EDITORIAL

First Issue

Vol. 1 No. 1 (08/2025): Contributions to the thematic focus Digital Inclusive Learning Materials. Teaching and learning materials (DILeMa)

Dear readers,

Welcome to the inaugural issue of *DILeMa – Digital Inclusive Learning Materials*, a peer-reviewed online journal dedicated to advancing research and scholarship at the intersection of digitalization and inclusion in educational resources. This journal emerges from the ongoing *Erasmus*+-funded project *digiLLM*, which explores the inclusive potential of Open Educational Resources (OER) and digital learning materials more broadly. DILeMa offers an open-access platform for academics, teachers, and learners to critically engage with the design, use, and implementation of inclusion-oriented digital materials across diverse educational contexts. By actively involving students, researchers, and practitioners, DILeMa seeks to foster a new model of scholarly communication that transcends institutional hierarchies and brings together a wide range of stakeholders in pursuit of a shared goal: identifying and disseminating best practices for inclusive digital education. In this way, the journal not only promotes informed discourse on digital learning materials and inclusion but also serves as a pedagogical tool supporting collaboration, reflective practice, and continuous learning across all stakeholder groups.

This discourse is developed through three types of contributions. *Section I: Scientific Articles* combines theoretical and empirical research, including systematic literature reviews, on digital learning materials. *Section II: Meta-reviews* provides practice-based, meta-level analyses of digital educational resources and their potential to support inclusion. These meta-reviews are undoubtedly a scientific format, but their referencing of existing reviews also makes them especially conducive to involving junior researchers. They allow multi-perspective evaluations using specific reflections tools like the *Framework for the Reflection on Living Learning Materials* (FRoLLM) to enter into the academic discourse. In addition, meta-reviews provide valuable feedback for content creators and platforms alike. This section is therefore closely linked to the digiLLM project's portal and draws on over 300 reviews conducted by teachers and teacher education students in the Czech Republic, Germany, Luxembourg, and Sweden. For future issues of DILeMa, please note that reviews of published meta-reviews are always welcome. They create open participatory spaces for practitioners to share their opinions and experiences. *Section III: Discussion Papers* offers critical reflections on questions of education, policy, and society, connecting ongoing and emerging debates in the field.

Further information on the digiLLM project and the reviews can be found at:
https://digi-europe.org/

About this Issue: A Brief Overview

This inaugural issue brings together ten contributions exploring topics such as inclusive teaching competencies and the use of digital learning materials in fostering inclusive learning environments.

Section I: Scientific Articles

The first article, **"Linking Competencies for Inclusion and Digitalization in Teacher Education: Theoretical and Conceptual Foundations of the Learning Concept inklud.nrw"** by *Jana Herding, Petra Büker, Anna-Maria Kamin,* and *Franziska Schaper*, introduces the OER-based teacher training program inklud.nrw. It explores how the program equips pre-service teachers with the knowledge and skills to design inclusive teaching concepts using digital media, integrating reflective methods and quality-assured OER materials.

In the second scientific article, **"The Intertwining of Inclusive and Digital Learning. A Scoping Review on Digital Learning in Inclusive Science Education"**, *Katja Andersen* investigates how digital learning tools have been used to support inquiry-based learning in inclusive science education from 2014 to mid-2024. With a focus on primary education, the article investigates how digital materials are integrated into teaching practices to foster inclusive learning environments. Andersen finds that much of the existing work emphasizes support for gifted students, while significantly less attention is paid to learners with special educational needs. The study also identifies promising teacher training approaches that combine inclusive pedagogy with digital tools.

The third scientific article, **"Developing and Creating Inclusive and Interactive Digital Reading Environments—with and for Students with ADHD"** by *Josefine Karlsson* and *Anette Bagger*, focuses on a digital learning tool that can be designed and adapted to support reading acquisition for students with ADHD in a sustainable, inclusive, and effective way. The authors advocate for integrating inclusive education with digital reading strategies, specifically in the case of students with ADHD. The article provides practice-oriented design principles for creating both technically and pedagogically inclusive digital learning materials.

