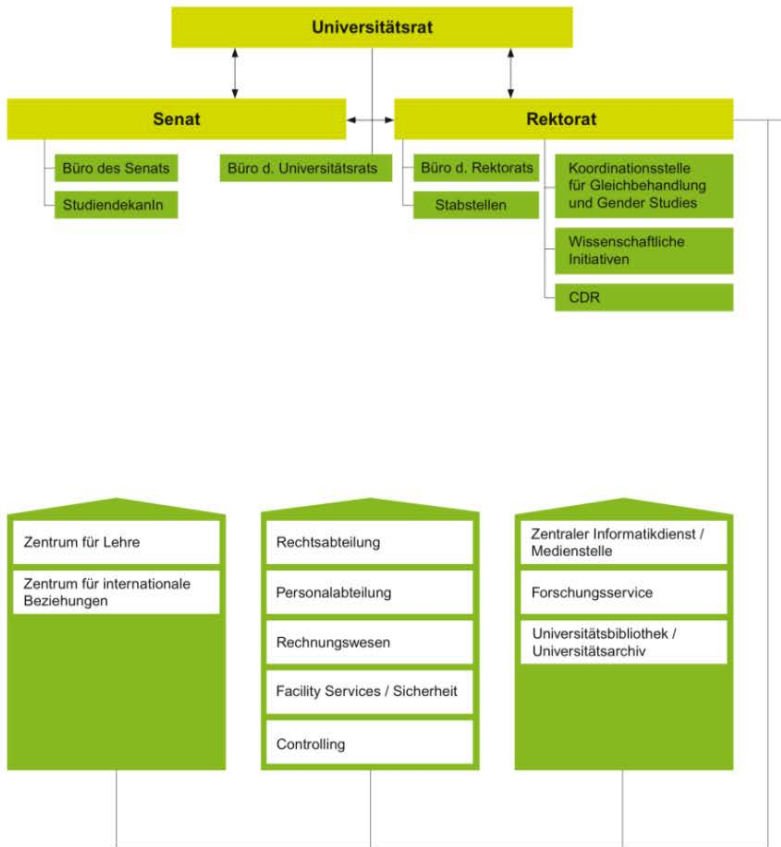
External funds: 32 Mio.

Scientific publications/year: 2.500

Conference presentations/year: 1.100



BOKU – Organisational Chart



	Department für Materialwissenschaften und Prozesstechnik (Department of Material Sciences and Process Engineering)
	Department für Biotechnologie (Department of Biotechnology)
	Department für Wasser – Atmosphäre – Umwelt (Department of Water, Atmosphere and Environment)
	Department für Chemie (Department of Chemistry)
	Department für Integrative Biologie und Biodiversitätsforschung (Department of Integrative Biology and Biodiversity Research)
	Department für Lebensmittelwissenschaften und -technologie (Department of Food Sciences and Technology)
	Department für Raum, Landschaft und Infrastruktur (Department of Landscape, Spatial and Infrastructure Sciences)
	Department für Wirtschafts- und Sozialwissenschaften (Department of Economics and Social Sciences)
	Department für Nachhaltige Agrarsysteme (Department of Sustainable Agricultural Systems)
	Department für Bautechnik und Naturgefahren (Department of Civil Engineering and Natural Hazards)
	Department für Wald- und Bodenwissenschaften (Department of Forest- and Soil Sciences)
	Department für Angewandte Pflanzenwissenschaften und Pflanzenbiotechnologie (Department of Applied Plant Sciences and Plant Biotechnology)
	Department für Agrarbiotechnologie Tulln (Department of Agrobiotechnology / IFA Tulln)
	Department für Nanobiotechnologie (Department of Nanobiotechnology)
	Department für Angewandte Genetik und Zellbiologie (Department of Applied Genetics and Cell Biology)



