Inclusive Teaching Material

ECER 2021 Symposium

10.09.2021, 9 a.m. – 10.30 a.m.

Introduction:

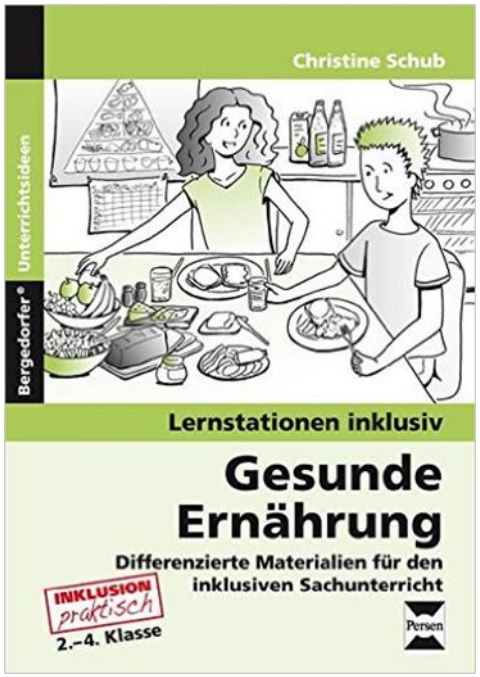
Prof. Dr. Michaela Vogt, Bielefeld University, Mail: michaela.vogt@uni-bielefeld.de

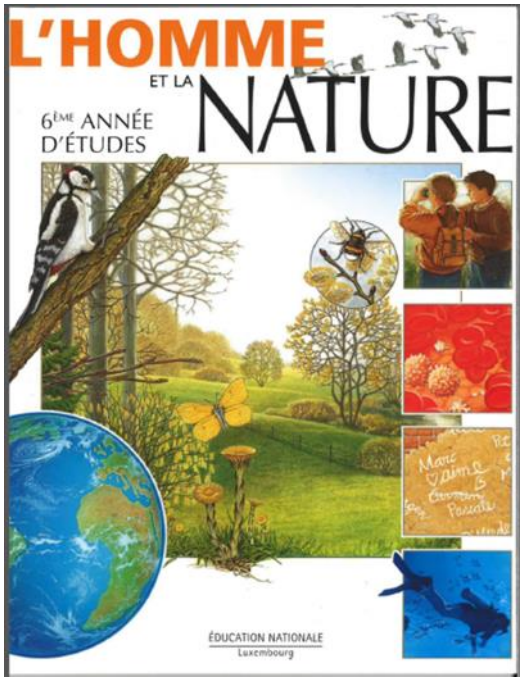
Christoph Bierschwale, Bielefeld University, Mail: christoph.bierschwale@uni-bielefeld.de

Scope

inclusive teaching material

itm





Reflections about inclusive teaching material on different levels:

- What are the criteria for finding suitable inclusive teaching material?
- What are the steps to develop suitable inclusive teaching material?

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Research Design

Time period:
2018 – 2021

Research design:
International comparative study

Orientation
Participatory research

Project lead

Prof. Dr. Michaela Vogt

UNIVERSITÄT BIELEFELD

Research focus

- Historical educational research
- School research
- School and concept development
- Basic education and school for everyone
- School history and auxiliary school history in the DDR(focus: lower level)
- Normality and normativity

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Project coordinator

Christoph Bierschwale

UNIVERSITÄT BIELEFELD

Research focus

- Media didactics
- Theory and History of Inclusive Education
- Educational technology

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Project partner

Prof. Dr. Katja Natalie Andersen

UNIVERSITÄT LUXEMBURG

Research focus

- primary science learning and teaching
- inquiry-based science education
- STEM competencies
- science learning in multilingual contexts

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Project partner

Prof. Dr. Vanessa Macchia

Research focus

- principles of inclusive education
- Evidence-based, reality-based and significant access to competencies
- teaching-learning practices in all educational institutions

Project partner

Prof. Dr. Anette Bagger

Research focus

- Special Education
- Mathematics Didactics and assessment

Project partner

Dr. Annamaria Ardemagni

Expertise

- Many years of experience in didactic preparation of inclusive lessons
- organization of inclusive learning settings.

