TEACHING EVALUATION

Session 2 - Evaluation

Ulan Bator, 24th October 2015

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# Evaluation Tools are needed throughout the whole Organization
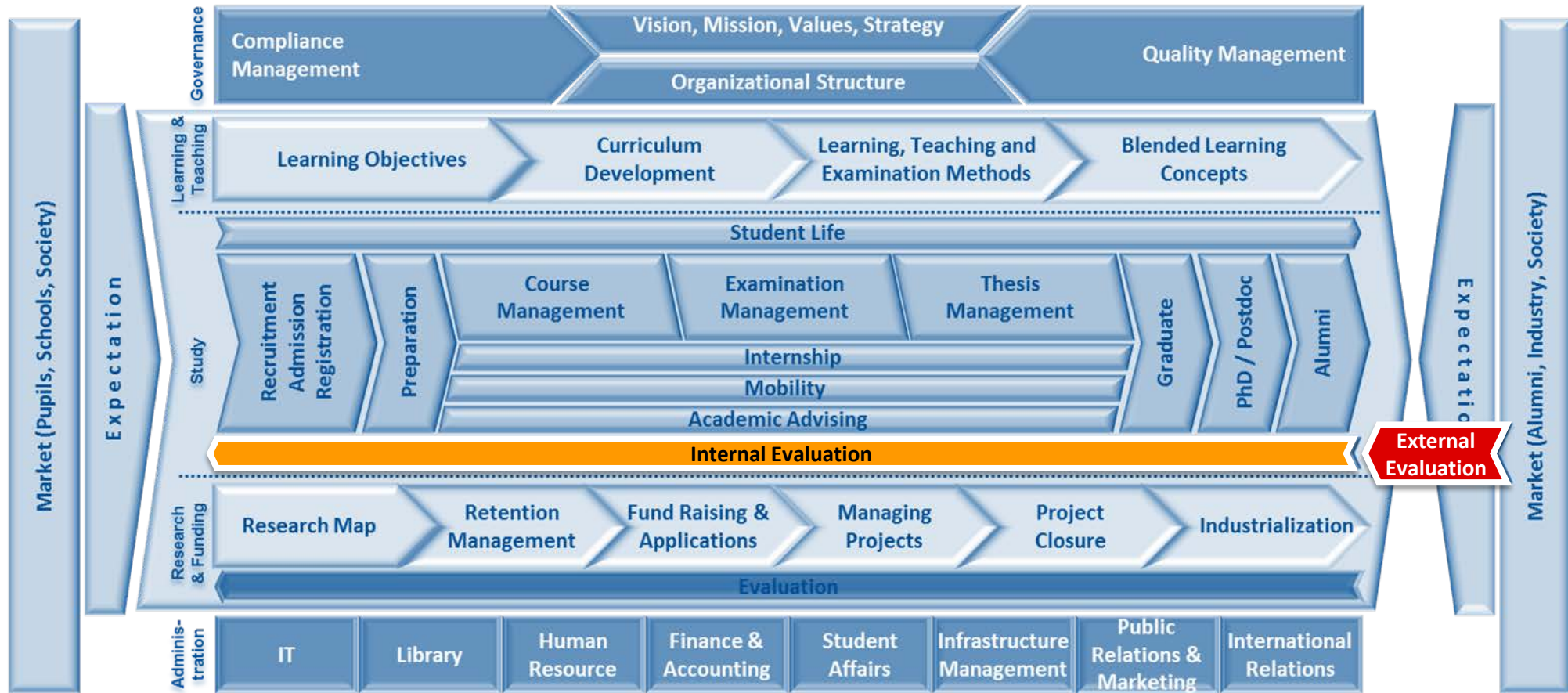
Evaluation – Classification and Understanding

- **Evaluation** is defined as "systematic analysis and empirical empiric study of concepts, conditions, processes and effects of target-oriented activities with the purpose of their assessment and modification"

- Evaluation procedures and especially the **Peer-Review** belong to the oldest and most widely used approaches for a Quality Management Systems in Higher Education

- A **Course of Study or Student Course Evaluation** is an **Instrument for Quality Assurance** and refers to the teaching-related feedback

- The **Institutional Evaluation** is a further development of the two-step peer-review and is conducted separately for research, study and teaching – it is a more **comprehensive and institutional approach** of an evaluation