Universität für Bodenkultur Wien

Bachelor Programmes

Agricultural Sciences

Environment and Bio Resources Management

Environmental Engineering

Food Sciences and Biotechnology

Forestry

Landscape Architecture and Landscape Planning

Viticulture, Enology and Wine Economics

Wood and Fibre Technology

Equine Sciences (in co-operation with Univ. of Veterinary Sciences Vienna)



Universität für Bodenkultur Wien

Masters Programmes

Agricultural and Food Economics
Applied Plant Sciences
Animal Sciences
Agro Biology
Biotechnology
Environmental Engineering
Food Science and Food Technology
Forest Science
Land Management and Civil Engineering
Landscape Architecture and Planning
Management of Environment and Bio Resources
Organic Farming
Phytomedicine
Water Management
Wildlife Ecology and Wildlife Management
Wood Technology and Management



Universität für Bodenkultur Wien

International Masters Programmes

Agricultural and Food Economics

Applied Plant Sciences

Environmental Sciences – Soil, Water and Biodiversity (ENVEURO)

European Master in Animal Breeding and Genetics (EM-ABG)

Safety in the Food Chain

Horticultural Sciences

Mountain Forestry

Mountain Risk Engineering

Natural Resources Management and Ecological Engineering

Material and Energetic Utilization of Renewable Resources (NAWARO)

BOKU Quality Management System



Universität für Bodenkultur Wien

Objectives:

- setting up a quality culture,
- optimization of core processes,
- organisational development

Principles:

- follow international standards (ENQA, DeGEval)
 - evaluations as an ongoing exercise
 - student participation
 - review of quality assurance tools
-

BOKU Quality Management System



Universität für Bodenkultur Wien

Activities:

Evaluations

Departments, professorships, courses, degree programmes, strategies

Development of criteria & guidelines

Guidelines for development and implementation of new curricula,
Guidelines for Joint ELLS Master Programmes, habilitation criteria

Process quality management & elaboration of a Quality Handbook

Study organisation, management of externally funded projects

Gratuante survey with INCHER Kassel

Reporting and monitoring:

Human capital report, achievement report, sustainability report



Universität für Bodenkultur Wien

Evaluation of Departments at BOKU

Specific objectives:

- **assess** the overall performance profile
 - increase the **efficiency and effectiveness** of the department
 - promote **profile and organizational development**
 - highlight developmental **perspectives**, problem solutions and potentials
-



Evaluation Process

1. Updating of data basis
2. Evaluation contract
3. Selection of peers
4. Internal Evaluation: SWOT analysis, self evaluation report
5. External Evaluation: Peer review
6. Final Report
7. Meeting with head of peers
8. Performance contract between rectorate and department

Duration: 8-10 months



Areas of the Evaluation:

1. Department and organisational development
2. Staff management
3. Research
4. Teaching, learning and continuing education
5. Societal aims
6. Financial resources & infrastructure

summative

Evaluation

formative



Assessment (past 5 years)



Strategic and operational plan

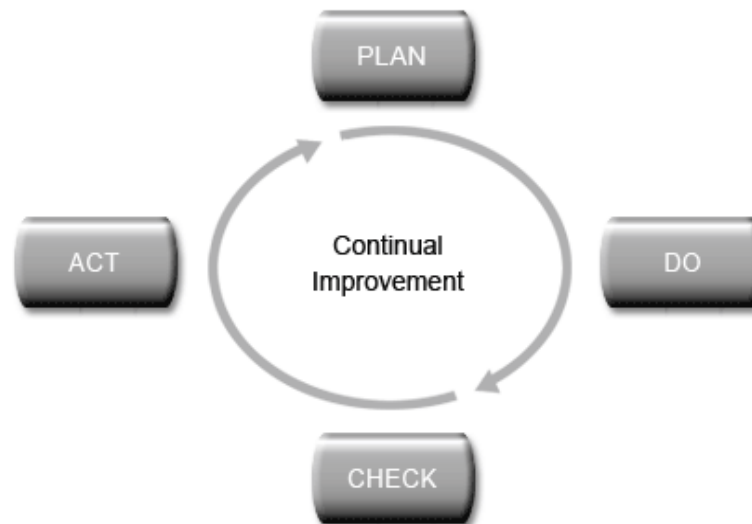
Core idea of Self-Assessment-Report:

What are you trying to do? Relation to strategic plans of department

How are you trying to do it? Description of current activities

How do you know it works? Evaluation of current activities

How do you change in order to improve? Objectives and measures





Evaluation Department of Biotechnology

Specific objectives:

- profile of future professorships
- future structure of department
- co-ordination with other departments
- technology transfer with industry

Findings:

- definition of areas for professorships
 - suggestions for recruitment
 - proposal for a new structure
 - strengths & challenges
-



Universität für Bodenkultur Wien

Summary Department Evaluation

- Orientation on international standards
- Advantage of participatory approach in development of concept
- Innovative methodology
- Communication & awareness raising crucial



Individual Evaluation of Professors

Limited contracts for most professors at BOKU (3-7 years)

Objective: To check to which extend professors fulfilled their contracts & to set the basis for future contracts

Process: Setting up of an internal evaluation board,
 selection of 2 international peers,
 data retrieval,
 self report ,
 discussion of evaluation of peers and students,
 final report incl. recommendations,
 presentation to rectorate,
 contract negotiation.

Duration: 8 months



Individual Evaluation of Professors

Lessons learnt:

Initial situation has to be defined before professor takes up his/her job

Objectives have to be defined more precisely

Consequences have to be defined before realisation of evaluation

Longer observation periods necessary

Evaluation procedure needs continuous refinement (e.g. student participation)



Universität für Bodenkultur Wien

Education: New Concept for Course Evaluations

- Standardized questionnaire
- Open questions
- OR: round table discussions



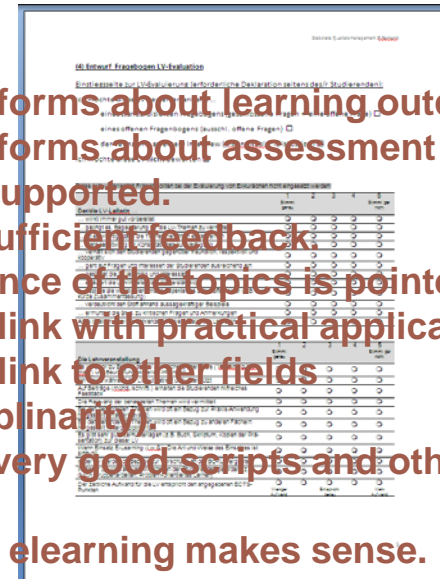
Course Evaluations: Main dimensions:

- teacher
- course
- framework
- students
- success of the course

Additional specific items for:

- seminars
- practical work
- excursions

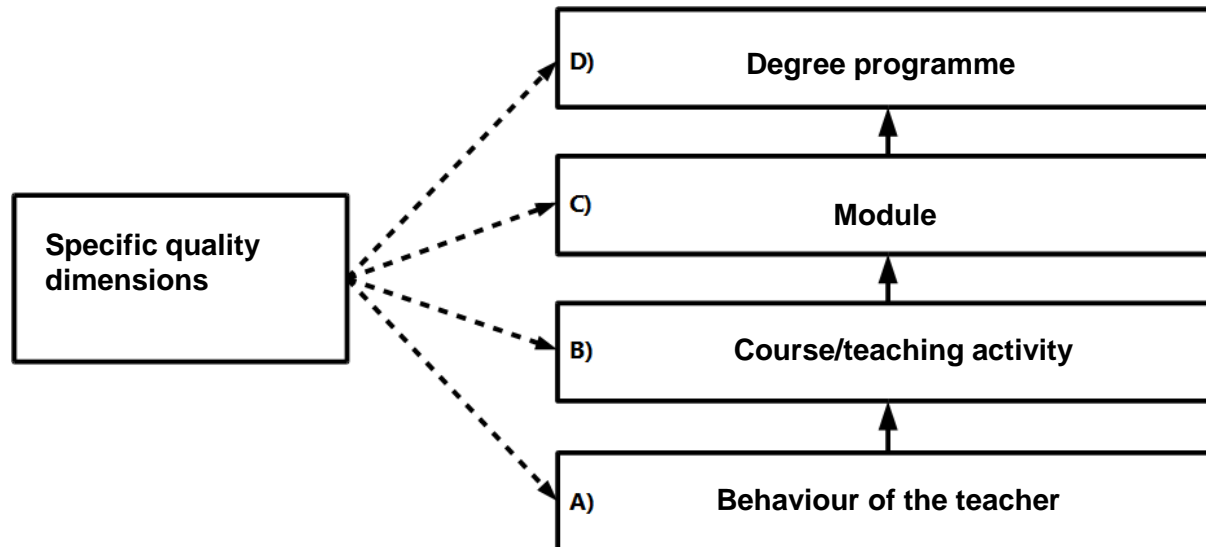
Teacher informs about learning outcomes.
Teacher informs about assessment criteria.
I am well supported.
I receive sufficient feedback.
The relevance of the topics is pointed out.
There is a link with practical applications.
There is a link to other fields (interdisciplinarity)
There are very good scripts and other materials.
The use of elearning makes sense.
There are links to research at BOKU.
Active participation of students is fostered.
The workload corresponds with the ECTS points.



The screenshot shows a course evaluation form titled "UfE - Einzelfragebogen LV-Evaluation". It includes a table with columns for "Frage", "Sehr unzufrieden", "Unzufrieden", "Neutral", "Zufrieden", and "Sehr zufrieden". The table contains several rows of evaluation items, each with a corresponding rating in the "Zufrieden" column.

Frage	Sehr unzufrieden	Unzufrieden	Neutral	Zufrieden	Sehr zufrieden
Die Lehrperson informiert über die Lernergebnisse.				5	
Die Lehrperson informiert über die Beurteilungskriterien.				5	
Ich werde gut unterstützt.				5	
Ich erhalte genügend Rückmeldung.				5	
Die Relevanz der Themen wird aufgezeigt.				5	
Es gibt einen Zusammenhang mit praktischen Anwendungen.				5	
Es gibt einen Zusammenhang mit anderen Bereichen (Interdisziplinarität).				5	
Es gibt sehr gute Skripte und andere Materialien.				5	
Die Nutzung von E-Learning ist sinnvoll.				5	
Es gibt Links zu Forschung an der BOKU.				5	
Die aktive Teilnahme der Studierenden wird gefördert.				5	
Die Arbeitsbelastung entspricht den ECTS-Punkten.				5	

Evaluation of Teaching and Learning





A) Behaviour of the Teacher:

A good teacher...

cares about and has an *effect on student learning*;
knows the subject area;
clearly states the *objectives* of the course;
is *well prepared* for each class session;
explains the course material clearly and effectively;
is *enthusiastic* about teaching the subject and makes the course stimulating;
summarizes or emphasizes major points in the lecture;
is readily *available for consultation* with students;
encourages *students to ask questions* and express their ideas or opinions;
clearly explains *how students will be evaluated* in the course;
gives exams or assigns papers which reflect the *important aspects* of the course;
relates the subject matter to *other academic disciplines* or real world problems;
provides opportunities for *students to assess their progress* in the course;
develops and maintains an atmosphere of *mutual respect*.