Cooperation partners

inclusive teaching material itm

BiSEd BIELEFELD SCHOOL OF EDUCATION

Ecole Grand-Rue Esch-sur-Alzette

Laborschule Bielefeld

\+ Scientific Institution Laborschule

ÖRNSKÖLDSVIKS KOMMUN

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Project goals

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IO 1 • Design of a multilingual criteria catalogue

IO 2 • Development of inclusive teaching material

IO 3 • Publication of project results in journals

IO 4 • Development of a teacher training concept

IO 5 • Accompanying study

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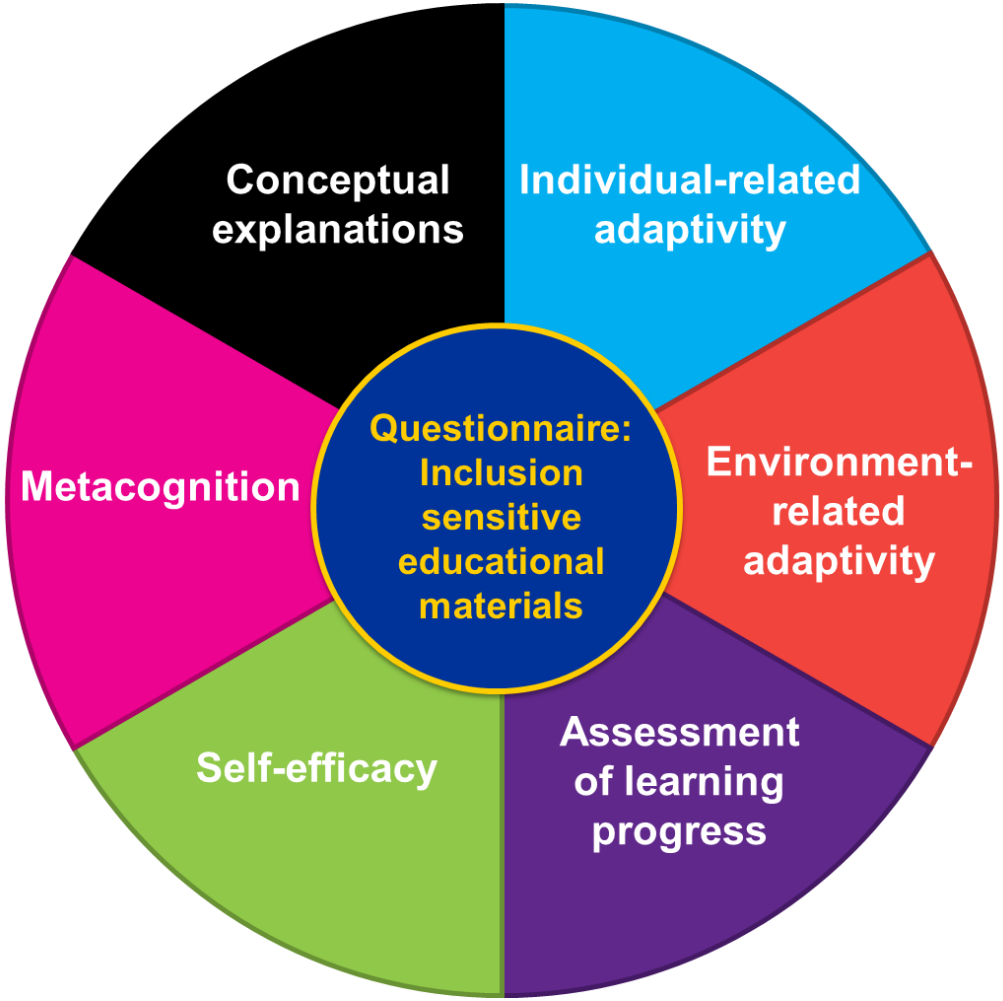
IO 1 Criteria catalogue



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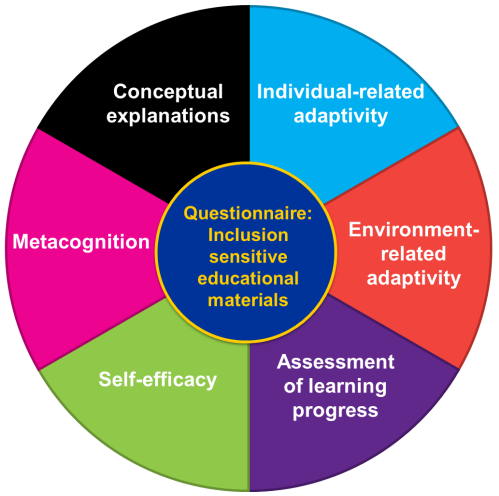
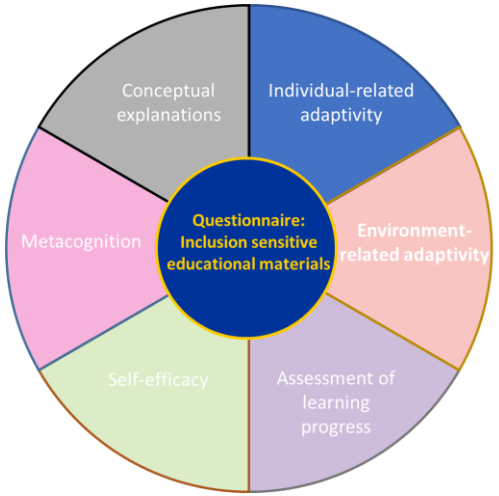
IO 1 Criteria catalogue: Methods



