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BOOK OF ABSTRACTS

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DIVERSITY IN EDUCATIONAL MATERIALS: REIMAGINING LEARNING FOR A GLOBAL SOCIETY

22–25 SEPTEMBER 2026

UNIVERSITY OF OPOLE, POLAND

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WELCOME

Dear conference participant,

This document contains abstracts for all presentations at the 18th International Conference on Textbooks and Educational Media at the University of Opole in Opole, 22–25 September 2026.

Room numbers can be found on the website and on posters at the conference.

The organisers

KEYNOTES

POGORZELSKA, Marzanna

Beyond Representation: How Educational Materials Shape Diversity, Identity, and Democratic Citizenship: Insights from Contemporary Swedish School Textbooks for a Global Society

Keywords. educational materials, diversity, social and emotional learning (SEL), democratic citizenship, Swedish textbooks

Abstract. Educational materials are increasingly expected to contribute not only to subject knowledge but also to the development of learners' social, emotional, and civic competences. International policy documents, including UNESCO's Textbooks and Learning Resources: A Framework for Policy Development (UNESCO, 2014) and the United Nations Sustainable Development Goal 4.7 (United Nations, n.d.), emphasise that educational materials should promote inclusion, human rights, global citizenship, and appreciation of cultural diversity. At the same time, the NISSEM initiative highlights the importance of integrating Social and Emotional Learning (SEL) and Global Citizenship Education (GCE) into educational materials through what it terms strong content and strong pedagogy (Smart et al., 2020). Yet research on diversity in textbooks has largely focused on who is represented, paying considerably less attention to how experiences, identities, and social issues are represented and how such representations may foster democratic citizenship.

This keynote presents findings from an ongoing study of Swedish lower-secondary English language textbooks that seeks to move beyond representational approaches by examining the qualitative dimensions of textbook content. The study is based on a corpus of Grade 9 textbooks published between 1969 and 2023 by major Swedish publishers. Drawing on qualitative content analysis and Critical Discourse Analysis, it develops an original analytical framework combining the five domains of Social and Emotional Learning (CASEL, n.d.), expanded through the perspective of Critical Global Citizenship Education (Andreotti, 2006), with four cross-cutting discursive dimensions: contextual intensity, depth of representation, discursive complexity, and thematic sensitivity. This framework makes it possible to analyse not only what social and emotional themes are included in educational materials, but also how they are constructed and what kinds of learning opportunities they offer.

The presentation argues that many contemporary Swedish textbooks deliberately engage learners with complex social realities rather than limiting diversity to visible representation or tokenistic inclusion. They invite students to explore issues such as racism, migration, gender equality, violence,

historical injustice, ethical dilemmas, privilege, and democratic participation through emotionally rich narratives, multiple perspectives, and critical reflection. Rather than providing predetermined moral conclusions, these materials frequently encourage dialogue, empathy, perspective-taking, and informed judgement, thereby supporting the development of democratic citizenship. The findings also demonstrate that the educational value of diversity depends not only on the presence of diverse identities but on the discursive quality of their representation. Texts that situate experiences within broader social structures, present multiple viewpoints, and engage with sensitive or controversial issues create substantially richer opportunities for social and emotional learning than texts offering simplified or decontextualised portrayals. Consequently, the keynote proposes that evaluating educational materials should extend beyond representational diversity towards assessing the pedagogical and discursive conditions that enable learners to critically understand complex societies. By illustrating how contemporary Swedish textbooks integrate diversity, identity, and democratic values into everyday language education, the presentation offers insights that may inform the development of educational materials in other national contexts seeking to address the challenges of increasingly diverse and interconnected societies.

The research presented in this keynote is supported by a grant from the Polish National Science Centre (MINIATURA 8), The Role of Language Textbooks in Building Intercultural Competence: The Case of Sweden (2024–2025). It has also been further developed during a 2025 research fellowship at the Leibniz Institute for Educational Media | Georg Eckert Institute (Germany), focusing on citizenship education, theory, methodology, and its application to English language textbook analysis.

Andreotti, V. (2006). Soft versus critical global citizenship education. *Policy & Practice: A Development Education Review*, *3*, 40–51. https://www.developmenteducationreview.com/issue/issue-3/soft-versus-critical-global-citizenship-education

CASEL. (n.d.). *What is social and emotional learning?* https://casel.org

Smart, A., Sinclair, M., Benavot, A., Bernard, J., Chabbott, C., Russell, S. G., & Williams, J. (2020). *Learning for uncertain futures: The role of textbooks, curriculum and pedagogy*. NISSEM. https://unesdoc.unesco.org/ark:/48223/pf0000374078

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TOSIK, Monika

Designing Educational Materials for Multilingual and Intercultural Frontline Communication: The CLEAR Model

Keywords. law enforcement, frontline communication, educational material design, intercultural communication, pragmatics, ESP coursebooks

Abstract. In increasingly multilingual and culturally diverse societies, effective communication becomes not only a prerequisite for social integration, but also a condition of broadly understood security and the perceived legitimacy of public institutions. Law-enforcement officers are often among the first institutional actors encountered by foreigners, migrants, and refugees, whether with the status of victims, witnesses or suspects, or simply as visitors and members of local communities seeking information and assistance. Combining asymmetries of authority, varying levels of linguistic competence, culturally shaped expectations, procedural uncertainty and, frequently, stress or fear, these encounters are rarely neutral. They are additionally shaped by a tension between effectiveness, speed, and clarity on the one hand, and the need for empathy and trust-building on the other (Bennell et al., 2022; Wang et al., 2024). Drawing on ESP and educational material design literature (Harwood, 2010; Hutchinson & Waters, 1987), research into cultural cognition, intercultural competence and law-enforcement communication (Cornett-DeVito & McGlone, 2000; Kopytowska et al., 2022), as well as on the practical experience of designing and implementing police training within the Otwarta Łódź [Open Lodz] and Team-up projects, this plenary lecture addresses the question of how educational materials for law enforcement—and, more broadly, for frontline public-service workers—can respond to these conditions and move beyond the conventional logic of the language textbook as a repository of grammar, vocabulary and professional terminology. The objective behind it is to propose the CLEAR Model of frontline communication material design, which conceptualises effective materials for law enforcement as contextualised, locally co-constructed, evidence-informed, culturally aware, and responsive to the pragmatic functions of frontline interaction. Linking communicative challenges with material-design responses, and addressing diversity not only at the level of representation but also at the level of communicative action—both constituted by and constitutive of context—the proposed framework approaches educational materials as tools for modelling frontline public-service interactions in which language is inseparable from cultural cognition, institutional dynamics, and the relation between the illocutionary force of official utterances and their perlocutionary effects.

Bennell, C., Jenkins, B., Blaskovits, B., Semple, T., Khanizadeh, A.-J., Brown, A. S., & Jones, N. J. (2022). Knowledge, skills, and abilities for managing

potentially volatile police-public interactions: A narrative review. *Frontiers in Psychology*, *13*, Article 818009. https://doi.org/10.3389/fpsyg.2022.818009

Cornett-DeVito, M. M., & McGlone, E. L. (2000). Multicultural communication training for law enforcement officers: A case study. *Criminal Justice Policy Review*, *11*(3), 234–253. https://doi.org/10.1177/0887403400011003003

Harwood, N. (Ed.). (2010). *English language teaching materials: Theory and practice*. Cambridge University Press.

Hutchinson, T., & Waters, A. (1987). *English for specific purposes: A learning-centred approach*. Cambridge University Press.

Kopytowska, M., Woźniak, J., & Kurteš, S. (2022). Cultural cognition, effective communication, and security: Insights from intercultural trainings for law enforcement officers in Poland. *Lodz Papers in Pragmatics*, *18*(2), 343–366. https://doi.org/10.1515/lpp-2022-0017

Wang, C., Gao, Q., & Wang, H. (2024). Evaluations of eight communication skills in police-civilian interactions. *Criminal Justice and Behavior*, *51*(11), 1755–1772. https://doi.org/10.1177/00938548241260827

ORAL PRESENTATIONS

ÁLVAREZ-SEOANE, Denébola

Local Themes and Community Orientation in Municipal Teaching Materials: Integrating Local Knowledge, Traditions, and Narratives in A Coruña (Spain)

Keywords. local knowledge, teaching materials, local administration, community education, place-based education

Abstract. Research on educational materials has largely focused on textbooks, curriculum resources, and school-based media. By contrast, teaching materials produced in community-based contexts and supported by local administrations remain comparatively underexplored (Area Moreira et al., 2010). This gap matters internationally because, although the educational role of local administrations and community actors differs across countries depending on the degree of decentralisation of each system, educational processes increasingly extend beyond formal schooling (Rodríguez Rodríguez et al., 2021). Moreover, research on textbooks and curriculum materials has shown that educational resources are not neutral: they select, legitimise, and sometimes exclude knowledge, thereby potentially weakening the visibility of local culture and identity (Apple, 2014; Martínez Bonafé, 2010). Against this background, a key issue is how territory, cultural heritage, and local experience can become part of educational resources and curriculum-related practices (Santamaría Alzate & Giraldo Vásquez, 2020).

Drawing on a study conducted in the province of A Coruña (Spain), this paper examines how locally produced teaching materials, developed with the support of local administrations, incorporate local knowledge, traditions, and narratives into educational resources. It addresses the following research question: What themes and community orientations characterize locally developed teaching materials, and how do these reflect the relationship between local knowledge, territory, and education? The study adopts an exploratory and descriptive design, combining quantitative and qualitative approaches. Three complementary phases were implemented: (1) a review of academic literature on teaching materials and local education; (2) the cataloguing and analysis of teaching materials produced by municipalities between 1979 and the present in the province of A Coruña (Spain); and (3) a questionnaire administered to local government professionals involved in their development. The sample includes the total population of municipalities in the province (n = 93), with data collected through institutional sources, educational repositories, and direct contributions from local administrations. The analysis focuses on frequency distributions of thematic content, target audiences, and educational intentions, alongside an interpretive reading of their pedagogical implications.