Section II: Meta-reviews

FRoLLM… what's that? Before introducing the six meta-reviews featured in this section, we would like to provide a brief overview of the *Framework for the Reflection on Living Learning Materials* (FRoLLM). This framework was developed to support the inclusive design of teaching and learning materials, taking into account the diverse needs of learners. It also served as the basis for the reviews analyzed in this section. FRoLLM outlines six key areas of reflection that are essential for understanding, using, and developing inclusive digital learning materials. These six areas are: Philosophy, Learners' Reflection on Learning, Learners' Needs, Learners' Environment(s), Learning Feedback for Learners, and Learners' Agency. Each of these areas provides a range of questions that encourage the reflection of the level of inclusion-orientation. Additionally, the FRoLLM contains questions about open access requirements and requests a final assessment of the material in terms of inclusivity.

The framework is available for download as a PDF in multiple languages on our project website. In the complete edition of this inaugural issue of DILeMa, we also present the English version of the worksheet as a PDF template. Developed as a research-based evaluation tool, FRoLLM draws on a combination of empirical data and literature review, including interviews with teachers, teacher educators, and student teachers, as well as prior research on learning material evaluation and existing assessment models.

The first meta-review, **"Astro Pi Mission Space Lab – A Meta-review of Science Education Learning Material"** by *Katja Andersen* and *Frederic Conrotte* (Luxembourg), is based on five reviews of the Astro Pi

materials. The analysis explores how these resources allow students to engage with space exploration and coding, highlighting their potential to inspire inclusive teaching practices in innovative, future-oriented educational contexts. At the same time, the meta-review identifies specific areas for improvement to better support diverse learners.

In the second meta-review, **"Interaktives Tafelbild (GS) – Symmetrie: Meta-Review eines Lernmaterials für den Mathematikunterricht"**, *Vivienne Uffmann (Germany)* reflects on an interactive math tool that was reviewed six times. The material incorporates real-life examples and offers an engaging approach to teaching symmetry. Although the analysis reveals significant shortcomings across nearly all FRoLLM dimensions, it also indicates that the material holds potential. With targeted adaptations, it could serve as a basis for developing more inclusive teaching practices in mathematics.

The third meta-review, **"Magrid: A Meta-review of Learning Material Evaluations"** by *Anette Bagger (Sweden)*, examines Magrid, a digital learning tool designed for early learners and students with special educational needs. Based on three reviews, the analysis explores the extent to which Magrid supports its target learner groups, drawing on theoretical foundations of inclusion and the application of the FRoLLM framework.

In the fourth meta-review, **"Biology in Context. Meta-review of Learning Material Evaluations"**, *Iva Červenková, Tereza Vašutová,* and *Michaela Černíková (Czech Republic)* assess a Czech biology textbook. While this textbook demonstrates certain strengths, five reviewers agree that it cannot be considered an inclusive teaching resource due to low ratings across the FRoLLM dimensions. Nevertheless, its positive aspects offer a useful foundation for developing more inclusive approaches to science education.

Henrike Raschkowski (Germany) contributes the fifth meta-review, **"Interaktives Tafelbild: Wie die Welt zusammenwächst – Meta-Review eines Lernmaterials für den Sachunterricht"**. Applying the FRoLLM framework to a package of OER teaching and learning materials, she draws on four reviews to systematically highlight the strengths and weaknesses of the material. This article illustrates how, despite existing gaps regarding inclusion sensitivity, OER can be individually adapted by teachers to promote inclusion.

Finally, **"The 'Project 2' English Language Textbook for Lower Secondary Schools – Meta-review of Learning Material Evaluations"** by *Nikol Porubová* and *Iva Červenková (Czech Republic)* evaluates an English textbook within the context of the current Czech curriculum reform aimed at raising language proficiency. Through the FRoLLM lens, the authors compare three reviews of the learning materials and identify both strengths and weaknesses in its approach to inclusion.

Section III: Discussion Papers

The issue concludes with **"Imaginaries of Openness in Education"** by *Markus Deimann*, which explores the narratives surrounding OER, AI, and cyber-utopianism. Deimann discusses three key "imaginaries" of openness and argues for rethinking educational relationships, promoting greater inclusion, and updating regulations to support AI-enabled OER remixing.

Together, these contributions offer a multifaceted perspective on current research and practice in digital inclusive education. They encourage readers to critically reflect on existing paradigms, explore new approaches, and further develop their own professional perspectives on the upsides as well as the limitations of digital inclusive learning materials.

On behalf of the editors, we hope you enjoy reading this issue and find it a source of inspiration for teaching, research, and reflection.

Michaela Vogt, Katja Andersen, Annette Bagger, Zuzana Sikorová, and Stefanie Go.