- **Group discussions** were used for data collection.
- This form of data collection made it possible to uncover shared and different knowledge of teachers from different European countries. (cf. Bohnsack, 1997, Kühn & Koschel, 2011).
- Group discussions were conducted as part of the project at four project sites with teachers at schools in Luxembourg, Sweden, Germany, and Italy.
- These discussions took place at all project schools in 2019.
- The total sample consisted of 32 teachers, 30 of whom were female and two of whom were male.
- **Expert interviews** were also used. The experts were made up of the project consortium.
- The evaluation was carried out by the **qualitative content analysis according to Mayring**. Atlas.ti was also used for the evaluation.

IO 1 Criteria catalogue

a) Individual-related adaptivity



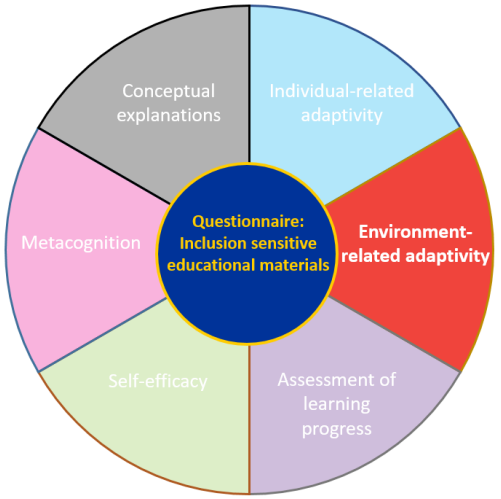
This deals with the **adaptability of inclusion-sensitive educational material in relation to the individual needs of the learners.** This is evaluated with the goal in mind of enabling self-directed and independent learning.

The following questions (examples) are relevant to this range of criteria:

- Does the educational material allow for different learning paths, all of which can process the same subject matter and do justice to the diversity of the learners?
- Are the tasks designed to be appropriate for multiple levels of competence and are the needs of the individual learner taken into account?
- Are the tasks given in different forms and for different levels of complexity?
- …

IO 1 Criteria catalogue

b) Environment-related adaptivity



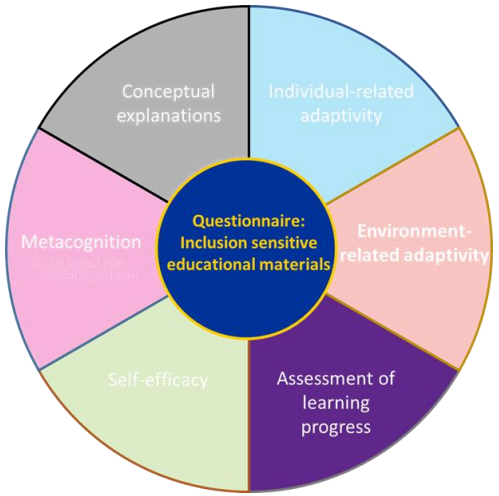
What's at focus here is the **adaptability** of inclusion-sensitive educational materials **to the teaching and learning situation**, the conditions of and around the school, cultural and, where appropriate, national standards.

The following questions revolve around this area:

- Can the educational material be used in different social constellations within as well as beyond the classroom context?
- Is the educational material adaptable to the particularities of the school location, including specific conditions of the study group?
- Does the educational material take into account cultural and national aspects that influence the learning environment?
- …

IO 1 Criteria catalogue

c) Assessment of learning progress



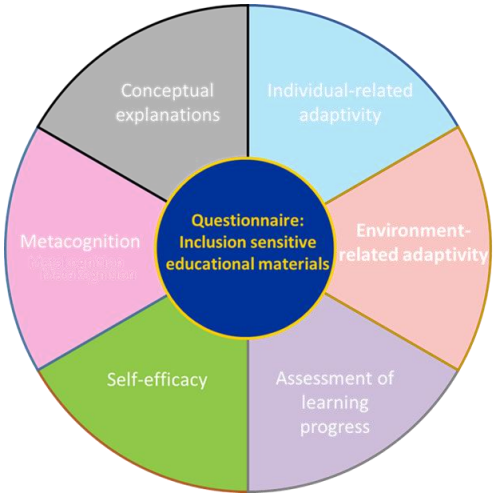
Learning progress assessments combined with recommendations for the further design of the individual learning path represent another central criterion of inclusion-sensitive educational materials.