The findings reveal a strong orientation towards themes rooted in local contexts. Among the most frequent topics are cultural heritage, community development, environmental education, and civic education, indicating a clear emphasis on place-based knowledge and socially relevant issues. In particular, heritage emerges as one of the most prominent themes, reflecting the importance of preserving and transmitting local identity through educational resources. Furthermore, these materials are predominantly addressed to the general population rather than exclusively to formal educational settings, with a significant proportion targeting the broader community. This suggests that municipal teaching materials function not only as school support resources but also as tools for social education and community engagement. In terms of educational intention, the materials display a balance between informative, outreach, and didactic purposes, with a notable predominance of informative and outreach-oriented approaches. This highlights their role in disseminating knowledge and fostering public awareness, rather than being strictly aligned with formal curricula. Additionally, the strong presence of locally relevant content and the involvement of municipal institutions point to an emerging model of distributed educational production, where local governments act as key agents in shaping educational narratives. These results suggest that locally produced teaching materials constitute, within the Spanish context, a significant yet underexplored resource for integrating local knowledge into educational practices. While their potential to support contextualised and meaningful learning is evident, their limited institutionalisation and uneven development raise questions about sustainability and pedagogical coherence. The paper concludes that strengthening the connection between municipal initiatives and formal education systems could enhance the educational value of these materials, contributing to more inclusive and context-sensitive approaches to teaching and learning.

Apple, M. W. (2014). *Official knowledge: Democratic education in a conservative age* (3rd ed.). Routledge.

Area Moreira, M., Parcerisa Aran, A., & Rodríguez Rodríguez, J. (2010). *Materiales y recursos didácticos en contextos comunitarios*. Graó.

Martínez Bonafé, J. (2010). La ciudad en el currículo y el currículo en la ciudad. In J. G. Sacristán (Ed.), *Saberes e incertidumbres sobre el currículum* (pp. 527–547). Morata.

Rodríguez Rodríguez, J., Braga García, T. M. F., Muñoz Moreno, J. L., & Álvarez-Seoane, D. (2021). Recursos educativos y materiales didácticos en contextos sociocomunitarios. *Pedagogía Social Revista Interiuniversitaria*, (39), 15–17. https://doi.org/10.7179/PSRI_2021.39.00

Santamaría Alzate, P., & Giraldo Vásquez, M. I. (2020). La ciudad como currículo y dispositivo formador: Propuesta de enseñanza del patrimonio cultural [The city as curriculum and educational device: A cultural heritage teaching proposal]. *Bitácora Urbano-Territorial*, *30*(3), 71–82. https://doi.org/10.15446/bitacora.v30n3.79987

ÁLVAREZ-SEOANE, Denébola

Textbook Regulation, Production, Selection and Use across Spanish-speaking Countries: A Comparative Analysis

Keywords. textbooks, comparative education, educational policy, digitalisation, artificial intelligence

Abstract. This paper presents a comparative study of textbook systems across Spanish-speaking countries in Europe, South America, Central America and the Caribbean. It addresses a shared research problem: textbooks remain key mediators between curriculum, educational policy and classroom practice, but the ways in which they are produced, regulated, selected, financed and used vary markedly across national systems and are being reshaped by digitalisation and debates on artificial intelligence (OECD, 2021; UNESCO, 2023). The contribution of the paper is to offer a comparative framework for understanding these variations, paying particular attention to the different roles played by the state, the market, schools and teachers in the organisation of textbook systems. Methodologically, the study adopts a qualitative comparative design based on documentary analysis. The corpus consists of country reports prepared through a shared set of guiding questions: Who publishes textbooks? What regulatory or approval mechanisms exist at national level? Who authors textbooks and under what professional configurations? Who selects and purchases textbooks? What evidence exists regarding their use by teachers and students? Finally, what are the current debates surrounding print versus digital formats and the integration of AI in educational materials (Bruillard, 2025)? These reports draw on two types of sources: national reports and institutional documentation, such as legislation, curriculum frameworks, public programmes, official portals, statistics and ministerial communications; academic literature and research-based contributions, including peer-reviewed articles, monographs, reports from research groups and specialised studies on textbooks, curriculum and educational materials. Governance is not treated as a single model. Rather, the analysis distinguishes several dimensions of state involvement: the state as curriculum regulator; as evaluator or certifier of materials; as producer or commissioner of textbooks; as funder, purchaser or distributor; and as supervisor of materials already in use. This clarifies why systems may be centralised in one dimension but decentralised in another.

Preliminary findings identify a continuum ranging from state-led systems, where public institutions produce or prescribe core textbooks, to market-oriented systems where private publishers dominate production and schools or teachers choose materials within curriculum guidelines. Between these poles, countries display hybrid arrangements combining public regulation,

state-funded provision, private production and professional choice. The analysis also shows differences in approval mechanisms. Some countries operate national certification, evaluation or approval procedures; others rely mainly on curriculum alignment, school autonomy or post-publication supervision. Authorship is generally collective and professionalised, involving teachers, subject specialists, editorial teams, ministry staff, university experts and international cooperation agencies. Funding ranges from universal state provision to family purchase, with intermediate forms, such as subsidies, loans, vouchers or mixed schemes. A central finding is the unevenness of evidence on classroom use. While textbooks continue to structure teaching, planning and access to common curricular content, national-level data on how teachers and students use them remain limited. The digital question must also be specified carefully. Digital textbooks are still textbooks when they reproduce textbook functions in electronic form; other digital resources include platforms, repositories, open educational resources, teacher-generated materials, interactive content and accessibility tools. Across the corpus, digitalisation appears less as a simple replacement of print than as a hybrid and unequal transformation. Artificial intelligence emerges as an incipient issue, linked to resource production, accessibility, teacher support and ethical concerns.

Bruillard, É. (Ed). (2025). *Upper secondary textbooks around the world*. Université Paris Cité; IARTEM; Laboratoire EDA. https://cloud.parisdescartes.fr/index.php/s/5qKAaweFT8YZw6F

OECD. (2021). *Digital education outlook 2021: Pushing the frontiers with artificial intelligence, blockchain and robots*. https://www.oecd.org/en/publications/oecd-digital-education-outlook-2021_589b283f-en.html

UNESCO. (2023). *Global education monitoring report 2023: Technology in education: A tool on whose terms?* https://www.unesco.org/gem-report/en/publication/technology

ÁLVAREZ-SEOANE, Denébola, GAYO-PÉREZ, Pablo, RODRÍGUEZ GUIMERANS, Ana

GeoGebra as a Pedagogical and Authoring Tool in Secondary Mathematics Education: A Case Study of Digital Practices

Keywords. GeoGebra, mathematics education, digital resources, secondary education, teacher-generated materials

Abstract. Digital technologies such as GeoGebra have attracted growing interest in mathematics education for their potential to support conceptual understanding and innovative teaching practices (Yohannes & Chen, 2023). However, there remains a tension between the use of technology as a mere presentation tool and its use to foster meaningful engagement with mathematics. Theoretically, the study draws on research on digital didactic resources and teacher design, understanding teachers as selecting, adapting and combining resources within situated classroom practices (Rodríguez Rodríguez et al., 2025), consistent with previous research (Area Moreira, 2020; Rodríguez Rodríguez et al., 2024). It also uses the notion of teacher mediation and classroom orchestration to analyse GeoGebra as a dynamic mathematics resource whose pedagogical value depends on how teachers and students engage with tasks, representations and interactions (Drijvers et al., 2010).

This study addresses the following research question: How is GeoGebra used in secondary school mathematics lessons, both as a learning tool for pupils and as a tool for designing teaching materials for teachers, and what pedagogical implications arise from these practices? The study adopts a qualitative case study methodology situated within a broader research project on digital resources in secondary education. Data were collected through systematic classroom observations in a Spanish secondary school (IES As Barxas), complemented by institutional documentation and interviews. The dataset includes observation reports from 1st- and 3rd-year lessons where GeoGebra and other digital tools were integrated into teaching practices. Data were analysed through thematic coding, with attention to patterns of use, teacher–student interaction, and the role of digital resources in structuring mathematical activity.

Findings indicate that GeoGebra is predominantly employed in two complementary ways. First, as a visualisation tool, it supports the dynamic representation of geometric concepts (e.g., volumes, proportionality, and polygon properties), enabling students to manipulate figures and observe relationships in real time. This use appears to enhance engagement and

conceptual access, particularly when linked to guided questioning and collective discussion. Second, GeoGebra functions as a platform for autonomous student work, where tasks are assigned for individual completion including student-created activities that help consolidate mathematical knowledge in a more visual, interactive, and meaningful way. At the same time, the study reveals limitations. In many cases, GeoGebra is embedded within teacher-centred instructional sequences, where students reproduce procedures rather than explore mathematical relationships independently. Participation during these activities is often limited, with low levels of dialogic interaction, as they are frequently carried out at home. Additionally, technical constraints (e.g., connectivity issues, platform instability) frequently shape classroom dynamics and restrict the pedagogical potential of digital tools. A significant finding concerns the role of teachers as designers of digital materials. The institutional context promotes the creation of teacher-generated resources, often integrating GeoGebra into broader digital learning environments. This positions teachers not only as users but also as authors of didactic content, thereby fostering adaptation to student needs and curricular goals. Overall, the study highlights that the educational value of GeoGebra depends less on the tool itself than on the pedagogical approaches that frame its use. Its potential lies in supporting exploratory, student-centred learning, yet this potential is not fully realised in all observed practices.

Area Moreira, M. (Ed.). (2020). *Escuel@ Digit@l: Los materiales didáccticos en la Red*. Graó.

Drijvers, P., Doorman, M., Boon, P., Reed, H., & Gravemeijer, K. (2010). The teacher and the tool: Instrumental orchestrations in the technology-rich mathematics classroom. *Educational Studies in Mathematics*, *75*, 213–234. https://doi.org/10.1007/s10649-010-9254-5

Rodríguez Rodríguez, J., Area Moreira, M., & San Martín Alonso, A. (Eds.). (2024). *Infancia y transformación digital de la educación: miradas diversas*. Dykinson.

