

DIMIL
DIGITAL MODULES FOR INCLUSIVE LEARNING

Digital teaching and learning materials for inclusive education with adaptive, supportive proposals for teachers and learners

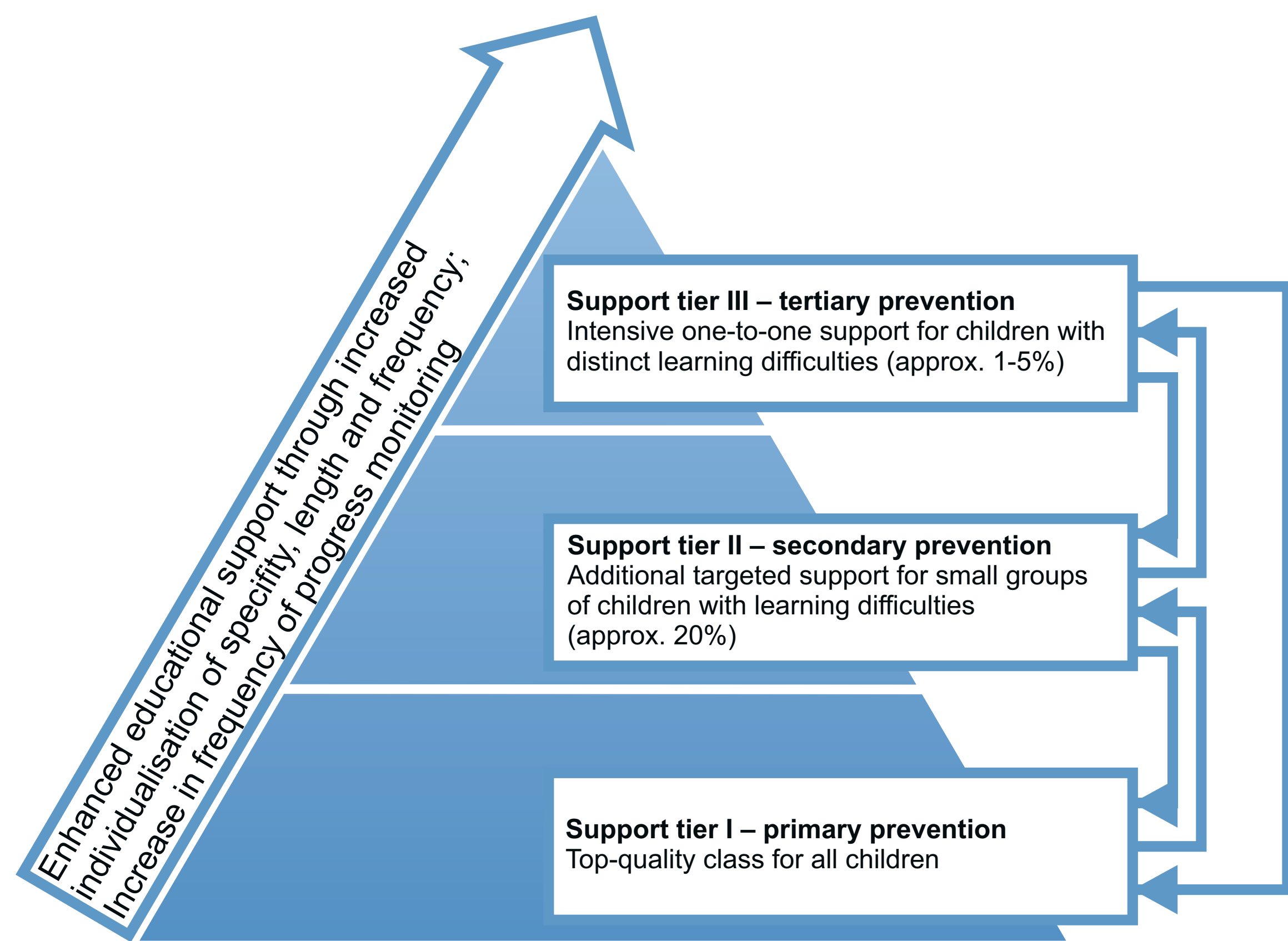
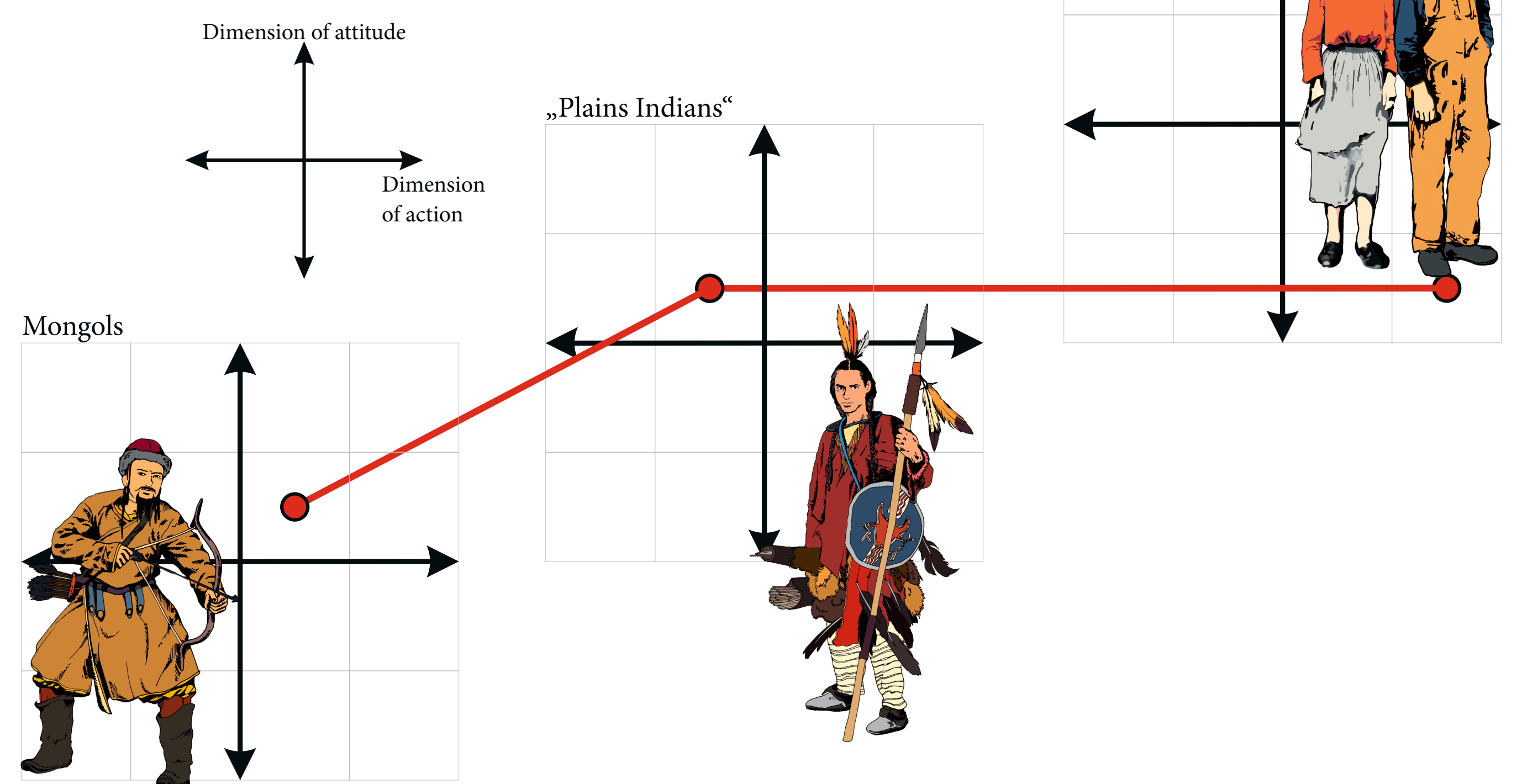
Digital

DIMIL is a collection of web-based teaching and learning materials and is made for very heterogeneous classes. It is technically based on WordPress and therefore works on any web-enabled device. Access is possible via any web-browser regardless of differences in operating systems. Content display is adjusted responsively, so DIMIL will automatically detect if it is being viewed on a desktop device or smartphone and accordingly adjust the screen display.