The following questions can be used to reflect on this:

- Do the learning progress assessments guide the choice of further appropriate learning tasks that are also included in the inclusion-sensitive educational material?
- Are there different forms and enough learning assessments in the educational material that are oriented towards the diversity of the learners?
- Do the assessments analyze individual learning progress as well as individually recurring patterns of errors?
- …

IO 1 Criteria catalogue

d) Self-efficacy



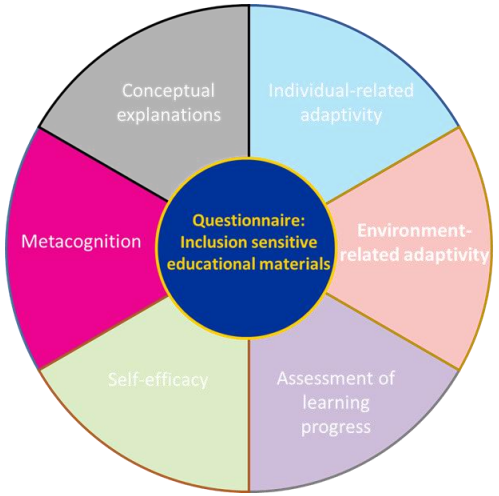
Especially in inclusion-sensitive learning situations, self-efficacy experiences of learners play a central role. Whether or not the educational material **enables the learners to shape their own learning path** in a pro-active way, and whether it stimulates or promotes appreciation and **acceptance through the learning environment** is of main interest for this section of the criteria catalogue.

It can be evaluated by addressing the following questions:

- Does the educational material motivate learners in different ways, that are appropriate to the individual learner?
- Does the educational material enable learners to solve problems independently, while conveying a sense of self-efficacy?
- Does the educational material offer the learners a free choice regarding the tasks, and furthermore the option to refuse the tasks altogether, if a justification is given?
- …

IO 1 Criteria catalogue

e) Metacognition



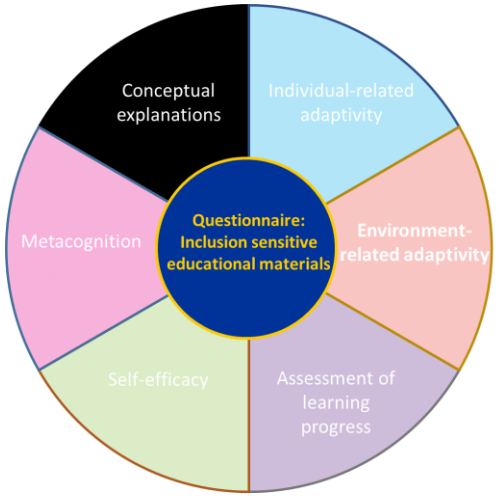
Inclusion-sensitive educational materials greatly **encourage introspection on one's own learning process and thus also the acquisition of metacognitive knowledge** that goes beyond the actual subject matter.

The following questions address this:

- Does the educational material incorporate the use of different learning techniques adapted to the diverse needs of the learners?
- Does the educational material encourage learners to try out different learning techniques, reflect on their efficacy and choose the one that is most suited for them?
- ….