Rodríguez Rodríguez, J., Marín Suelves, D., & Sanabria-Mesa, A. L. (Eds.). (2025). *Evaluation of digital materials and resources in education*. McGraw Hill. https://hdl.handle.net/10347/42649

Yohannes, A., & Chen, H. L. (2023). GeoGebra in mathematics education: A systematic review of journal articles published from 2010 to 2020. *Interactive Learning Environments*, *31*(9), 5682–5697. https://doi.org/10.1080/10494820.2021.2016861

ANCAROLA, Quentin

Considering Learners' Cognitive Profiles in the Co-Design of an Adaptive 3D Learning Tool for Functional Anatomy Education

Keywords. distributed cognition, anatomy, 3D ressources, adaptability

Abstract. The MODELI+ project (ANR-23-CE38-0011) explores how user-centred educational design and learning analytics can improve learning of human anatomy in higher education. Anatomy courses are a major source of difficulty and failure for students in sport science programs. This is partly due to cognitive demands of understanding complex three-dimensional structures and limited availability of interactive and sensorimotor learning experiences (Hoyek et al., 2009). Previous research highlights that many learners struggle with spatial visualisation in 3D environments and that conventional learning resources do not sufficiently support embodied exploration of anatomical structures (Chaker et al., 2021). In response, MODELI+ aims to design a multidisciplinary 3D learning environment that proposes adaptive learning pathways based on students' cognitive profiles.

The theoretical framework of this paper combines research in cognitive psychology (distributed cognition) and cognitive load theory (Hutchins, 1995; Sweller, 1994). We hypothesise that learning environments that are aligned (or congruent) with learners' cognitive dispositions can facilitate distribution and externalisation of cognitive processes between subjects, the digital environment, and artefacts used for learning. Such congruence should support a more effective regulation of cognitive load: reducing extraneous load, helping learners manage the intrinsic complexity of anatomical content, and fostering germane load associated with meaningful learning processes (Chaker, 2024). Through this perspective, digital learning tools are not only instructional media but cognitive supports that shape how knowledge is processed and constructed. To operationalize this approach, MODELI+ develops a real-time interactive 3D environment for functional anatomy that provides three adaptive learning pathways differing in guidance and cognitive support. Following a hypothetico-deductive design, learners' visuospatial cognitive profiles are assessed through standardised cognitive tests and matched with these pedagogical pathways to investigate effects of learner–environment (teacher, other students, tools) congruence on anatomy learning. The methodology combines controlled classroom experimentation with ecological implementation and relies on multimodal data, including psychometric measures (cognitive load, self-efficacy, user experience) computer logs, and interaction traces. These complementary measures are analysed through learning analytics to examine how cognitive dispositions,

interaction strategies, and adaptive instructional design jointly influence learning outcomes. A central dimension of the project is the co-design of the learning environment with its users. Students and teachers are involved throughout both the experimental and ecological phases through questionnaires, classroom observations, interviews, and iterative feedback sessions. This participatory methodology supports the progressive refinement of MODELI+, while ensuring that adaptive features remain pedagogically meaningful and acceptable in authentic higher education settings. It also contributes to developing a critical understanding of multimodal learning analytics and responsible educational data use. The paper presents the conceptual framework and methodological design of the MODELI+ project together with preliminary findings from the first ecological implementation conducted with first-year Sport Sciences students. Particular attention is given to the relationship between cognitive learner profiles, adaptive learning pathways, perceived cognitive load, user experience, and anatomy performance. These initial results contribute to current discussions on adaptive digital textbooks, multimodal learning analytics, distributed cognition, and learner-centred design in technology-enhanced learning environments.

Chaker, R. (2024). La congruence : Une approche incarnée et distribuée du développement humain. Le cas des environnements numériques d'apprentissage [Habilitation à diriger des Recherches, Université Lumière Lyon 2]. HAL. https://hal.science/tel-04646017

Chaker, R., Gallot, M., Binay, M., & Hoyek, N. (2021). User experience of a 3D interactive human anatomy learning tool. *Educational Technology & Society*, *24*(2), 136–150. https://www.jstor.org/stable/27004937

Hoyek, N., Collet, C., Rastello, O., Fargier, P., Thiriet, P., & Guillot, A. (2009). Enhancement of mental rotation abilities and its effect on anatomy learning. *Teaching and Learning in Medicine*, *21*(3), 201–206. https://doi.org/10.1080/10401330903014178

Hutchins, E. (1995). Cognition in the wild. *The MIT Press*. https://doi.org/10.7551/mitpress/1881.001.0001

Sweller, J. (1994). Cognitive load theory, learning difficulty, and instructional design. *Learning and Instruction*, *4*(4), 295–312. https://doi.org/10.1016/0959-4752(94)90003-5

ANDRIANA, Elga

From Accommodation to Co-Creation: Photovoice and AI-Generated Visual Methods for Neurodiversity-Inclusive Higher Education

Keywords. inclusive education, higher education, ADHD, Photovoice, AI

Abstract. Inclusive education has become a key focus within educational systems. However, its implementation in higher education remains insufficient, particularly for neurodivergent students such as those with Attention Deficit Hyperactivity Disorder (ADHD). Within accommodation-based models, learning materials often remain text-centric, positioning students with ADHD as passive recipients rather than active contributors to knowledge production. This reveals a critical gap in how inclusive learning materials are conceptualised and enacted in higher education contexts. Photovoice, a participatory visual method designed to enable people to document their lived experiences and amplify their voice through photography (Wang & Burris, 1997), was adapted for participatory learning activity in a university classroom. By centring the perspectives of three students enrolled in a Psychology of Character Education and Development course, this research aims to understand how Photovoice can support learning and foster a more inclusive educational environment. Specifically, this study addresses the research question: How do students with ADHD evaluate Photovoice and AI-generated Photovoice as multimodal, participatory learning material for supporting learning in higher education? The design in this qualitative study incorporates two stages: (1) Traditional Photovoice, where participants capture real-life photographs related to course concepts and provide accompanying written narratives to express their experiences concerning character development; (2) AI-generated Photovoice, where students use AI to create images generated from prompts reflecting their identities and experiences related to character strengths and weaknesses. This dual-stage approach encourages student participation and co-design of course materials. Data collection involved interviews and focus group discussions, enabling in-depth insights into participants' experiences. Reflexive Thematic Analysis (Braun & Clarke, 2019) was conducted collaboratively through Participatory Data Analysis (Liebenberg et al., 2020), which values participants as co-analysts and experts of their lived experiences. This analytic approach foregrounds participants' interpretive authority and aligns with neurodiversity and multimodality frameworks, which recognise meaning-making as distributed across visual, textual, and experiential modes (Kress, 2010).

The findings highlight three key contributions. First, the visual nature of Photovoice facilitated long-term memory retention by anchoring abstract

concepts to tangible images, thereby reducing cognitive load and strengthening comprehension. Second, the study highlights the importance of familiar methods to increase accessibility. Participants connected Photovoice to their everyday practices, such as creating social media posts, which enhanced motivation and eased adoption. This alignment with students' habits contributed to a more seamless integration of the tool into their learning routines. Third, Photovoice fostered positive experiences by promoting enthusiasm and a sense of community during presentations and discussions. This emotional engagement is critical for students with ADHD, who often face social isolation and stigma. The collective sharing of visual narratives created supportive peer interactions, reinforcing inclusive environments. Overall, these results suggest that Photovoice is a promising pedagogical tool for higher education settings aiming to accommodate the unique learning needs of students with ADHD. Further, this study contributes to scholarship by re-theorising learning materials as co-created, multimodal, and participatory artefacts. It extends Photovoice methodology through the novel integration of AI-generated imagery, offering a model for inclusive material design in higher education.

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

CAST. (2018). *Universal design for learning guidelines version 2.2*. http://udlguidelines.cast.org

Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication*. Routledge. https://doi.org/10.4324/9780203970034

Liebenberg, L., Jamal, A., & Ikeda, J. (2020). Extending youth voices in a participatory thematic analysis approach. *International Journal of Qualitative Methods*, *19*, 1–9. https://doi.org/10.1177/1609406920934614

Wang, C., & Burris, M. A. (1997). Photovoice: Concept, methodology, and use for participatory needs assessment. *Health Education & Behavior*, *24*(3), 369–387. https://doi.org/10.1177/109019819702400309

ANICHINI, Alessandra, PANTALEO, Lidia, PARIGI, Laura

Cultural Diversity Across Curriculum and Textbooks: Preliminary Findings from a Qualitative Content Analysis in Italian Primary Education

Keywords. cultural diversity, curriculum, textbooks, primary education

Abstract. Textbooks play a significant role as cultural media, shaping collective imaginaries and influencing how reality, identities, and social relations are represented and understood. In Italy, as in many European contexts, they remain the most widely used educational resource and often function as a key reference point linking classroom practices to institutional frameworks. In many cases, they operate as a *de facto curriculum*, guiding teaching choices and mediating the translation of official prescriptions into everyday practice. For this reason, textbooks cannot be considered neutral tools: they are cultural and political artefacts in which knowledge is selected, organised and represented according to specific values and interpretative frameworks. Within this perspective, the revision of textbooks following the 2025 Italian Curriculum Guidelines represents a particularly relevant field of inquiry. Issued within a policy context that places renewed emphasis on national identity, the new Guidelines have prompted a substantial reconfiguration of curricular content. This development raises critical questions about how cultural diversity is represented across the space between prescribed curriculum and textbook discourse, and whether textbook production is moving toward more homogeneous and cohesive representations of identity.