The term "evaluation" is often understood differently: Depending on the field of application it can be an instrument for Quality Assurance or an approach for a Quality Management System.
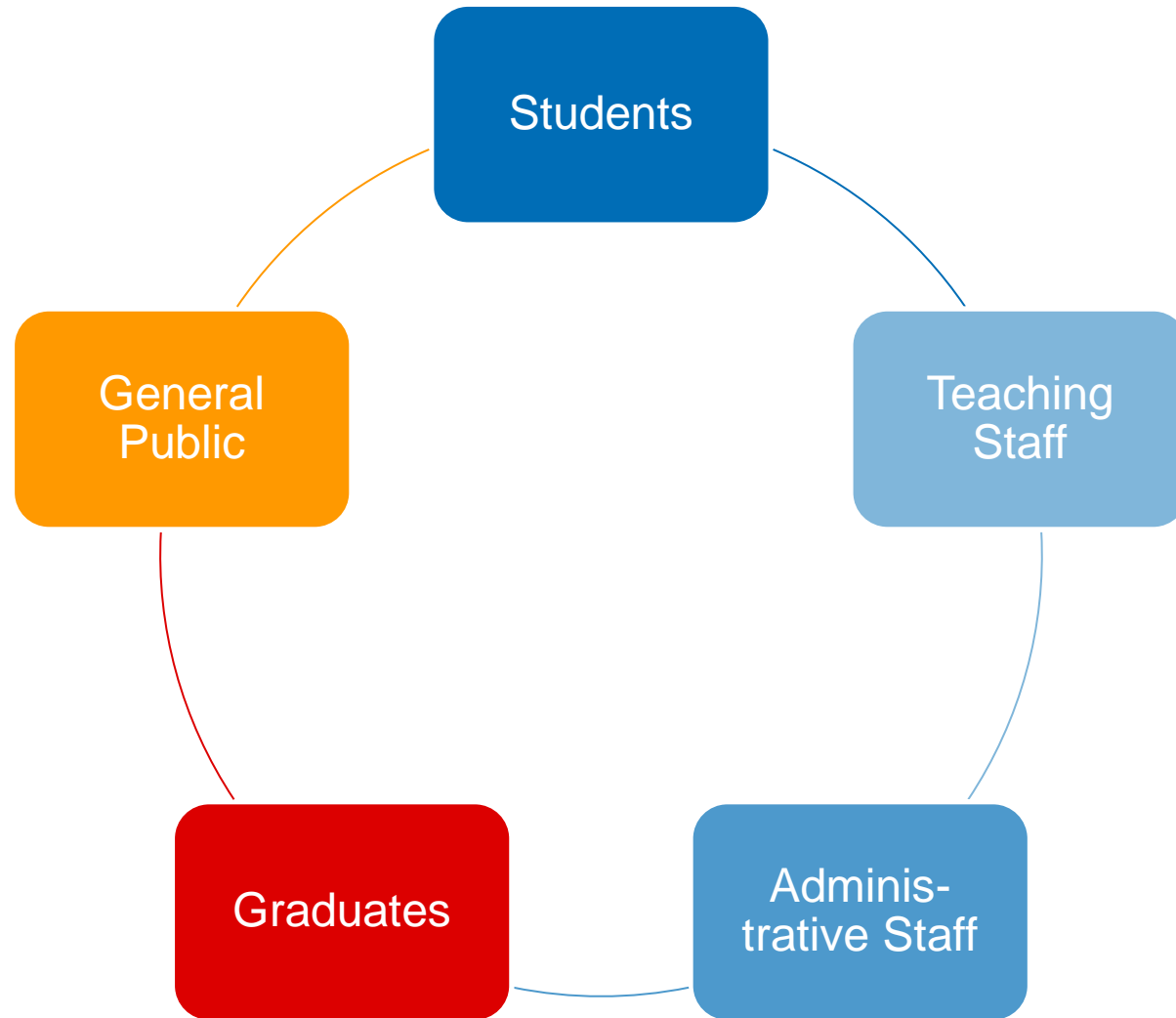
Source: Rindermann, Heiner (2003); CHE (2007)

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Types of Evaluation in Higher Education

Institutional Evaluation
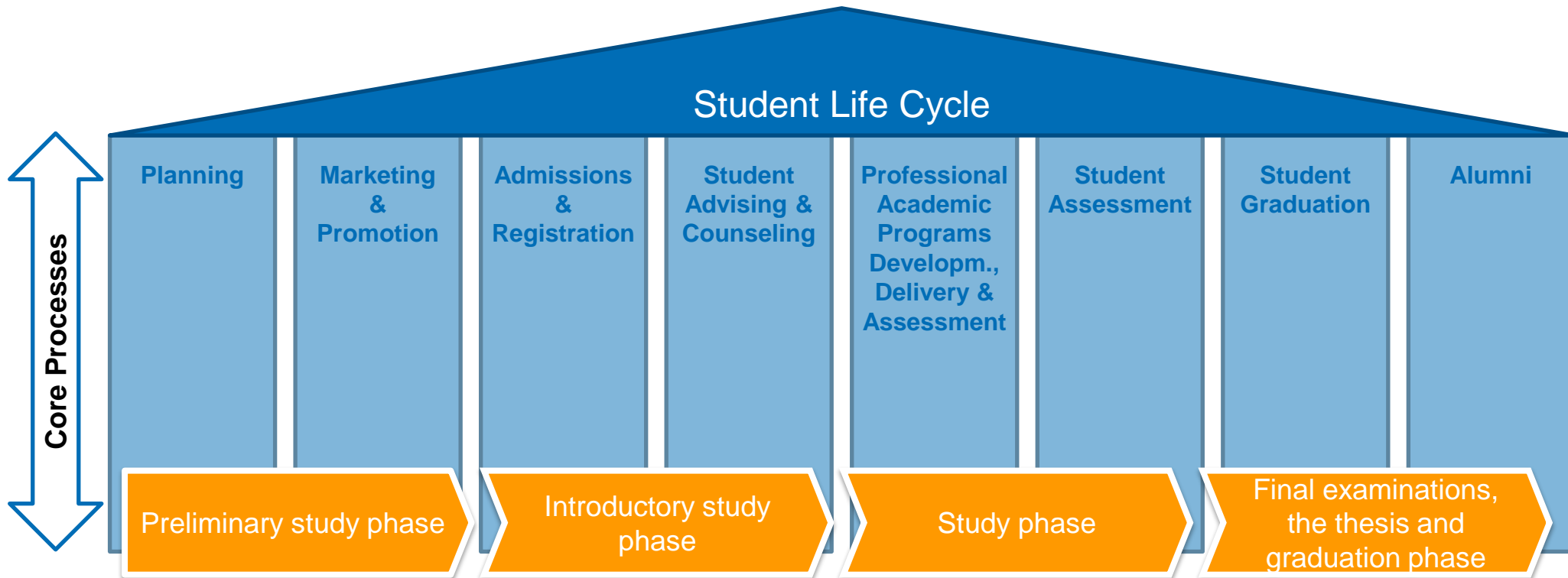
Course of Study Evaluation