IO 1 Criteria catalogue

e) Conceptual explanations

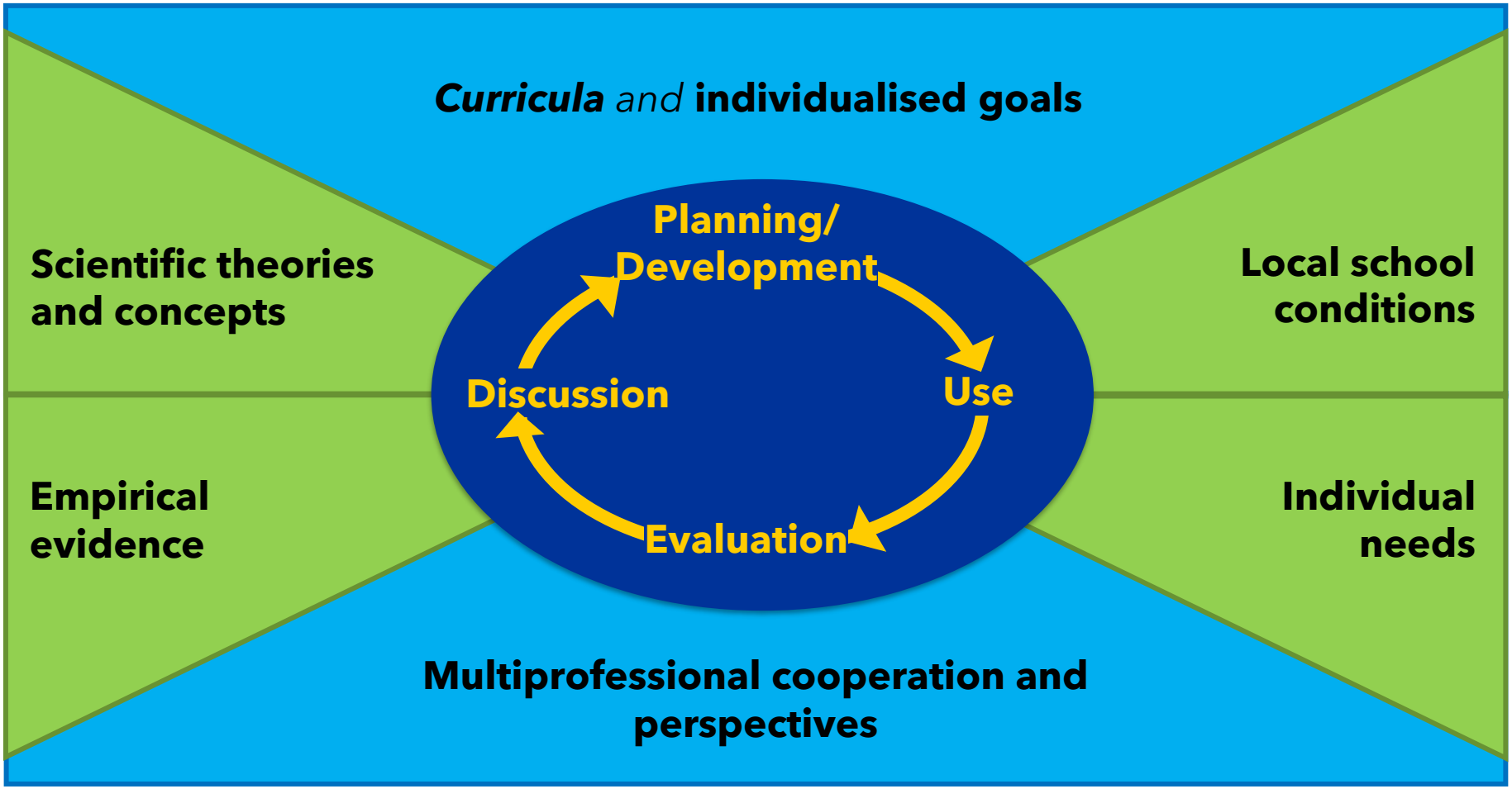


Inclusion-sensitive educational materials are obliged to substantiate their approach to diversity and their variance in the tasks for the teacher as well as for the learners. This requires a **conceptual basis in written form, which amends, frames, and relates the compiled learning tasks** to one another in terms of an overarching internal consistency.

The following questions focus on this range of criteria:

- Does the educational material provide a rationale for its own design and utility, which is comprehensible for both teachers and learners to an appropriate extent?
- Are the types of tasks and the internal structure of the educational material consistent with, and justified on the basis of sound theoretical and empirical findings?
- …

Development of inclusive teaching material



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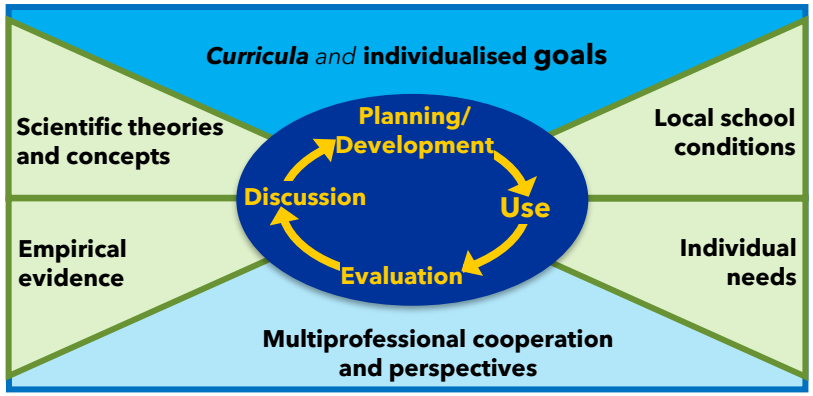
Process model

I. Curricula and Framework:



The clarity and precision of teaching and learning objectives is instrumental for learning success. Objectives also include school structural, educational policy and school administrative requirements, which must be taken into account when creating materials. This also includes curricular requirements, such as educational and framework plans. Likewise, the educational goals must be transparently justified.