The study investigates how recent Italian primary school textbooks position themselves within this space, focusing on the tension between the traditional function of textbooks as vehicles for the transmission of canonical knowledge and contemporary educational demands related to inclusion, plurality, and global citizenship. Particular attention is devoted to history education, where the construction of collective narratives makes especially visible the balance between disciplinary inquiry and cohesive identity frameworks. The research adopts a qualitative content analysis combining deductive and inductive procedures, suitable for analysing the multimodal nature of textbooks. The corpus consists of the five most widely adopted Italian primary school textbook series, focusing on Grades 1–3 and on subject areas such as Italian, history, geography, and civic education. The analysis includes both textual and visual components—continuous texts, images, exercises, and explanatory materials—and follows a structured process of exploratory reading, pilot coding, systematic coding, and cross-text comparison. The study is grounded in an interpretive, critical, and curricular perspective. It examines both explicit and implicit meanings, paying attention to stereotypes, omissions, symbolic

hierarchies, and processes of normalisation, while also analysing how policy orientations are recontextualised within pedagogical discourse. Preliminary findings suggest recurring tensions between curricular discourse and textbook mediation. Several textbooks appear to privilege culturally homogeneous representations and simplified identity frameworks, often organised around cohesive national narratives that leave limited room for plurality, linguistic diversity, and multiperspectival approaches. This tendency is particularly evident in history teaching, where linear accounts may reduce opportunities for critical interpretation and heuristic inquiry. At the same time, the analysis reveals variability across textbook series, indicating an uneven and contested representational field. The study therefore opens a critical reflection on how curriculum reform and textbook production shape the representation of cultural diversity in primary education.

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BENOIT-LAFARGE, Chloé

From an Ordinary Object to a Classroom Instrument: Collective Construction of Meaning Around a Hygrometer in Primary School

Keywords. communicant objects, appropriation, primary school, mediation, IARTEM

Abstract. This presentation is part of a doctoral research project that explores a space not yet occupied by institutional prescriptions: that of communicant objects originating from the everyday world—not designed for pedagogical purposes—introduced into primary school classrooms as potential tools for learning and investigation. This communication focuses on the hygrometer, which is introduced to pupils aged 7 to 10, and analyses the trajectory by which an initially ignored object gradually becomes meaningful, first individually, then collectively. The central question is: under what conditions does the introduction of communicant objects from the ordinary world transform interaction dynamics in primary school classrooms, and how do these transformations contribute to the processes of appropriation and meaning-making among pupils? The theoretical framework employed combines Simondon's (1958/2012) philosophy of technology, the sociology of usages (Barrère, 2013; Jauréguiberry, 2009; Millerand, 2008), and Dewey's (1928/2019) pragmatism. This multi-theoretical framework enables the simultaneous analysis of pupils' individual representations and the collective mediations constructed in the classroom around the object, without reducing appropriation to functional mastery alone. The methodological approach is based on a long-term longitudinal process, involving several field phases conducted between 2023 and 2026. The data analysed in this communication include individual drawings produced by pupils at different measurement points, focus groups, situational observations, and a data-collection file produced autonomously by the pupils, covering three simultaneous environmental variables. The drawing serves as a central epistemological instrument, providing access to children's representations independently of the biases associated with verbalisation. The analysis highlights the pivotal role of a hands-on workshop in the construction of meaning. Before this workshop, the hygrometer remained largely ignored or perceived only superficially. After the workshop, pupils' representations shift significantly, and they begin to produce situated uses that go beyond the prescribed logic of the object, collectively developing an autonomous data-collection protocol for their classroom environment. This finding invites reflection on the pedagogical and situational conditions that enable an ordinary object to become an active mediator in the learning process.

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BERGERSEN, Ove, SOLBERG RUNESTAD, Anne Kristine

Sequential Event Cases as a Pedagogical Resource for Supporting Early Childhood Teacher Students' Development of Cultural Sensitivity and Intercultural Competence

Keywords. early childhood teacher education, diversity, cultural sensitivity, case-based learning

Abstract. This paper presents selected results from the ongoing Erasmus+ project INCO ECTE (Innovative Collaboration – Developing Intercultural Competences in Early Childhood Teacher Education). As part of the project, we have developed two micro courses and an open online pedagogical resource thematising cultural sensitivity in early childhood teacher education (ECTE). The project has a twofold aim: first, to develop more knowledge about the challenges relevant to field of practice and students' need for more knowledge; and second, through courses and a digital resource, to stimulate students' and teachers' understanding of the complexity of pedagogical practice and support their ability to make reasoned judgements and choices. In his critique of evidence-based methods, Steinsholt (2009) argues that every decision must, in a sense, be *mad*. By this he means that every situation is new, involving new individuals, and every judgement must be grounded in the specific situation, the context, and the people involved. For this reason, a given case should not be treated as an illustration of a single correct answer, but rather a starting point for a learning process where students can bring in their own cultural experiences and discuss with others. In this way, a challenge related to education may give rise to new challenges (see Hmelo-Silver, 2004). Although case-based learning has proven effective in promoting students' learning results vary depending on the type of cases introduced and how they are used as a learning resource (Florez, 2011).

Our presentation will give answer to the following interrelated research questions: (1) How to design an online multimodal educational resource that is both concrete and still relevant for a diversity of contexts within ECTE? (2) How to use this resource in an international course focusing on cultural sensitivity and intercultural competence and how do students evaluate it? (3) In what ways can the students' participation in the learning processes contribute to develop the educational resource further? Methodologically, our point of departure is interactive research (Svensson et al., 2015). Interactive research is characterised by joint learning processes involving both practitioners and researchers, but the participants have different roles and not fully overlapping activity systems. In our project the shared research object was to formulate a culturally sensitive pedagogy in early childhood education. The data set was collected over a period of two years in Norway, Sweden and

Spain, and consists of survey data, interviews with in-service teachers, workshops with experts (see Zachrisen, 2018) and with students. Based on reflexive thematic analysis on this data set, we developed an online educational resource. A central result is the multimodal online text and the learning resource that was developed. Here, a series of situations involving challenges and choices are linked together in a sequence of events. Thus, a case evolves and acquires complexity. This resource was tried out with students attending a micro course. Our presentation discusses the students' evaluation of the resource and how cultural sensitivity was conceptualised by the students in their examination papers. Finally, the role students can have in interactive research will be highlighted.

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BORDIN, Eva, FUHLROTT, Mareike

From the Triple Complexity Framework to Chatbot Design: Supporting Diverse Learners' Engagement with Complex Learning Materials

Keywords. triple complexity, language support, AI-based differentiation, chatbots, open educational resources (OER)

Abstract. Learners who engage with learning materials have different linguistic, cultural, socioeconomic, and cognitive backgrounds. This diversity poses a central challenge for teachers: how can they ensure equitable access to content, especially when topics are factually, ethically, and linguistically demanding? Existing didactic approaches have focused on factual and ethical complexity (Mehren et al., 2015), but the linguistic complexity of learning materials has so far received little systematic attention in this context. This paper therefore investigates how the complexity of learning materials can be conceptualised across all three dimensions and which language-supportive measures, including AI-based applications, can help diverse learners access and engage with such materials. First, the paper presents the Triple Complexity model by Bordin and Fuhlrott (2026), which is grounded in empirical research and systematically links factual, ethical, and linguistic complexity. Second, it outlines approaches for designing AI-based chatbots for learning and making them readily accessible to students. The central example is the teaching–learning project *Sprache – Bildung – Nachhaltigkeit* (*Language – Education – Sustainability*) at the University of Siegen, which was conducted in two phases.

In the first phase about 400 pre-service teachers in eleven courses developed openly licensed, language-supportive teaching materials on ESD topics related to the 17 SDGs, covering all school types from primary to vocational education. In the second phase of the project, the pre-service teachers designed learning chatbots for these existing learning materials based on the Triple Complexity framework and chatbot research (Corvacho del Toro et al., 2025). These chatbots are specifically tailored to learners with varying language proficiency levels and subject matter knowledge. The empirical basis of the study consists of 20 written reflections by undergraduate pre-service teachers (n = 20), which were analysed qualitatively. The analysis examines the opportunities and challenges that future teachers identify when implementing AI-supported, language-sensitive differentiation in their teaching. Studies show that interaction with AI-based chatbots can help maintain learners' situational interest and support learning at different proficiency levels (Liu et al., 2022). Recent research also suggests that people engage more effectively with LLM-based systems, especially when they can communicate

with them dialogically (Niszczota et al., 2025). An additional case study involving two school pupils (*n* = 2) illustrates how learners use chatbots to understand complex materials, clarify task demands, and improve their own written texts.

The findings indicate that chatbots show considerable potential for differentiated learning environments and that even pre-service teachers are capable of designing such tools in a learner-oriented way. At the same time, the results show significant professional demands: in particular, assessing the factual, ethical, and linguistic complexity of learning materials proves challenging for (future) teachers. This highlights the need for robust training in domain-specific complexity analysis and language education. The paper concludes by discussing how the Triple Complexity framework can be integrated into teacher education as a sensitisation tool to support the development of more equitable and linguistically inclusive learning materials.

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BRICIU, Ana-Maria, CHINDRIȘ, Adela, COJOCAR, Grigoreta, GURAN, Adriana, PETRAȘCU, Vladiela, ROGOBETE, Roxana

Adapting Fables for Dyslexic Learners: A Corpus-Based Analysis of Romanian Textbooks and LLM-Simplified Texts

Keywords. dyslexia, textbook accessibility, LLMs, Romanian language education, fables

Abstract. Literary texts have a privileged place in language and literature education, but their linguistic and structural complexity (Chitez, 2024) frequently makes them hard to understand and impose significant barriers for neurodivergent students, particularly those with dyslexia or other reading-related learning difficulties. Since inclusive education is an imperative nowadays, the question of how to make canonical texts accessible without compromising their pedagogical and cultural value is becoming more and more significant. This paper addresses that gap by examining a corpus of fables drawn from Romanian Language and Literature textbooks for grades 5–8 and assessing the potential of Large Language Models (LLMs) to produce accessible adaptations for neurodivergent learners.