Student Course Evaluation
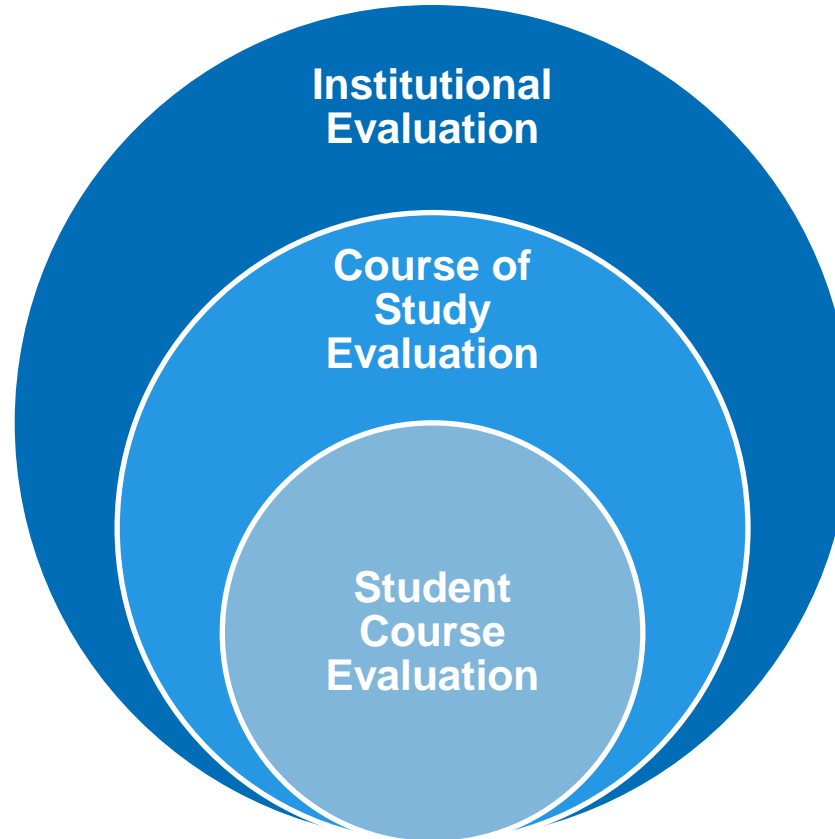
The Course of Study Evaluation and the Student Course Evaluation belong to the category of Teaching Evaluations.

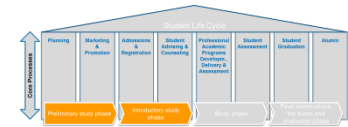# Who are Relevant Stakeholder of Teaching Evaluations in Higher Education?

Students are no Homogenous Stakeholder Group

Student Life Cycle

Core Processes

Planning	Marketing & Promotion	Admissions & Registration	Student Advising & Counseling	Professional Academic Programs Developm., Delivery & Assessment	Student Assessment	Student Graduation	Alumni

Preliminary study phase

Introductory study phase

Study phase

Final examinations, the thesis and graduation phase

The requirements of students change during the student life cycle - from the beginning of the study through to graduation.

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Inquiries of Students in the Preliminary and Introductory Phase

The instrument can be used in the…	…to measure these indicators.
…Preliminary phase	■ Expectations regarding the study demands ■ Job description
…Introductory phase	■ Knowledge about the study structure and the study requirements ■ Expectations regarding study program ■ Self-assessment of motivation for studying ■ Information about the type of study financing ■ Use of advisory services ■ Etc.

Less is more! Too many aspects should not be included in one questionnaire, as it is not worth the effort for the surveyed….

Inquiries of Students in Study and Final Phase

The instrument can be used in the…	…to measure these indicators.
…Study phase	■ Status quo of own expertise and existing competencies ■ Satisfaction ■ Evaluation of the quality of the program and lectures ■ Evaluation of the application reference and practical relevance ■ Information about the type of study financing ■ Etc.
…Final examinations, the thesis and graduation phase	■ Study and examination results ■ Professional skills

Besides regular surveys also special ones can be conducted due to certain events or upon requests.

Teaching Evaluation – Special Case of Inquiries
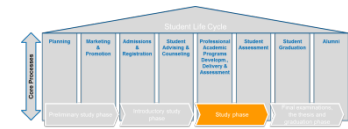
The instrument can be used in the…	…to measure these indicators.
…study phase	■ Quality of studies ■ Application reference and practical relevance
…to evaluate the quality of lecturers and study offer	■ Quality of Teaching ■ Academic progress

➡ Teaching evaluations are comprehensive, student surveys in courses and serve the evaluation of the quality of classes from the students' perspective. ⬅

Student Course Evaluation

- Comprehensive student`s inquiry in lectures to assess the quality of teaching from the perspective of students

- Object of the Student Course Evaluation are especially the organization of the course, structure and methods and competencies of the lecturer

- Student Course Evaluations are used to assess in how far teaching activities meet the demand of the students and as a tool for teachers to identify areas for improvement

The Student Course Evaluation is very time-consuming, but offers the possibility to gain detailed insights into the formal and content-related structure of a program.