Universität für Bodenkultur Wien

Networking in Quality Assurance

1. ELLS QA network
2. QM network of Austrian universities
3. Indicator development at BOKU



Universität für Bodenkultur Wien

1. Euro League of Life Sciences (ELLS)

- The Royal Veterinary and Agricultural University (KVL), Copenhagen, DK
- University of Hohenheim (UHOH), Stuttgart, Germany
- Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden
- University of Natural Resources and Life Sciences (BOKU), Vienna, Austria
- Wageningen University and Research Centre (WUR), Wageningen, NL
- Agricultural University Prague (CUA)
- Agricultural University Warsaw (SGGW)

Objectives:

- Joint teaching and learning, esp. joint study programmes
 - Student and lecturer mobility
 - **Quality assurance**
-



Universität für Bodenkultur Wien

Euro League of Life Sciences: QA Support Group

Objectives:

- To carry out an exchange of information between the ELLS universities in the area of quality assurance, evaluation, benchmarking and quality development with special emphasis on teaching and learning
- To improve and further develop the quality of courses and international Master programmes
- To improve evaluation procedures and follow up processes

Members: Experts from all member universities
 Student association
 ICA

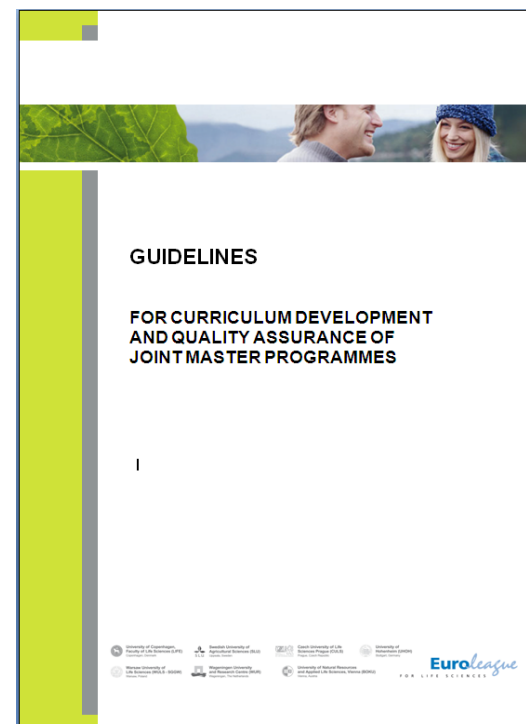
Euroleague
FOR LIFE SCIENCES

Guidelines for Curriculum Development of Joint Master programmes



Universität für Bodenkultur Wien

1. Need
2. Degree profile
3. Programme structure and mobility
4. Learning, teaching and assessment
5. Admission
6. Master thesis and degree
7. Management and resources
8. Quality assurance