Didactics of history

The DIMIL concept is illustrated using the example of the relationship between "Humanity and Nature". The inherent discussion is whether humankind controls nature or whether nature controls humankind. In terms of content, this is addressed using a diachronic historical comparison of different steppe-inhabiting cultures and their ways of coping with their environmental living conditions. This is demonstrated using the example of Mongols in the Central Asian steppes in the 13th century, Native American "Prairie Indians" in the Great Plains of the 19th century and US farmers during the "Dust Bowl" catastrophe of the 1930s. The aim is to develop questions about similarities and differences in responding to comparable natural conditions. The focus is on the basic needs of human existence and differences in managing nature across time and space.

**Chain of comparison:
Strategies for living in the steppe**



Response to Intervention (RTI) allows for dynamic graduation of educational needs of individual learners

Graphic based on Mehrebenenprävention (multilayered prevention) of the Rügener Inklusionsmodell (RIM) of the University of Rostock.

Adaptability by teachers

In order to support teachers in tailoring materials to individuals and assessing educational needs, DIMIL incorporates concepts of adaptation. In a first stage, material can be adapted by teachers to cater for individual learners' needs. This includes the assessment of the appropriate tier of RTI and the selection of tasks and corresponding material. In this way, it is possible to adapt the content to suit individual educational needs to avoid placing excessive cognitive demands on the learners and to provide appropriate individual support.

Inclusion

It is not only the United Nations Convention on the Rights of Persons with Disabilities that has set inclusion as a goal for schools and society. The aim is to enable participation in public life for all members of society. The aim of the subject of Didactics is to enable subject-based learning even under conditions of increased heterogeneity. Teachers are often confronted with enormous challenges in this respect. That is where DIMIL comes into action through a novel interaction between digital and subject-based learning that is aimed at supporting teachers in the preparation and delivery of subject-based lessons.

Response to Intervention (RTI)

In terms of theory and methodology, this research project is based on the Response to Intervention (RTI) Model. The main idea is to provide appropriate support to meet the needs of individual learners. The starting point here is the RTI 1 tier, where material is designed for regular class-based lessons. If this proves too demanding for individual learners, they receive more tailored support in tier RTI 2. If the support in the second tier is still insufficient, tier RTI 3 offers the opportunity of one-to-one support for individual learners. The RTI 1 tier no longer provides the basis for the learning material in this case. Instead, questions and the choice of learning material are being newly designed for this group. The challenge for the design of tier RTI 3 is that, although an independent narrative approach is being pursued, it must still be possible to contribute to the learning progress of the entire class.

AI facilitated adaptivity as a goal

In a second stage, decisions on the choice of material will be supported and made through automation. For this purpose, aspects of and concepts for the use of artificial intelligence, and algorithms from machine learning, will be applied. As a result, the demands on teachers will be reduced and they will be able to give learners more individual support. In contrast to conventional teaching, it is therefore possible to enable teachers to give students immediate feedback on their performance and to intervene, for example, with regard to the selection of material or learning tasks. Such structural adaptations of content can also, however, take place in a fully automated way. Of course, the teacher will always be able to manually revise automatic selection decisions in order to ensure their expert input is not overruled. In general, this should enable students to engage in explorative learning as independently as possible.

Literature (selective):

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<https://www.rim.uni-rostock.de/der-response-to-intervention-ansatz/mehrebenenpraevention/>



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