What Is the Purpose and what are Benefits of Student Course Evaluations?

➕ Quality development and assurance in teaching and learning.

➕ Constant evaluation of teaching and learning methods, so that teachers get constructive feedback about praise, points of criticism, wishes, and frustrations from students about the classes.

➕ Confirmation of strengths and the detection of weaknesses in teaching

➕ Promotion of dialogue between teachers and students.

➕ Increasing student satisfaction through optimizing teaching and learning.

➕ Important data base for quality management in academics and teaching, as well as the implementation of the strategy.

Student course evaluations are a practical instrument that can contribute to the improvement of teaching for the short run.

RWTH Aachen University – Legal Basics of Teaching Evaluations

- The Higher Education Law requires in paragraph seven at Federate State Level, that the work of universities in teaching has to be regularly evaluated.

- Additionally, the evaluation results should be published.

- Members of RWTH Aachen are required to put forth effort to fulfill their responsibilities at the highest level of quality

- Furthermore, they are legally bound in the context of their job-related tasks to participate in the implementation of the quality evaluation process.

RWTH Aachen University – Legal Basics of Student Course Evaluations

EXAMPLE
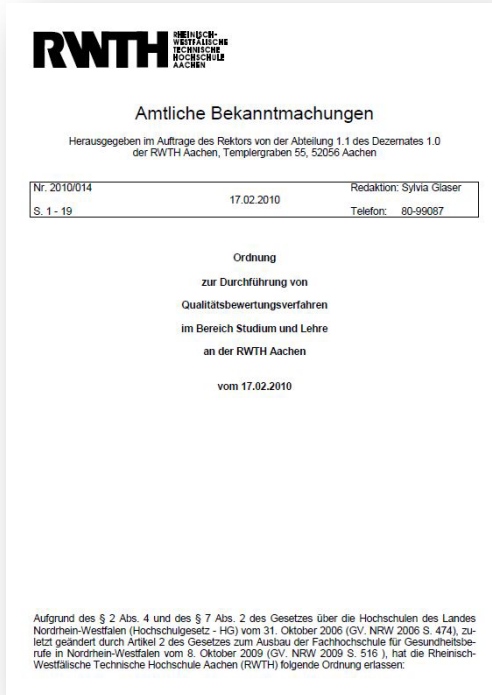
- § 8 Student Course Evaluation:
  - The Teaching Evaluation serves the controlling and improvement of the quality and efficiency of single courses
  - The main objective is to permanently to control practiced learn- and teaching methods and to give feedback to every single lecturer from the perspective of students

- § 11 Documentation and Publication:
  - Individual evaluation (internal)
  - Aggregated, anonymized overall evaluation of single course types from one faculty (external)
  - Integration of actions into the action catalogue of the Evaluation of Study Programs (external)

The guideline recommends to conduct the evaluation for courses with less than five students in a different way due to data privacy issues.

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TEACHING EVALUATION

Session 2 – How to design a questionaire?

Ulan Bator, 24th October 2015

Evaluation Sheet of RWTH Aachen University

EXAMPLE

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EvaSys [COURSETYPE]

[ORGANIZATION] [AUTHOR]
[PERIOD] [SURVEY]

RWTH AACHEN UNIVERSITY

Mark: Please use a black or blue ballpoint pen. Do not use red ink.
Correction: Please observe the notes on the left when filling in the form in order to ensure optimal data collection.

Dear Students,
RWTH Aachen University aims to offer high standard of teaching. To this end, we depend on your cooperation and your assessment of the course attended. The survey and evaluation are carried out in accordance with the legal regulations for data protection; participation is anonymous and voluntary.
Instructors are obliged to discuss the results of the student course evaluation with the students in the course. If this is not the case, please contact: lehre@rwth-aachen.de.
Your concern will be handled anonymously.

Explanation:
N/A = not applicable

1. General Information

1.1 Gender: ☐ female ☐ male ☐ N/A
1.2 Nationality: ☐ German (D) ☐ EU (excl. D) ☐ Non-EU
1.3 Course Degree: ☐ Bachelor ☐ Master ☐ other
1.4 Core Semester: ☐ 1-2 ☐ 3-4 ☐ 5-6 / ☐ 7-8 ☐ >8
1.5 How much time do you currently spend on this course including preparation and follow up work?
☐ less than 1 hr. ☐ 1 to 3 hrs. ☐ 3 to 5 hrs.
☐ 5 to 7 hrs. ☐ 7 to 9 hrs. ☐ more than 9 hrs.
1.6 I find the course interesting.
strongly agree ☐ ☐ ☐ ☐ strongly disagree / N/A ☐

2. Lecture Concept

(strongly agree ... strongly disagree / N/A)