Sample questions:

- What competences are developed through teaching materials?
- Are school structural, educational policy and school administrative guidelines observed?
- …

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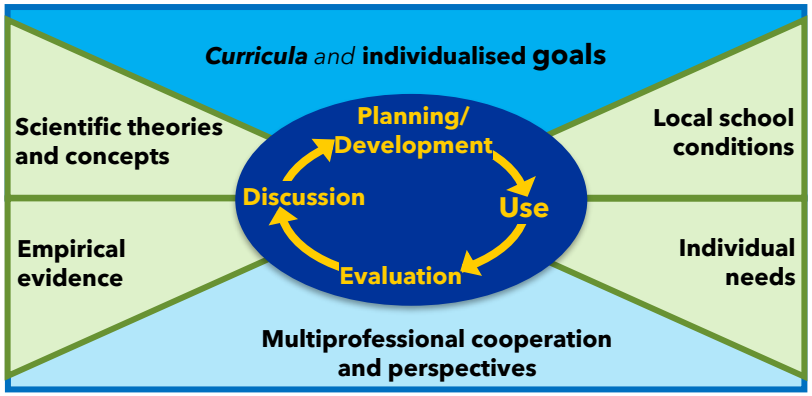
Process model

II. Individualised goals:

For this purpose, the **learning objectives are specified in relation to the individual**, e.g. with regard to cognitive, psychomotor or social learning objectives. In addition, concrete learning diagnostic methods are specified which document the learning success.



Sample questions:

- What are the learning objectives of the teaching material?
- Are e.g. social and psychomotor learning objectives included in addition to cognitive learning objectives?
- …

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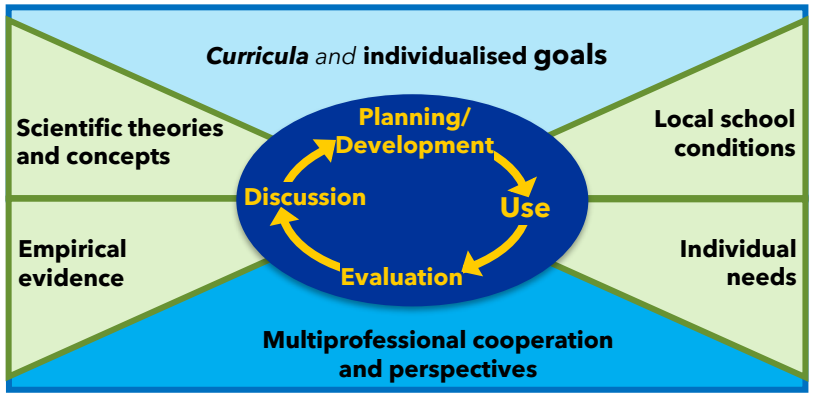
Process model

III. Multiprofessional cooperation and perspectives:

Sustainable learning success also results from cooperation with other teachers and professions as well as parents and pupils. Depending on the educational goal and level of competence, different professions must be involved in the development of the teaching material. This also includes cooperation between school practitioners and researchers. Parents and pupils should also be involved.

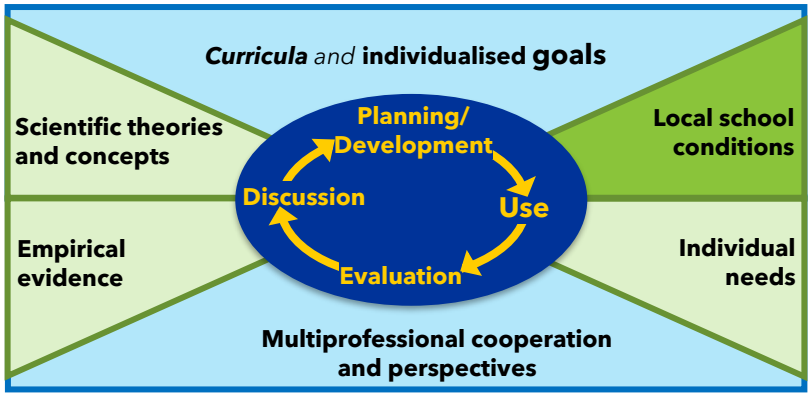


Sample questions:

- Do I involve different professions and colleagues in the development work?
- Do I involve parents and pupils in the work process?
- Are there feedback mechanisms or quality circles to discuss the material?
- …

Process model

Local school conditions



With regard to the local school conditions, **all demographic, personnel, financial and spatial factors must be taken into consideration.** Here it is necessary to check which potentials are available in the school and where there are e.g. financial restrictions. For example, on the side of the learners, it is important to know which demographic characteristics are present at the school.