Criteria: Learning, Teaching & Assessment

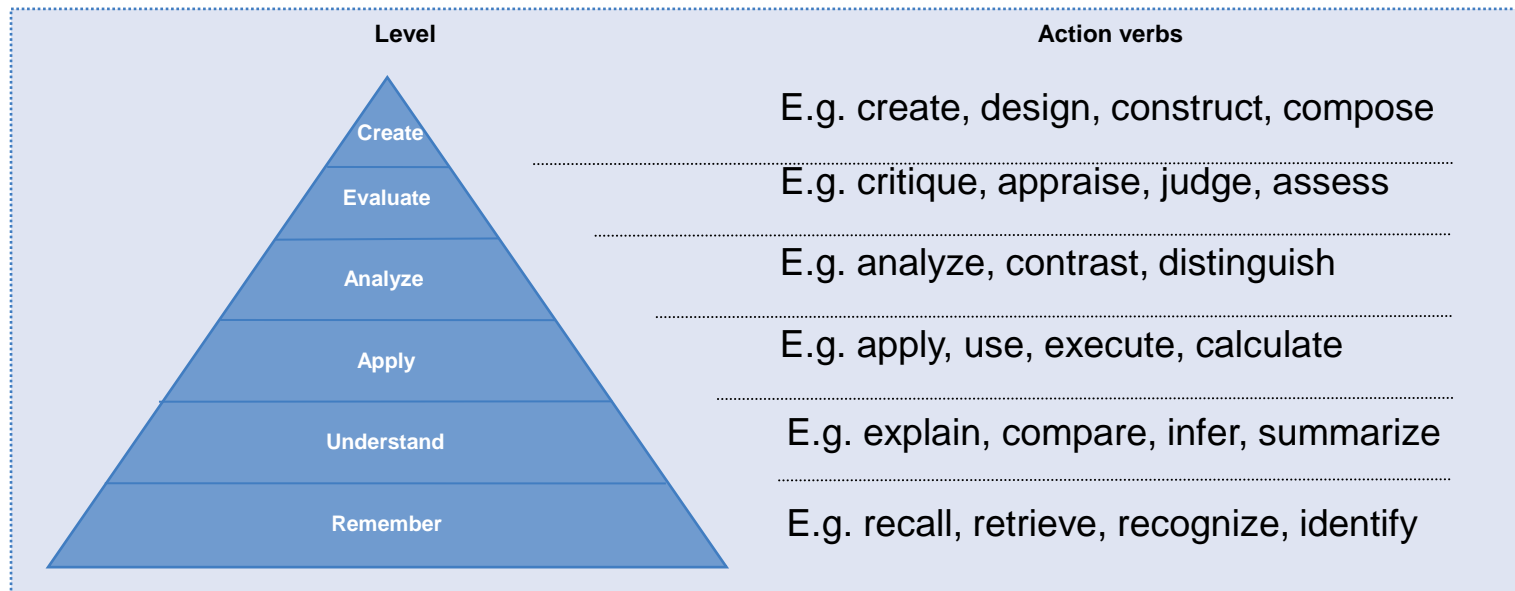


Universität für Bodenkultur Wien

- I. Teaching and learning activities must be designed to achieve the intended learning outcomes, consider the student group and the context of the programme.
 - The focus is on student centred learning approaches,
 - Teaching and learning activities are innovative,
 - The added value of the joint programme must be effective,
 - The international dimensions of these activities must be addressed.

Recommendation: Learning Outcomes

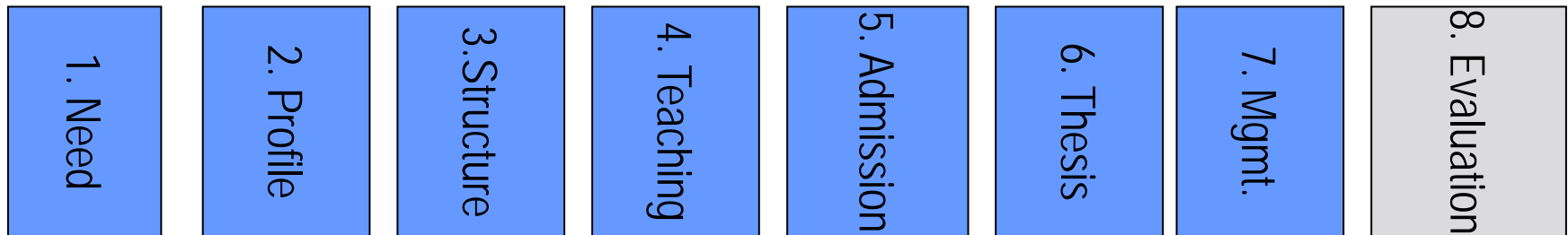
Example for Bloom's Taxonomy after Anderson et al. 2001



Evaluation of quality criteria



Universität für Bodenkultur Wien



- Compliance with standards
- Appropriate aims
- Purpose met
- Feedback, esp. from students
- Continuous enhancement

Guidelines: Thesis Evaluation Form



Universität für Bodenkultur Wien

Guidelines: Curriculum Development of Jdini Mairler

4.8 Thesis Evaluation Form

Name: _____ Title of Thesis: _____

University: _____

Starting Date: _____ Finishing Date: _____ Number of pages: _____

Evaluation Criteria	Comments	Grade points/ Grade c
Problem definition <ul style="list-style-type: none"> ▪ relevant ▪ clearly phrased ▪ feasible 		
Research design <ul style="list-style-type: none"> ▪ theoretical framework ▪ research methods 		
Execution <ul style="list-style-type: none"> ▪ scholarly level ▪ level of innovation 		
Research results <ul style="list-style-type: none"> ▪ description ▪ analysis 		
Analytic, Interpretation, conclusion c <ul style="list-style-type: none"> ▪ clear ▪ defensible 		
Justification of the course and literature used		
Clearly phrased reporting		
Structure of the thesis		
Further comments		
Grade?		