2.1 The learning goals of the lecture are defined.
2.2 The lecture is well structured.
2.3 The materials provided are helpful.
2.4 The examples chosen are helpful.
2.5 Lecture material is summarized at appropriate intervals.
2.6 The degree of difficulty is ... ☐ appropriate ☐ too difficult ☐ too easy
2.7 I would evaluate the lecture concept as ... ☐ 1 - very good ☐ 2 - good ☐ 3 - satisfactory ☐ 4 - sufficient ☐ 5 - poor

3. Instruction and Behavior

The lecturer ... (strongly agree ... strongly disagree / N/A)

3.1 ... explains the subject matter clearly.
3.2 ... is willing to answer questions.
3.3 ... considers students' different levels of knowledge.
3.4 ... engages my interest in the topic.
3.5 ... speaks audibly and clearly.
3.6 ... speaks proper, comprehensible English.
3.7 ... is well prepared.
3.8 ... is available outside of the lecture.
3.9 ... uses media that contribute to students' understanding.
3.10 The pace is ... ☐ appropriate ☐ too fast ☐ too slow
3.11 I would evaluate the lecturer as ... ☐ 1 - very good ☐ 2 - good ☐ 3 - satisfactory ☐ 4 - sufficient ☐ 5 - poor

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EvaSys [COURSETYPE]

4. General Conditions

(strongly agree ... strongly disagree / N/A)

4.1 The lecture begins and ends on time.
4.2 The number of seats is ... ☐ appropriate ☐ too much ☐ too few
4.3 How often was the lecture cancelled on regularly scheduled dates? (Lecture-free days are not included!) ☐ 0 x ☐ 1 x ☐ 2 x ☐ 3 x ☐ 4 x ☐ >4 x
4.4 How many times did you have a substitute teacher? ☐ 0 x ☐ 1 x ☐ 2 x ☐ 3 x ☐ 4 x ☐ >4 x
4.5 In the event of a substitute teacher, was the substitute suitable? ☐ yes ☐ no ☐ N/A

5. Further comments, suggestions and requests:

Please note that your handwritten comments may lead back to you. We therefore suggest that you print your handwritten comments and do not write in cursive. This questionnaire will be evaluated by a machine; comments made outside the text box will not be considered for evaluation.

5.1 What did you particularly like about the lecture?

5.2 What did you dislike about the lecture?

For further questions and suggestions about the student course evaluation, please contact lehre@rwth-aachen.de.

Thank you very much for participating in the survey!

How to Design a Proper Questionnaire?

■ Method questionnaire

– Basic task of a questionnaire

– Definition of the research issue, hypotheses and characteristics

– Guidelines for determining the items

– Choosing the question format

– Design of the introduction and instructions

– Negative reply trends (distortive tendencies)

– Pretest

– Summary of process

Basic Object of a Questionnaire

- Research tool for collection of opinions, attitudes, positions on issues or situations

- „Quantitative Method"
  - Numeric representation of empirical issues
  - Specifically the method „questioning"

- It can only be made a statement about the subject of the specific questions, profound or subtle interpretations of the questionnaire are incorrect

Three important differences:
  - Questioning of personal characteristics and attitudes **(opinion questions)**
  - Questioning of specific behaviors **(behavioral questions)**
  - Questioning facts **(fact questions)**

- Additionally defined by:
  - Degree of standardization
    - Answer options
    - Interview situation
    - Wording of questions
  - Communication Type
    - Electronic / written via web-based questionnaire
    - Written, Paper-Pencil-Instruction
    - Verbally/personally Face-to-Face
    - By telephone

- Appearance of the questionnaire should be flawlessly
  - Increases motivation for editing

| fact questions | opinion questions | behavioral questions |

Process for the Design of a Questionnaire

Formulation of research issue and hypotheses	▪ What do I want to explore? What could it be dependent on?
Definition of characteristics	▪ How can I measure the parameters?
Definition of items	▪ Formulation of questions and grouping of questions sets
Choosing the question format	▪ Consideration of the required result and effort of signing
Design of the introduction and instructions	▪ Formulation of the introduction and instructions for questions and question sets
Creation of complete questionnaire (Layout, Design)	▪ Design of an appealing layout
Pretest and Optimization	▪ Pretest followed by improvement

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Definition of the Research Issue, Hypotheses and Characteristics

Formulation of research issue and hypotheses

Definition of characteristics

Definition of items

Choosing the question format

Design of the introduction and instructions

Creation of complete questionnaire

Pretest and Optimization
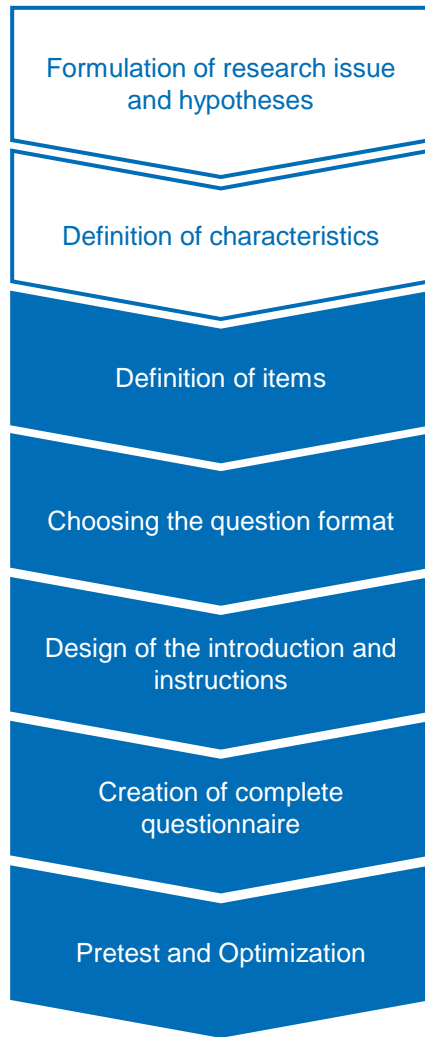
■ Research issue is different from working title
– Working title : „Generic term of task"

■ Research issue has be limited temporally, spatially and objectively

■ Orientation to W-Questions: What? When? Why? What for? Etc.