The research problem is twofold: first, to what extent do fable texts in official Romanian textbooks present linguistic and structural features that may hinder comprehension for students with dyslexia? Second, to what extent can LLM-generated adaptations of these texts meet accessibility criteria while preserving the literary and didactic integrity of the original works? The study uses a mixed-methods approach, combining computational methods with qualitative content evaluation. The corpus consists of ca. 50 fables included in approved Romanian Language and Literature textbooks for the 5th–8th grade level, as well as fables extracted from additional supplementary materials and published collections, gathered from multiple publishers currently in use in Romanian schools. Readability is assessed using a set of linguistic complexity measures—such as LEMI formula (see Chitez et al., 2024), sentence length, lexical density, lexical complexity, word concreteness, syntactic depth, and frequency-based vocabulary measures—adapted for Romanian. The texts are afterwards adapted using several LLM prompts with explicit accessibility guidelines (e.g., Easy-to-Read standard). The LLM outputs are then evaluated both computationally—against the same complexity metrics applied to originals—and qualitatively, through an internally developed evaluation rubric (i.e., GReaSSe, developed after Barbu et al., 2025; see Briciu et al., 2026) designed to assess the degree to which adaptations are grammatically correct, semantically accurate, and simplified to an appropriate level of readability for students with dyslexia (see Kulkarni et al., 2026).

Preliminary results indicate a considerable linguistic complexity of fables across grade levels and publishers. LLM-generated adaptations show measurable reductions in syntactic and lexical complexity, though the degree to which literary quality is retained varies by prompting strategy. The findings have implications for textbook design, inclusive curriculum policy, and the emerging role of AI tools in producing differentiated educational materials. More broadly, the study contributes to ongoing debates on how educational technology and the AI-turn can enhance equity and inclusion in linguistically and culturally diverse classrooms such as those found in Romanian schools. While the study is exploratory and limited to a single literary genre and national context, it offers a replicable methodological framework that can be extended to other text types or languages.

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CAMUSSON, Céline

Accessibility of Instructional Materials and Cognitive Demands: Tensions and Teaching Practices in Inclusive Schooling

Keywords. instructional materials, teachers' appropriation, learning inequalities, accessibility, cognitive demand

Abstract. Inclusion, and more specifically the notion of access, constitutes a fundamental condition for the exercise of human rights, particularly for groups facing situations of exclusion (Fougeyrollas et al., 2015). The Convention on the Rights of Persons with Disabilities (United Nations, 2006) establishes this as a central principle by affirming the importance of "access […] to the physical environment, to transportation, information and communications […] and to other facilities and services open or provided to the public" (p. 9). It thus commits States to removing environmental barriers in order to ensure full social participation, including in the school context. From this perspective of inclusive schooling, this paper examines how teachers make the classroom—and more specifically instructional materials—accessible to students. How do they mobilise teaching resources? What do these practices reveal about their understanding of accessibility and their training in the French context? The paper draws on doctoral research in the sociology of education focusing on history and language study materials and their use in the classroom (Camusson, 2023). The methodology is based on a mixed-methods approach combining: (1) a questionnaire administered to 511 upper primary teachers on the genesis of instructional materials; (2) an analysis of 346 materials with regard to their potentially differentiating characteristics (semiotic and discursive heterogeneity, cognitive demands of the questions); (3) observations of 16 lessons and 14 interviews aimed at documenting actual uses.

The results show that nearly two-thirds of teachers modify the resources they select. Printed textbooks remain a central reference. These modifications mainly concern layout and presentation (font, character size), often with the aim of improving accessibility, particularly for students identified as dyslexic. Under the combined influence of accessibility concerns and organisational constraints (photocopying, lesson timing), teachers remove or replace numerous elements, thereby reducing the semiotic and discursive heterogeneity of the materials. While these transformations may facilitate access to content for students least familiar with the implicit norms of schooling (Bautier et al., 2012), they also tend to reduce the cognitive demand of the tasks proposed. In the classroom, this process of reducing complexity and expectations continues. Teachers predominantly address semiotic

heterogeneity (through projection and zooming), but more rarely support students in engaging with different discourse forms. Furthermore, students—particularly in priority education contexts (REP)—are more frequently directed toward low-demand tasks (identification of explicit information, recall), in connection with certain representations of academic difficulty and school subjects. These findings underscore the importance of strengthening teacher training in the selection and design of materials that combine accessibility with cognitive ambition. They also point to the need for closer collaboration between researchers, teachers, and designers in order to integrate, from the design stage onward, principles of accessibility—particularly those derived from Universal Design for Learning (Bergeron et al., 2011)—while taking into account the constraints of teachers' work.

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CARLSEN, Dorthe, HANSEN, Jens Jørgen

Danish at the Final Examination: A Subject-Didactic Analysis of Examination-Preparatory Teaching Materials at the End of Lower Secondary School

Keywords. exam-oriented teaching practices, subject didactics, L1 didactics, teaching and learning materials

Abstract. The final examinations in L1 in Danish lower secondary education have acquired *high-stakes* status and constitute a highly pressurised situation for students, as they have served as an admission requirement for upper secondary education since 2015. The examinations therefore exert substantial influence on students' future educational trajectories. There is good reason to assume that this situation—where the outcome of the final examinations determines access to further education—shapes teachers' didactic priorities in the concluding stages of Danish L1 instruction. International and Nordic studies show that examinations often generate considerable washback on teaching. In the case of language teaching and learning, the washback effect of tests and exams has been extensively investigated across countries. However, this research is not conclusive in terms of the nature and extent of the washback effect, and only limited research exists on how this effect manifests concretely in Nordic school subjects, including Danish L1 (Eriksen et al., 2024). Smaller empirical studies indicate that Danish L1 teaching at the final levels is strongly oriented toward the examination (Christensen et al., 2014), and that teachers' didactic decisions are closely tied to what students will be assessed on. It is therefore relevant to investigate how Danish L1 teaching intentionally aligns with the final examination.

This study focuses on teaching and learning materials explicitly developed to prepare students for the Danish L1 final examination. The aim is to investigate what understandings of the examination and of the Danish subject these materials convey, and how they thereby frame teachers' opportunities to teach *in* and *towards* the examination. The overarching research question is: What understandings of the final examination and of the Danish L1 subject are expressed in the examination preparatory teaching materials used in Danish L1 instruction at the concluding stage? The study is conducted as document analyses of six examination preparatory teaching materials, including one published by the Danish Agency for Education and Quality. The analysis focuses on the competencies the materials seek to develop, the examination-oriented practices they prescribe, and the explicit and implicit conceptions of the subject they construct. Theoretically, the study draws on research on examination practices (Hansen & Carlsen, 2025) and on the subject didactics of Danish (L1) (Carlsen, 2025; Hansen, 2024). The study contributes a

characterisation of the subject-specific *examination literacy* (Hansen & Carlsen, 2025) conveyed through these teaching materials and discusses how this literacy may be understood in relation to the overarching aims of the Danish L1 subject. The findings indicate that the examination-preparatory materials organise teaching around examination formats and assessment criteria, thereby shaping students' opportunities to develop a broader disciplinary repertoire. The analysis offers new insights into how L1 instruction is shaped by examination requirements—and how teaching and learning materials function as central drivers in this process.

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CHIGWEDERE, Yuleth, MPEZENI, Maudy

Centring African Identities and Epistemologies in English Language Textbooks for Primary School Learners: Toward Decolonized Literacy Practice

Keywords. decolonial theory, Southern Africa, English as a second language, identity, African epistemologies, young learners

Abstract. In the postcolonial era in Africa, the Eurocentric ordering of society built during colonialism can remain structurally in place, shaping power structures and educational knowledge. Given this possibility, textbooks cannot be considered as neutral because they can potentially reproduce coloniality of knowledge by privileging foreign story worlds, foreign norms and Eurocentric notions of what counts as literacy and intelligence. In many Southern African education systems where English functions primarily as a second language for most children, such as Zimbabwe, Zambia and Malawi, English language textbooks for primary school learners often position indigenous identities and knowledge systems as peripheral or local add-ons. A misalignment often exists between the sociocultural realities of African children and the identity and knowledge messages entrenched in primary school English materials. This marginalisation has pedagogical consequences for comprehension and engagement, and epistemic costs for how young learners come to value their home worlds as legitimate sites of knowledge.

The guiding questions are firstly, how, and to what extent, English language textbooks for young learners in African contexts represent (or silence) indigenous identities and epistemologies. Secondly, what textbook design principles can more consistently centre them without negatively affecting English language learning goals? Influenced by a decolonial pedagogy perspective, the paper makes a case for the need to embrace indigenous identities and epistemologies as core curricular content within English textbooks and materials for young learners in African contexts. Anchored in Quijano's (2007) concept of the coloniality of knowledge, it argues that such design choices shape whose realities count as knowledge, how children come to see themselves as learners, and what forms of meaning-making are legitimised in the English classroom. Both primary and secondary data collection methods were used. Primary data was collected from the content analysis of three Grade 5 English Language learner textbooks from southern Africa, as well as their respective learner support materials, such as teacher guides and workbooks. Secondary data was acquired by gathering information from academic publications and research findings to validate the stance taken. It also involved examining existing frameworks to understand the current representations in English language textbooks for young learners, Critical

analysis of existing information and evidence-based argumentation provided the basis to argue for the need to centre African Identities and Epistemologies in English Language textbooks.

The paper proposes a set of principles for textbook writers, publishers, and curriculum approval bodies. These include the inclusion of story worlds grounded in local ecologies and livelihoods, respectful representation of kinship and community ethics, the use of indigenous genres as English literacy resources, and translanguaging tasks that treat learners' full linguistic repertoires as assets. It develops a Decolonial Textbook Design Model (DTDM) for middle grade primary school textbooks that acknowledges the context in which the ESL learning is taking place. The model has four main textbook design features, namely representational justice, epistemic centring, indigenous genres and translanguaging scaffolds. The main implication of this model is that the scope and sequence of the tasks and assessment within the ESL textbooks and materials for young learners should be built from African meaning systems first, then have English skills mapped onto them. Another implication concerning visuals is that illustrations in English language textbooks should show African expertise, agency and knowledge-making.