Sample questions:

- Does my school have the financial resources to purchase this material?
- What time frame (e.g. 45 min lessons, blocks of double lessons) do I have available to use the material?

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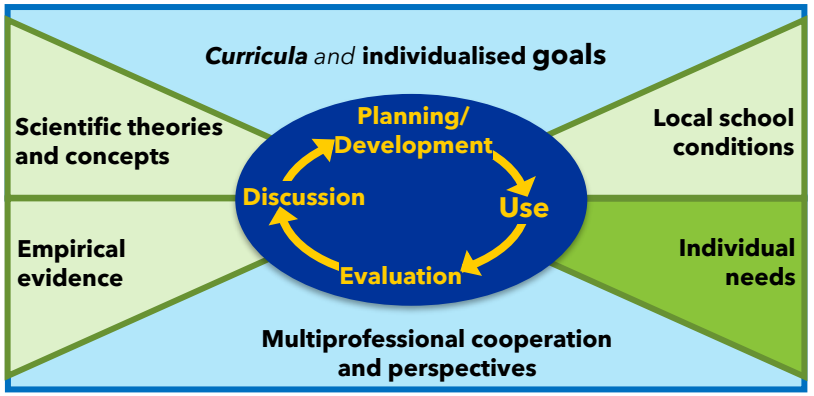
Process model

Individual needs



On the learners' side, e.g. previous knowledge, previous experience and motivation must be taken into account. Only if the material ties in with previous knowledge can there be good learning success. Piaget's work on cognitive development is also highly relevant here. In addition, taking previous knowledge into account avoids frustration on the part of the child. In addition to prior knowledge, motivational challenges must also be taken into account. On the teacher's side, it should be reflected which competences, abilities and skills are available, i.e. in the sense of resources that can be brought into the work.

Sample questions:

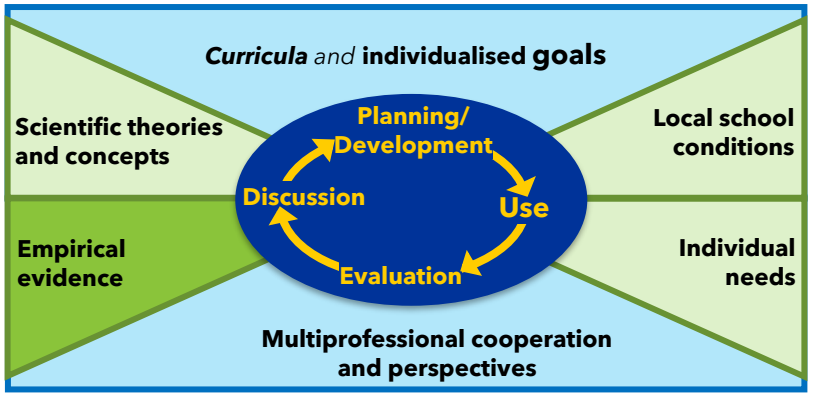
- What are the initial competences of the pupils?
- What are the needs and requirements of my pupils?
- What language skills do my pupils have?
- What cultural background do my pupils have?

…

Process model

Empirical evidence

The material should also take empirical findings into account and be evidence-based. This includes that an overview of empirical studies on the teaching material should be made first. Furthermore, the experiences and evaluations of colleagues should also be taken into account.



Sample questions:

- What empirical studies are there on the teaching material?
- What evaluations of comparable materials are available?
- What experiences can be drawn from other learning groups, classes or schools?

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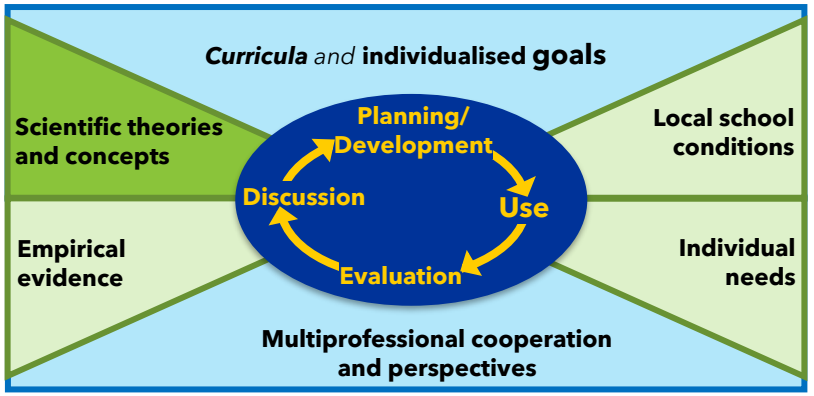
Process model

Scientific theories and concepts



The material should incorporate the latest scientific theories and concepts. The relevant sciences are to be determined on a case-by-case basis, but generally include, for example, the sciences (mathematics, languages, etc.), didactics and pedagogy/educational science; furthermore, the findings of educational psychology are also highly relevant. Findings on the design of materials should also be included here.