■ Approach
– Starting point working title
– Central Question: „What do I really want to know and explore?"
– Focusing the relevant components, e.g. supported by a Brainstorming/Mind-Map
– Definition of hypotheses
 ▪ Which aspects have an influence on my research issue?
– Definition of characteristics
 ▪ How can the hypothesis be measured and affected?

Qualitative addition possible: Interviewing experts and target groups. Supports the restriction of the hypotheses and characteristics

■ Result: Structure + Characteristics

Evaluation Sheet of RWTH Aachen University

Hypothesis 3

Hypothesis 1

Hypothesis 2

Hypotheses: Perceived Quality depends on:
- Concept of lecture (hypothesis 1)
- Instruction and behavior (hypothesis 2)
- General conditions (hypthesis 3)

Research Question: What was the quality of the lecture "x" in the period "y" from the perspective of students of the program "z" at RWTH Aachen University?

Guidelines for the Definition of Items

Formulation of research issue and hypotheses

Definition of characteristics

Definition of items

Choosing the question format

Design of the introduction and instructions

Creation of complete questionnaire

Pretest and Optimization
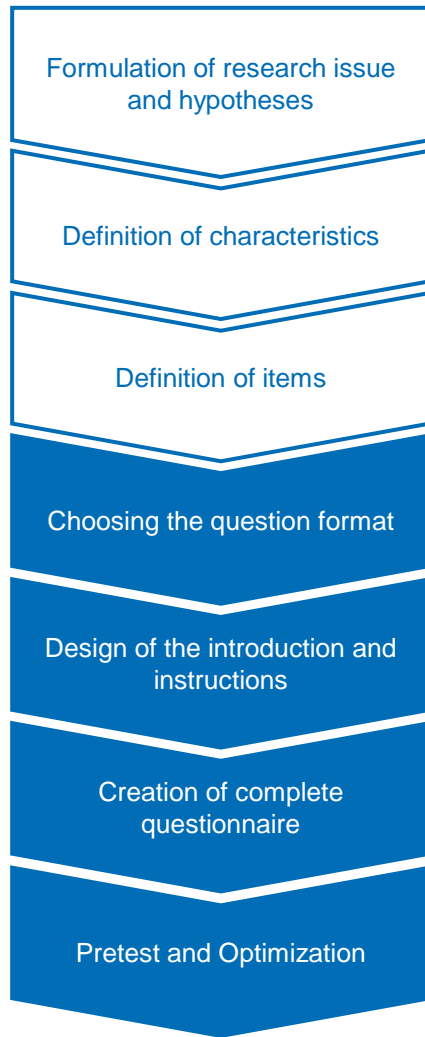
- From the general to detail
  - Red thread should be followed
  - At the beginning „ice-breaker" questions

- Suggestive and stereotypical formulations should be avoided

- No use of ambiguous expressions
  - Consideration of addressees
  - Clear and understandable choice of words

- Items should be short and concise, but not at the expense of quality

- Structure should be familiar (intuitively)
  - Extensive questionnaires justifiable because motivation high in the present questionnaire

- Expressions like „always", „all" und „nobody" should be avoided, because they are considered as unrealistic

- „Difficult (sensitive)" questions should be concealed
  - At the end of a great question set