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CHO, Yi-An

An Analysis of Knowledge Types in Mathematics Textbook Questions: Evidence from Six Versions of Grade 10 Textbooks in Taiwan

Keywords. mathematical literacy, textbook analysis, question design, knowledge types, PISA 2022

Abstract. This study examines the distribution and characteristics of knowledge types embedded in questions found in six versions of Grade 10 senior high school mathematics textbooks in Taiwan, with a particular focus on their alignment with the development of students' mathematical literacy. In recent years, the implementation of the 12-Year Basic Education Curriculum in Taiwan, together with the increasing emphasis on mathematical literacy in the PISA framework (OECD, 2023), has highlighted the importance of designing textbook questions that support students' ability to apply mathematical knowledge, engage in reasoning, and solve problems in diverse contexts. Previous studies have demonstrated that well-designed questions play a crucial role in fostering students' conceptual understanding and higher-order thinking (Mishra, 2015; Morgan & Saxton, 1991). However, existing research has largely focused on cognitive levels or contextual dimensions, while the knowledge types underlying textbook questions—particularly conceptual, procedural, and epistemic knowledge—have received relatively limited systematic attention. Accordingly, this study aims to analyse the distribution of these knowledge types and to explore their implications for mathematical literacy development. A content analysis approach was adopted (Wimmer & Dominick, 2003). The data set comprised 12 volumes from six widely used versions of Grade 10 mathematics textbooks in Taiwan. All questions explicitly presented in interrogative form were selected as units of analysis. Based on the PISA 2022 Mathematics Framework (OECD, 2023), a coding scheme was developed to classify each question into one of three knowledge types: content knowledge, procedural knowledge, and epistemic knowledge. To ensure the rigour and reliability of the analysis, expert review was conducted and inter-rater reliability was established using Fleiss' Kappa.

The results reveal a clear dominance of procedural knowledge across all textbook versions, followed by content knowledge, while epistemic knowledge is substantially underrepresented. This distribution indicates that textbook questions tend to emphasise algorithmic procedures and computational skills rather than encouraging students to engage in reasoning, justification, and reflective thinking. Such findings are consistent with previous research suggesting that mathematics textbooks often prioritise lower-level knowledge and skills (Fan et al., 2013). Although some variation exists among textbook

versions, the overall pattern remains consistent, reflecting a systemic tendency toward procedural orientation. These findings suggest that current textbook design may not sufficiently support the development of higher-order thinking and mathematical literacy. Therefore, this study recommends that future textbook development should incorporate a greater proportion of epistemic knowledge-oriented questions, promote deeper engagement with the nature of mathematical reasoning, and provide more opportunities for students to construct, justify, and reflect on mathematical ideas. Such improvements are essential for aligning mathematics education with the goals of mathematical literacy and preparing students for complex real-world and professional challenges.

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Mishra, R. K. (2015). Mapping the knowledge topography: A critical appraisal of geography textbook questions. *International Research in Geographical and Environmental Education*, *24*(2), 118–130. https://doi.org/10.1080/10382046.2014.993170

Morgan, N., & Saxton, J. (1991). *Teaching, questioning, and learning*. Routledge.

OECD. (2023). *PISA 2022 assessment and analytical framework*. https://doi.org/10.1787/dfe0bf9c-en

Wimmer, R. D., & Dominick, J. R. (2003). *Mass media research: An introduction* (7th ed.). Wadsworth.

DAHL, Christoffer, ASKLUND, Jonas

Free of Charge: Entrepreneurship in Literature Teaching Material

Keywords. children's and young people's literature, sponsored teaching materials, writing assignments, categorisation analysis

Abstract. Educational materials constitute an important structural factor in teaching (Graeske, 2015), and their quality is emphasised in the revised Swedish Education Act of 2024. In this critical study we problematise what happens when influential organisations choose to market free literary teaching materials. The problem is considered in relation to the school resource EDUNA, produced by the Confederation of Swedish Enterprise, which aims to strengthen links between school, working life, and the business sector through increased understanding of entrepreneurship, business activity, and the labour market. For the subject of Swedish, the material includes student guides, teacher guides, and children's and young adult novels by established authors.

In this study, we focus on the Swedish author Petter Lidbeck's young adult novel *Sand* (2022) and its accompanying teacher guide. The aim is to illuminate how the teacher guide frames the narrative of *Sand* regarding entrepreneurship, business activity, and the labour market. We ask the following questions: (1) What general representation of phenomena such as entrepreneurship, business activity, and the labour market is conveyed in the teacher guide? (2) How do the guide's textual assignments direct students' work on these themes in relation to the narrative?

The analysis consists of two parts. A categorisation analysis (Idevall Hagren & Westberg, 2024) is conducted to identify the discourses of entrepreneurship, business activity, and the labour market in the teacher guide foreword and how they are constructed. In the next part, the analysis is deepened and we examine the writing tasks using a typology from Bakken and Andersson-Bakken (2016) and Marshall (1987) to identify how Lidbeck's adolescent protagonist's encounter with business enterprise is put into perspective in relation to entrepreneurship business activity, and the labour market. The result indicates that the teacher guide portrays the labour market as dynamic and unpredictable while emphasising young entrepreneurs' need for adult support and role models. Entrepreneurship is framed less as individual success than as connected to the role of business in societal welfare. Most questions direct attention to narrative content and characters' entrepreneurial motivations, while the final assignment asks students to write an argumentative text on the importance of believing in oneself using concepts such as entrepreneurship, welfare, and globalisation. Overall, the guide reframes Lidbeck's narrative by downplaying melodramatic and heroic

elements in favor of more collective and realistic forms of entrepreneurship and business activity.

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Graeske, C. (2015). *Fiktionens mångfald: Om läromedel, läsarter och didaktisk design*. Studentlitteratur.

Idevall Hagren, K., & Westberg, G. (2024). *Kritisk diskursanalys: En språkvetenskaplig introduktion*. Studentlitteratur.

Lidbeck, P. (2022). *Sand*. Informationsförlaget.

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DIGÓN, Patricia, MÉNDEZ, Rosa María, SAMANIEGO, José Miguel, COTELO, María Dolores

An Analysis of the Presence and Treatment of Global Citizenship Education in Social Sciences Textbooks for Primary Education in Spain

Keywords. global citizenship education, textbooks, primary education, social sciences

Abstract. Global Citizenship Education (GCE) constitutes a body of theoretical and practical frameworks aimed at fostering critical awareness of global realities, whilst providing tools for participation and social transformation grounded in principles of justice and solidarity (Andreotti, 2021; Méndez & Digón, 2023; Mesa, 2019). In Spain, textbooks—whether in print or digital format—continue to define what is taught, playing a central role in the legitimation of knowledge within schools. This study forms part of the I+D+I project GloboJoven (2024–2028, PID2023-146088OB-C31) coordinated by the University of Cantabria (Unican), in partnership with the University of Oviedo (Uniovi) and the University of A Coruña (UDC). The work presented in this paper aims to analyse the extent to which GCE is present and how it is addressed in Social Sciences textbooks for Primary Education in Spain. This is a descriptive and interpretative study grounded in a predominantly qualitative content analysis methodology, incorporating certain quantitative elements, and following a deductive approach. The sample comprises six Social Sciences textbooks from different publishers with broad national and regional reach, used across each year group of Primary Education in a state school in Galicia (an Autonomous Community of Spain). The units of analysis are the images and written text contained in the textbooks; the analytical framework encompasses the following categories:

Images: (1) Frequency of GCE-related themes represented; (2) Format; (3) Image–text coherence; (4) GCE themes represented; (5) Representation of the citizenship dimension; (6) Representation of the global dimension.

Text: (7) Frequency of references to GCE-related aspects; (8) Didactic dimension of content and the types of GCE-related activities; (9) GCE themes represented in the explanatory text and pedagogical activities; (10) Treatment of the citizenship dimension; (11) Treatment of the global dimension.

Preliminary findings indicate that GCE is treated in an incidental manner in the textbooks used in the lower year groups, where no substantive information is provided, although some related activities are proposed. In the upper year groups, its presence increases and is associated with the Sustainable Development Goals (SDGs), with content focusing primarily on environmental

issues. Other topics that appear include gender equality, multiculturalism, and migration. Images are included, information is provided, and activities are proposed that involve the development of various competencies in relation to these themes. The citizenship dimension is addressed primarily through the lens of raising awareness in others. The global dimension neglects adequate analysis of co-responsibility and silences perspectives from the Global South. A *soft* perspective on GCE is observed (Andreotti, 2014), with individualistic, responsibility-transfer approaches that do not challenge the prevailing socio-political and economic system (Choi & Kim, 2020).

Andreotti, V. (2014). Critical literacy: Theories and practices in development education. *Policy and Practice: A Development Education Review*, *19*, 12–32.

Andreotti, V. (2021). Depth education and the possibility of GCE otherwise. *Globalisation, Societies and Education*, *19*(4), 496–509. https://doi.org/10.1080/14767724.2021.1904214

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Mesa, M. (2019). La educación para la ciudadanía global: Una apuesta por la democracia. *Revista Internacional de Educación para la Justicia Social*, *8*(1), 15–26. https://doi.org/10.15366/riejs2019.8.1.001

DUNDÁLKOVÁ, Karolína

Representing Recent History in Textbooks: A Case of Textbook Controversy in the Czech Republic

Keywords. history textbook, inquiry-based learning, debate, qualitative content analysis

Abstract. Recent discussions on transformations in history education in the Czech Republic reflect a growing emphasis on interpretative approaches, plurality of perspectives, and the development of critical historical thinking. An illustrative example of this shift and a focal point of institutional and public debate is the lower-secondary textbook *Soudobé dějiny* (*Contemporary History*; Pinkas et al., 2022). Departing from traditional fact-based narratives, the textbook promotes inquiry-based learning through the analysis and interpretation of diverse historical sources. Despite its innovative contribution to Czech history education, the textbook was criticised in official expert statements for alleged factual inaccuracies and aspects of its pedagogical design. This paper examines the controversy as a case of competing expectations regarding textbook quality in contemporary history education. It addresses this central research question: What aspects of the textbook were criticised and positively evaluated in official statements and expert reviews? The analysis draws on five publicly available documents and statements published in 2023: a press release issued by the Institute for the Study of Totalitarian Regimes, three expert reviews written by history educators, and an official statement by the Czech Ministry of Education, Youth and Sports. The documents were analysed using qualitative content analysis (Mayring, 2022). An inductive coding procedure was employed to identify and categorise evaluative statements concerning the textbook. The resulting categories focused on factual accuracy and pedagogical design. The findings indicate that the controversy extended beyond issues of factual accuracy, including omissions, inaccuracies, and the representation of selected historical topics. The paper discusses the implications of the findings for further textbook development and approval processes, highlighting the inherently political nature of textbook production, evaluation, and legitimation (Apple & Christian-Smith, 1991).