Date, Name and signature of the examiner

¹Criteria developed by the University of Utrecht www.uu.nl and modified by the Burdeague

²Grade c according to national grading systems or adoption of the ECTS-System



Lessons learnt

1. Different approaches at ELLS institutions – “one“ QA system
2. Main focus: Implementation of Bologna
3. Higher level of commitment through joint MSc.
4. Student participation valuable



Universität für Bodenkultur Wien

2. QM network of Austrian universities

~ 50 members from all 22 Austrian universities:

QM,
controlling,
curriculum development,
didactics,
research documentation...

3 meetings per year

Homepage with an internal discussion forum



Universität für Bodenkultur Wien

QM network of Austrian universities

Working groups:

- surveys on graduates
- evaluation of scientists
- peer counselling
- analysis of students' progression
- setting up a QMS
- preparation of a quality audit



Lessons learnt

1. Bottom up initiative
2. Lively exchange of experiences & learning from each other
3. Joint elaboration of concepts at expert level
4. Good recognition from “outside”
5. Joint lobbying/own interests



3. Indicator working group at BOKU

Objective: Definition of clear indicators at institutional level

Members: Staff responsible for data,
data base administrators,
QM

Output: List of clearly defined indicators in key performance areas
= basis for evaluations, performance contracts, reports

Indicator: Exams



Universität für Bodenkultur Wien

Number of examined semester contact hours of courses of a department, subdivided by institutes	
Period of data retrieval	According to the evaluation design: 3 or more academic years (Oct. 1 – Sept. 30)
Examined semester hours	The courses are defined through semester hours: One semester hour is a course unit of 45 minutes which is held 15 times per semester.
Data retrieval a	This data retrieval contains all examined semester contact hours which are allocated to a department.
Data retrieval b	This data retrieval contains all examined semester contact hours of persons who are allocated to the department; this includes also exams of courses delivered by other departments.
Source of data	BOKU data warehouse
Responsibility	Mrs. Schuster – Centre for Teaching and Learning Mr. Zamakhovsky – Centre for Computing

Lessons learnt

1. An indicator discussion may be an emotional issue
2. Once indicators are clearly defined → 😊
3. Ongoing exercise





Networking in QA

- + Exchanges of experiences & learning from each other
- + May help to introduce changes & innovations
- + Joint development: better results, smaller effort
- + ELLS, ICA: Specific solutions for Life Sciences can be elaborated

- Joint development: higher effort, more expensive
- Joint implementation difficult/impossible due to diversity in EHEA
- Lack of confidence, “wrong” partners, too slow/fast
- Lack of support at home institutions → no implementation



Resumee

- Define quality
- Participatory approach
- Information, trust & communication
- Do things well and talk about them!
- Once finished – back to the start.



Universität für Bodenkultur Wien

Documents & links:

- QA Group of ELLS: www.euroleague-study.org/supportteams/quality/index.html
- European University Association EUA: www.euy.be/eua.index.isp
- Network QM of Austrian universities: www.qm-netzwerk.at/Home/das_netzwerk/
- Quality Management at BOKU: www.boku.ac.at/qm.html



Universität für Bodenkultur Wien

Thank you for your attention!

Thomas Guggenberger
BOKU Quality Management

BOKU
Gregor Mendel Street 33, A-1180 Vienna
Tel.: +43 1 47654-2616
thomas.guggenberger@boku.ac.at
www.boku.ac.at/qm.html