Evaluation Sheet of RWTH Aachen University

Items for every hypothesis 1

Choosing the Question Format (1/2)
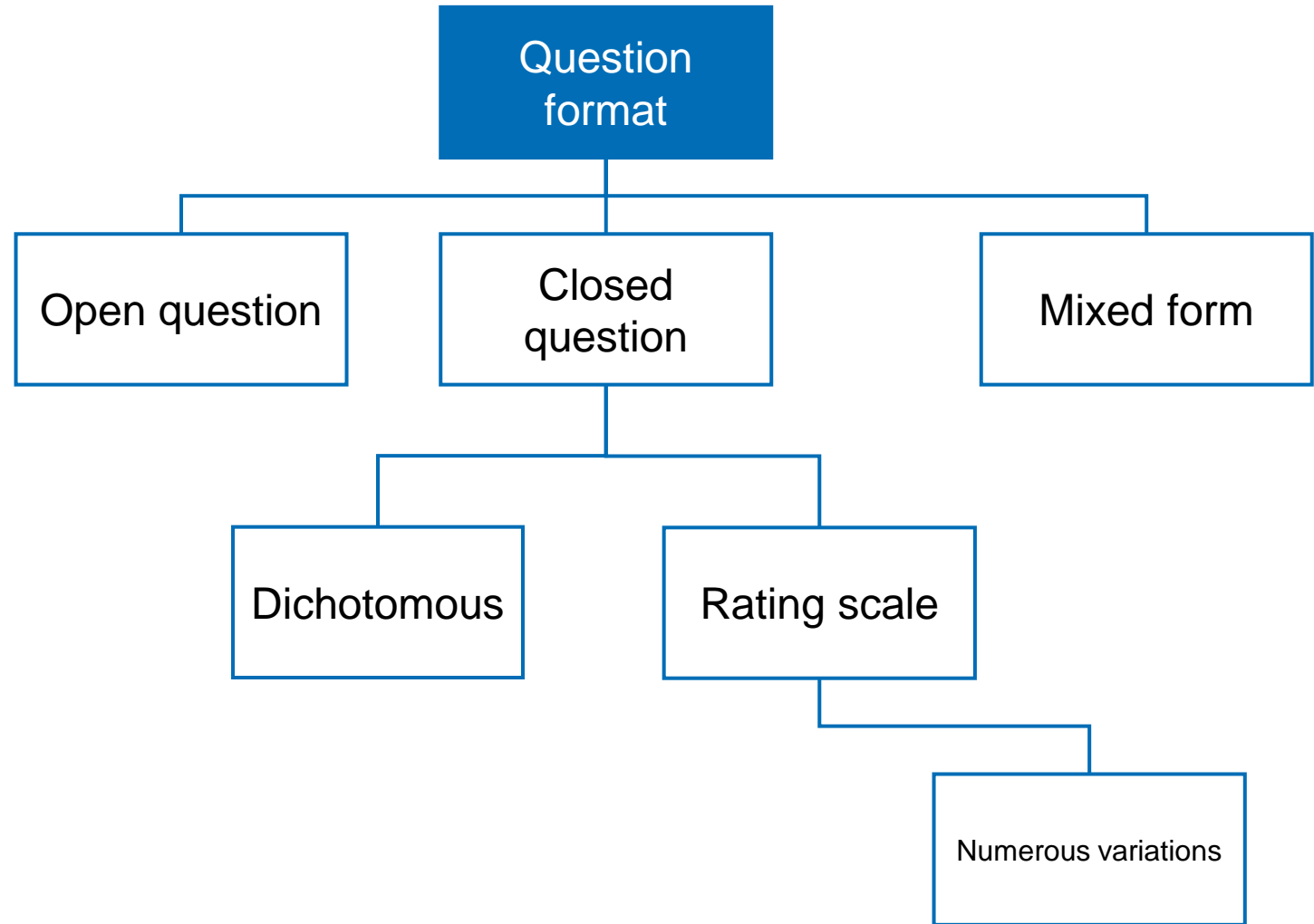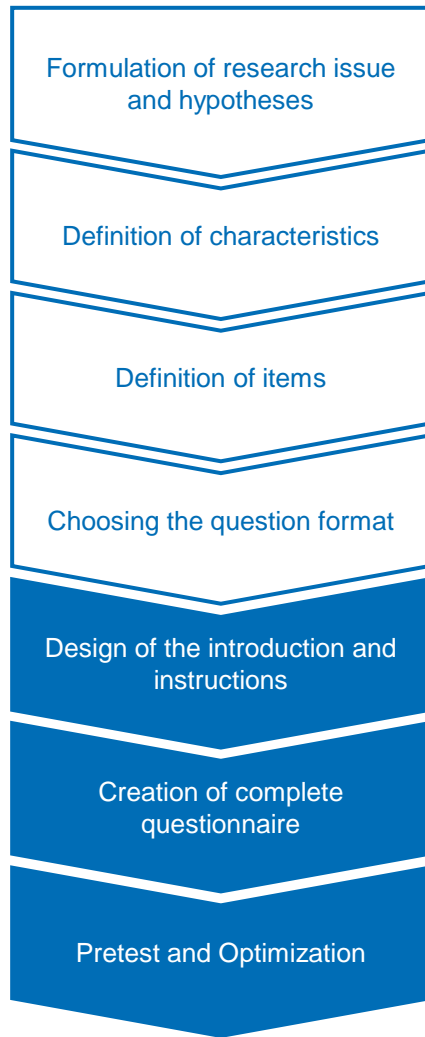
Choosing the Question Format (1/2)

Form	Explanation	Advantage	Disadvantage
Open Question	Something formulated by the surveyed is written in response to the space provided (gap text etc.).	Creative expression of opinion, forgotten aspects can be determined	Time-consuming signing, weak verbalization skills
Closed Question	Answers are given by selecting predefined categories. „Normal" marking of answers by a cross.	Easy signing, high comparability of results	Answer aspects can be forgotten, respondent is forced into a thought pattern
Dichotomous question	When answering the question only to response option are possible („yes"/"no", "right"/wrong" etc.).	Short process time	Low variability of the response pattern
Rating scale	The respondent has the possibility to indicate more than two graded response options.	Easy signing, high comparability of results	Answer aspects can be forgotten, respondent is forced into a thought pattern
Mixed form	Questions have predetermined response option, but also an open category.	Possible overlooked answer options are covered. Assessment remains manageable.	Answer aspects can be forgotten, respondent is forced into a thought pattern

Evaluation Sheet of RWTH Aachen University

The Evaluation Sheet of RWTH Aachen University makes use of a mixed form!