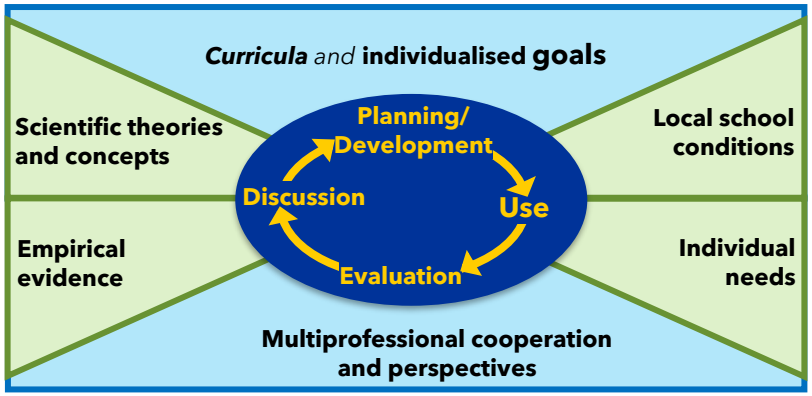
Sample questions:

- Which subject areas are the focus of the material?

Process model

Steps in the circular process:

The circular process includes planning, use, evaluation and discussion. Crucial to the understanding of the process is that the process cannot come to an end, but should always continue, after going through the circular process there is a first version that should serve as a starting point for further development activities.

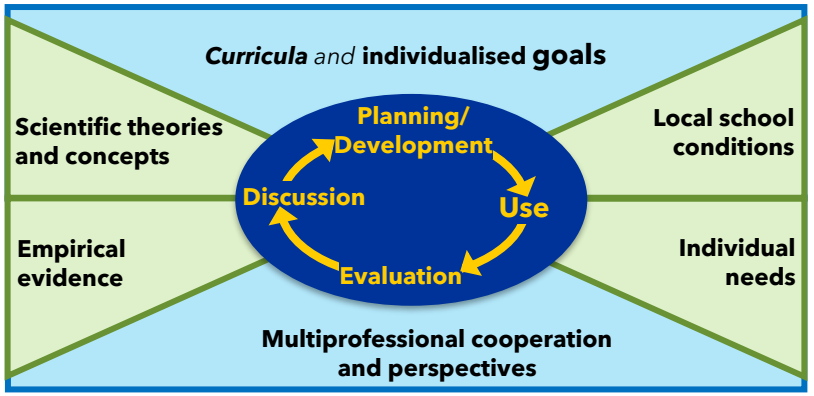


1. Planning: In planning, the aims of the teaching material are determined. In doing so, attention will have to be paid to school structural, educational policy and school administrative guidelines as well as to the scientific foundation. Furthermore, the goals must be individualised and local school conditions must be taken into account.
2. Use: During use, the material is tested in the intended learning setting. It should be determined which parts of the material should be tested, and the sample must be selected accordingly. Here, the local school conditions mentioned, such as the spatial equipment and individual needs, must be taken into account.

Process model

inclusive teaching material itm

Steps in the circular process:



3. Evaluation: The evaluation summarises the learners' feedback on the teaching material in qualitative or/and quantitative terms. During the trial, information is collected according to scientific standards and assessed against the background of the objectives. It is also important to consider local school conditions and the individual needs of the learners, e.g. the instructions should be formulated in a way that is appropriate for the target group. The collection and evaluation of data must be guided by the quality criteria of qualitative or quantitative research.

4. Discussion: In the discussion, the results of the evaluation and the assignment are discussed against the background of the state of scientific research. The discussions should also be conducted with colleagues and include different professions, e.g. special education teachers, occupational therapists, logotherapists and psychologists. Ideally, researchers should also be involved in the process at this stage.

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Résumé

This presentation showed the results of the IO 1 criteria catalog and the IO 2 for the process model.

The presentation by Prof. Katja Natalie Andersen (University of Luxembourg) will analyze selected teaching materials from Luxembourg using the catalog of criteria.

The presentation by Prof. Anette Bagger (University of Örebro) will present a children's version of the criteria catalog.

The presentation by Christoph Bierschwale (Bielefeld University) will present the results of the accompanying study (IO 5).

Further results of the study can be found on the website: **www.itm-europe.org.**

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