Apple, M. W., & Christian-Smith, L. K. (1991). The politics of the textbook. In M. W. Apple & L. K. Christian-Smith (Eds.), *The politics of the textbook* (pp. 1–21). Routledge.

Mayring, P. (2022). *Qualitative Inhaltsanalyse: Grundlagen und Techniken*. Beltz.

Pinkas, J. et al. (2022). *Soudobé dějiny. Badatelská učebnice dějepisu pro 9. ročník základních škol a víceletá gymnázia*. Fraus.

EILARD, Angerd

The Construction of NATO in Swedish Textbooks and Teaching Media

Keywords. textbooks and teaching media, critical discourse analysis, civics education, Swedish secondary education, NATO membership

Abstract. In recent years, several reforms concerning teaching materials have been implemented in Sweden, making it important to examine developments in the market, textbook content, and how such materials are used in schools. Since 2024, the Education Act has specified types of teaching materials that must be available in schools, and the curricula have strengthened the responsibility of principals and teachers to ensure that pupils have access to textbooks and other learning resources (Mattlar, 2025). In addition, a new degree objective in teacher education requires student teachers to demonstrate the ability to use and critically evaluate teaching materials. At the same time, Swedish curricula are undergoing renewal. A revised curriculum for upper secondary school (Gy25) took effect in 2025 and a new curriculum for compulsory school will be introduced in 2028. The civics syllabi include new mandatory content on Sweden's total defence and its membership in NATO (Utbildningsdepartementet, 2025). Thus, the aim of this paper is to examine how Sweden's accession to and membership in NATO are represented in five recently published civics textbooks for upper and lower secondary school, as well as in one digital educational resource. Sweden's accession to NATO in 2024 broke a long history of neutrality and military non-alignment maintained for over 200 years. The country remained outside NATO after the Second World War, while adhering to its policy of neutrality and military non-alignment, which became central to Swedish foreign policy and national identity, particularly during the Cold War and its aftermath. However, Russia's invasion of Ukraine in February 2022 led to a rapid shift in political positioning, culminating in Sweden's accession to NATO. This recent and significant policy change makes it particularly relevant to study how NATO is described and represented in contemporary teaching materials.

The study is grounded in a social constructionist perspective (Burr, 2025) and employs critical discourse analysis (Fairclough, 2015; Idevall Hagren & Westberg, 2024). This approach is well suited to analysing how social realities are constructed in texts, particularly in educational materials addressing contemporary political developments. The analysis focuses on which discourses and perspectives are present, whose voices are included or excluded, and how NATO membership is constructed. The study is ongoing. Preliminary findings suggest that NATO membership is predominantly

portrayed in positive and largely unproblematic terms, with limited presence of alternative or critical perspectives.

Burr, V. (2025). *Social constructionism*. Routledge

Fairclough, N. (2015). *Language and power*. Routledge

Idevall Hagren, K., & Westberg, G. (2024). *Kritisk diskursanalys: En språkvetenskaplig introduktion* [Critical discourse analysis: A linguistic introduction]. Studentlitteratur.

Mattlar, J. (2025). *Läromedel som didaktisk resurs: Med läroboken i focus* [Teaching materials as a didactic resource: With a focus on the textbook]. Natur & kultur.

Utbildningsdepartementet [Ministry of Education and Research Sweden]. (2025). *Government Proposition (2025/26:194): Nya läroplaner – för en stark kunskapsskola* [New Curricula – For a strong knowledge-based school system]. https://www.regeringen.se/rattsliga-dokument/proposition/2026/03/prop.-202526194

FAGERHEIM KALSÅS, Vidar, STACHURSKA-KOUNTA, Marta Magdalena, REEPLOEG, Silke, BERG HOUGAARD, Naja, KOHVAKKA, Tanja, NORDGREN, Kenneth

Colonial Pasts or Colonial Ignorance? Colonialisation of Kalaallit Nunaat and Sápmi in Nordic History Textbooks

Keywords. colonialism, decolonial education, history education, indigenous histories, Nordic countries

Abstract. Historical research in the Nordic countries has, during the past decades, documented how processes of colonisation forced Kalaallit Nunaat (Greenland) and divided Sápmi into a system of Nordic nation-states. Parallel to the development in historiography, the issue of decolonising education has brought questions of colonial complicity and colonial legacy to the agenda in the context of formal education in the Nordics (Eriksen et al., 2024). However, so far, little attention has been paid to how historical knowledge of colonisation of Kalaallit Nunaat and Sápmi has influenced, or not, the historical narratives presented in Nordic textbooks. In this paper, we will outline a transnational analysis of how colonisation is addressed in textbooks from lower- and upper-secondary schools in Denmark, Kalaallit Nunaat (Greenland), Norway, Sweden, and Finland. We are asking questions such as: What kinds of narratives about colonisation are present in the textbooks, and how are colonialised peoples, such as Sami, Kalaallit Inuit, Tornedalians, and Kvens represented? What kind of colonial complicity is visible in the narratives, and who is identified as complicit (Vourela, 2009)? Is there a Nordic master narrative in dealing with internal colonisation and colonial legacy? Or are there distinct narratives in the Nordic countries, a form of national exceptionalism in dealing with the legacy of Nordic colonialism (Jensen & Loftsdóttir, 2012)? A multimodal (Kress, 2010) and narrative content analysis of the textbooks will be applied. This study aims to contribute to discussions of decolonising Nordic history education by providing an overview of the state of Nordic textbooks in history when it comes to colonialism. We hope this will lead to further discussions about whether and how textbooks and teaching materials need revision and what perspectives are missing, in order to create space for decolonial praxis in the classroom.

Eriksen, K. G., Jore, M. K., Loftsdóttir, K., Mikander, P., & Sund, L. (2024). Education and coloniality in the Nordics. *Nordisk tidsskrift for pedagogikk og kritikk*, *10*(3), 1–13. https://doi.org/10.23865/ntpk.v10.6338

Jensen, L., & Loftsdóttir, K. (Eds.). (2012). *Whiteness and postcolonialism in the Nordic region: Exceptionalism, migrant others and national identities*. Ashgate.

Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication*. Routledge.

Vourela, U. (2009). Colonial complicity: The ‘Postcolonial’ in a Nordic context. In S. Keskinen, S. Touri, K. Irni, & D. Mulinari (Eds.), *Complying with colonialism: Gender, race and ethnicity in the Nordic region* (pp. 19–34). Ashgate.

GISSEL, Stig Toke

Effects of an Applicable Educative Teacher Guide

Keywords. teacher guide, learning resource, teacher competence, teacher self-efficacy, randomised controlled trial

Abstract. Teacher guides are texts intended for teachers, providing guidance on the use of *instructional texts* (e.g., textbooks, digital teaching modules) specifically created for teaching. This study builds upon prior research that indicates teachers often prefer practical instructional guidance over abstract theoretical explanations—and even may disregard educative features if they are not directly applicable in their day-to-day teaching (Buch et al., 2023). In Denmark, where this study was conducted, we see the emergence of *minimalist teacher guides* (Gissel et al., 2023) accompanying digital teaching modules. At the same time, other research suggests a big potential in educative teacher guides that aim to strengthen teacher competence (Ball & Cohen, 1996; Davis & Krajcik, 2005). This conflict raises an essential question: How should a teacher guide for digital instructional texts be designed to motivate teachers to use it and thereby fulfill the dual objective of enhancing teacher competence and improving instructional quality? We advance research in teacher guide design and effectiveness by developing an *applicable educative teacher guide* that integrates concrete instructional direction with general educative input. The study examines the impact of the novel teacher guide design on teachers' usage and task-related self-efficacy compared to a minimalistic, business-as-usual, teacher guide.

To evaluate the effects of the new design, the study employed a cluster-randomised field experiment with 199 L1 teachers, making it the largest RCT about educative teacher guides to date. Teachers answered a survey before and after the intervention period that measured how supportive they found the teacher guide they were exposed to, how and to what extent they used it and their task-related self-efficacy. Results show that teachers assigned to the applicable educative teacher guide rated it more supportive and used it more frequently, including both before and during teaching, compared to teachers in the minimalistic teacher guide condition. However, no significant differences were found related to their task-related self-efficacy.

Ball, D. L., & Cohen, D. K. (1996). Reform by the book: What is—or might be—the role of curriculum materials in teacher learning and instructional reform? *Educational Researcher*, *25*(9), 6–8, 14. https://doi.org/10.3102/0013189X025009006

Buch, B., Gissel, S. T., Oksbjerg, M., Kjeldsen, K., & Albrechtsen, T. R. S. (2023). A systematic review of research on teachers' guides. *Learning*

Tech – Tidsskrift for læremidler, didaktik og teknologi, (12), 12–40. https://doi.org/10.7146/lt.v7i12.132330

Davis, E. A., & Krajcik, J. S. (2005). Designing educative curriculum materials to promote teacher learning. *Educational Researcher*, *34*(3), 3–14. https://doi.org/10.3102/0013189X034003003

Gissel, S. T., Buch, B., Oksbjerg, M., Kjeldsen, K., & Lytje, M. (2023). Lærervejledningslandskabet i Danmark [The teacher guide landscape in Denmark]. *Learning Tech – Tidsskrift for læremidler, didaktik og teknologi*, (12), 41–74. https://doi.org/10.7146/lt.v7i12.132029

GISSEL, Stig Toke

Typology of Resources that Can Be Used for Learning or Teaching

Keywords. typology, instructional texts, learning resources, conceptualisation

Abstract. Internationally, there is no common, established conceptual framework for teaching aids and different subtypes of teaching aids (Gissel & Buch, 2020). Each paper on instructional materials seems to make its own definition or refer to a specific term (for example curriculum materials) that is not connected to a typology that encompasses other types of material. In Denmark we have used a local/national typology that has not been adapted internationally (for example, Gissel et al., 2025). This leads to challenges regarding reviews of international research on instructional texts and other resources used in teaching and learning and inconsistencies in international comparisons like ICILS (Gissel et al., 2021).