Rating Scale

- **Unipolar and Bipolar**
  - Unipolar: Scale runs from a zero point in one direction (e.g. no disagreement to strong disagreement)
  - Bipolar : Scale runs from the negative pole to the positive pole (e.g. strong disagreement to strong agreement)

- **Number of levels**
  - Should be between 5 and 7

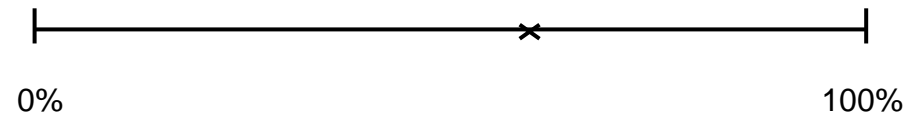- **Odd or even number of levels**
  - Rather tendency to even scale, as on an odd scale often in uncertainty the average value is taken

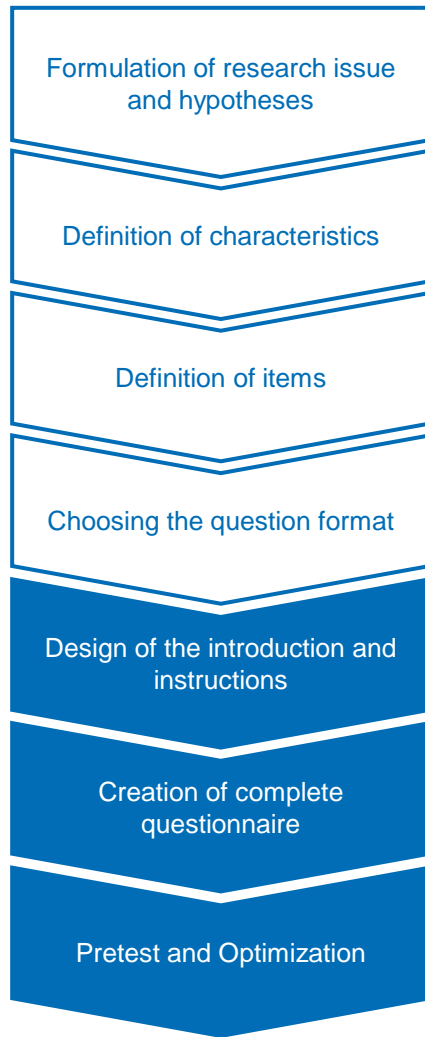- **Type of labelling (Naming of the scales)**
  - Categories can be labeled by numbers, symbols or words (combination possible)
  - Appropriate choice of words for categories:
    - Frequency: "never - rarely - sometimes - often - always"
    - Intensity: "no - hardly - average - quite - extraordinarily"
    - Probability: "Never - probably not - perhaps - quite probably - certainly"
    - Assessment: "totally wrong - quite wrong - undecided - almost correctly - completely correct"

- **Continuous response format (analog scale)**
  - Person has the ability to respond to a continuum
  - E.g.: „ To what extent do you agree with the following statement? Please mark your agreement with a cross on the line between 0% and 100%"

$$\vdash\!\times\!\dashv$$

0%   100%

Design of the Introduction and Instructions

Formulation of research issue and hypotheses

Definition of characteristics

Definition of items

Choosing the question format

Design of the introduction and instructions

Creation of complete questionnaire

Pretest and Optimization

- ■ Introduction and salutation
  - – Important for the motivation to answer the questionnaire
  - – Content
    - ▪ Clear and concise presentation of the organization, for which the survey will take place for
    - ▪ Rough issue and explanation of any further use of data
    - ▪ Request for complete filling out of questionnaire and hint to only give correct, complete answers
    - ▪ Assurance of anonymity (if guaranteed)
    - ▪ Expression of thanks for participation

- ■ Instructions
  - – Explains the approach of answering and introduces to the specific questions (items):
    - ▪ How should items be answered?
    - ▪ Brief
    - ▪ Type of questions? Should always remain the same
      - ▪ **Real question** „Do you mean, that…"
      - ▪ **Questions of agreement** „I mean, that…"
    - ▪ Maybe explain the order in which questions should be answered
      - ▪ E.G.: „In case your answer is „no", please go ahead with question XY"

Evaluation Sheet of RWTH Aachen University

Conduction of a Pretest and Improvement

Formulation of research issue and hypotheses
Definition of characteristics
Definition of items
Choosing the question format
Design of the introduction and instructions
Creation of complete questionnaire
Pretest and Optimization

- After the successful design of a questionnaire, a preliminary test for usability and quality based on a sample is necessary.

- Helpful approach: Stimulate sample group under instruction to „think loud". Thereby, all aspects noticed should be verbalized and recorded
  - Creating a list of errors

- Checklist Pretest
  - Are all questions comprehensible?
  - Are all answers clearly assigned to the provided response categories?
  - Is the Layout clear and appealing?
  - Is the length of the questionnaire reasonable?
  - Is there enough space to answer open questions?
  - Are the surveyed forced to answer the questions in a certain direction?
  - Is it clear how to proceed in case of more alternatives?
  - How time-consuming is it to answer all questions?
  - Is the questionnaire linguistically adapted to target audience?
  - Can the present questions answer my hypothesis?
  - Do response formats of the items meet the ideas of evaluation? (percent value, diagrams etc.)

There Exists a Variety of Designs and Fields of Application…

External evaluation	Internal evaluation
Student-centered evaluation	Teacher-centered evaluation
Survey-based evaluation	Dialogic evaluation
Paper-based evaluation	Online-evaluation
Formative evaluation	Summative evaluation
Evaluation with horizontal perspective	Evaluation with vertical perspective

Break