Building on previous endeavours to formulate typologies of learning resources this presentation seeks to *propose a new typology of resources that can be used for learning or teaching*. Hence, the endeavour is theoretical. The typology is designed to satisfy several requirements: it should be accessible to both practitioners and students, usable in international contexts, inclusive of diverse domains such as the natural sciences, and conceptually consistent. It establishes a conceptual framework that accounts for the physical entities found in the real world while also designating a distinct category for the various types of texts used in educational settings. Within this framework, a key distinction is made between instructional materials—resources that clearly exhibit features making them suitable for teaching—and learning resources, which require greater didactic creativity from the user to be employed effectively for educational purposes. Theoretically, my point of departure is the concept of *affordance* as introduced by Gibson (1979). The notion of affordance directs attention to the possibilities for action that the environment offers an individual within a given context. Affordances are not understood as fixed, inherent properties of objects but as relational—they emerge in the interaction between an object and its user. What a given object *affords* therefore depends both on its characteristics and on the user's experiences, intentions, and the specific situation.

Gibson, J. J. (1979). *The ecological approach to visual perception*. Psychology Press.

Gissel, S. T., & Buch, B. (2020). A systematic review of research on how students and teachers use didactic learning materials in L1. *Learning Tech* –

Tidsskrift for læremidler, didaktik og teknologi, *5*(7), 90–129. https://doi.org/10.7146/lt.v5i7.117281

Gissel, S. T., Carlsen, D., & Buch, B. (2025). Teachers' use of learning materials. In P. Bagoly-Simó, M. Khaneboubi, & B. Knight (Eds.), *Educational media: International perspectives* (pp. 149–165). Peter Lang.

Gissel, S. T., Pettersson, M., & Bundsgaard, J. (2021). Udvikling i lærernes brug af digitale læremidler [Development in teachers' use of digital teaching aids]. In J. Christensen, J. Bundsgaard, C. C. Kjeldsen, & M. Pettersson (Eds.), *It i skolen under coronapandemien: Resultater af ICILS teacher panel 2020* (pp. 61–83). Aarhus Universitetsforlag.

ILLUM, Lene, CARLSEN, Dorthe

Organising Literature Discussions in Digital Teaching and Learning Materials in L1: Between Curriculum Renewal and Dialogic Teaching

Keywords. literature discussion, dialogic teaching, listening, teaching material analysis, Danish language education, curriculum renewal

Abstract. With the Danish curriculum reform *Fagfornyelsen* (The Curriculum Renewal), there is a strong emphasis on making L1 more engaging and meaningful, where students actively participate in dialogues with and about texts. The literature discussion is highlighted as a key activity that can strengthen interpretation, critical thinking, and a shared sense of reading. Studies indicate that students have limited opportunities to participate and that 50 percent of classroom time is spent in whole-class instruction, which makes it difficult for all students to be heard (Skaftun et al., 2021; Sæbø et al., 2021). For students to take part in literature discussions, they need opportunities to express themselves (Segal & Lefstein, 2016), which requires the establishment of a dialogic space (Wegerif, 2020). However, how do teaching and learnings materials support this ambition?

This study analyses how literature discussions are organised in selected units from digital learning platforms for L1 and which didactic strategies are employed to promote dialogic teaching. The analysis draws on theories of dialogic teaching (Alexander, 2020; Dysthe, 2000); Mercer, 2000), listening as a fundamental dimension of dialogue (Illum, 2024), and inquiry-based literature teaching (Hansen & Gissel, 2021). This is combined with theories of teaching and learning material analysis, including evaluation of the quality of educational resources (Carlsen & Hansen, 2025). The study conducts a systematic document analysis of 12 teaching units from widely used digital learning platforms in L1 in the middle school. The analysis is text-analytical and subject-didactic, focusing on task types, instructions, and the intended distribution of roles between teacher and students. We examine how the materials position students as listening and speaking participants, and whether literature discussions are presented as open, inquiry-based, and multivoiced, or primarily as a means of assessing comprehension.

Initial analyses indicate tensions between the ambition of dialogic teaching, inquiry-based literature discussions, and the structures of the teaching and learning materials. There is a predominance of oral activities in a whole-class context, and listening as an active competence is only sporadically addressed. At the same time, there appears to be a need for teachers to re-didacticise the materials in a more inquiry-oriented and dialogic direction. The study

contributes knowledge about the potential and limitations of teaching materials in supporting literature discussions as a meaningful and engaging form of teaching from a dialogic perspective.

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Carlsen, D., & Hansen, J. J. (2025). *At vurdere læremidler i dansk* (2nd ed.). Dansklærerforeningens Forlag.

Dysthe, O. (2000). *Det flerstemmige klasserum*. Klim.

Hansen, T. I., & Gissel, S. T. (2021). Undersøgende litteraturundervisning. In S. T. Gissel & T. Steffensen (Eds.), *Undersøg litteraturen! Engagerende undervisning i æstetiske tekster* (pp. 39–54). Akademisk Forlag.

Illum, L. (2024). *"Jeg kan godt skimmehøre" – Multimodal lytning i et dialogisk perspektiv: En kvalitativ undersøgelse af hvordan elever gør lytning i danskundervisningen* ["I can skim listen" – Multimodal listening from a dialogical perspective: A qualitative study of how students engage in listening in L1] [Doctoral dissertation, Syddansk Universitet]. https://www.ucviden.dk/da/publications/c99503a1-eefc-4bbc-963e-b6ed50e1d005

Mercer (2000). *Words and minds: How we use language to think together*. Routledge.

Segal, A., & Lefstein, A. J. (2016). Exuberant, voiceless participation: An unintended consequence of dialogic sensibilities? *L1-Educational Studies in Language and Literature*, *16*(2), 1–19. https://doi.org/10.17239/L1ESLL-2016.16.02.06

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Sæbø, J. U., Skaftun, A., & Nygard, A. O. (2021). Vilkår for muntlig deltakelse på mellomtrinnet [Conditions for oral participation in upper elementary school]. *Acta Didactica Norden*, *15*(2), Article 11. https://doi.org/10.5617/adno.8311

Wegerif, R. (2020). Undervisning som åbning, udvidelse og uddybning af dialogisk(e) rum. In O. Dysthe, I. J. Ness, & P. O. Kirkegaard (Eds.), *Dialogisk pædagogik, kreativitet og læring*. Klim.

JOHANSEN, Ronny

Small-scale Learning Material: Teachers Adding to the Diversity of Learning Resources

Keywords. initial reading and writing, small-scale learning material

Abstract. This study explores the characteristics of *small-scale learning material*: worksheets copied and handed to students for them to fill in, to practice various skills like grammar, spelling and reading. The study focuses on such resources for the teaching of initial reading and writing within a Norwegian school context. The research question is: What didactic potential can be drawn from analyzing small-scale learning material for the teaching of initial reading and writing? Resources like these are often included in the "teacher's book" as an integrated part of the traditional comprehensive learning packages. At the same time, there is an independent business emerging where individuals, often practicing teachers themselves, act as independent "home publishers", selling copy originals and other resources (planned lessons, tips, ideas) directly to teachers for a relatively small sum of money, which teachers pay for themselves. These small-scale resources are the scope of this study, which excludes the traditional, publisher-made resources and free material provided by organisations (like the UN and others). The use of such resources fits into what can be described as an eclectic teaching design (Brown, 2002), where teachers combine various resources in a didactic "mix", including the use of various methods and learning resources. This practice challenges the position of the traditional learning packages, which in a Norwegian school context often have formed the fundament of planning and designing teaching (Gilje et al., 2016). Johansen (2024) indicates that traditional schoolbooks, teachers' instructions etc. still play a part in teaching designs, but do not necessarily hold the "hegemony" and are often reduced to a smaller role, alongside a variety of other resources. Whereas traditional educational materials offer a "built-in" didactic and pedagogic design, it is less clear how this is taken care of within an eclectic teaching design. Thus, it is of interest to investigate the diversity of learning material taken into such practice.

This study seeks to explore a selection of small-scale teaching media, drawn from "the open market". The material is limited to the field teaching of initial reading and writing in Norwegian primary schools—an educational area with strong traditions of using learning material and with a range of known methodological approaches, e.g., the *phonics* versus *the whole language* tradition (Tønnesen & Uppstad, 2021). An underlying assumption is that traces of this didactic landscape and the tradition of schoolbooks, especially the ABCs, are visible within the material. The material is undergoing analyses,

based on process-orientated analysis of teaching media (procesorienteret læremiddelanalyse; Hansen, 2012). This includes a model containing three types of teaching design: a design of knowledge: what the students are intended to learn; a design of learning: the ways in which the students may learn; and a design of teaching: how the learning media will support the teacher's planning. Preliminary results suggest that the learning material in this study often is characterised by holding a potential for proficiency training, which favours a rather traditional approach to the teaching of reading and writing.

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JOHANNESEN, Hildegunn Juulsgaard

Being Moved in the Encounter with the Incomprehensible: Students' Engagement with Difficult and Sensitive Knowledge in Relation to Auschwitz-Birkenau as a Memorial Site and Educational Resource

Keywords. difficult knowledge, sensitive knowledge, Holocaust, memorial sites

Abstract. In this paper presentation, I examine how students experience and process encounters with Holocaust memorial sites after study trips, and how these sites subsequently feature in their reflections and delayed responses to difficult and sensitive knowledge. The presentation addresses the following questions: How do students describe their experiences and impressions after the visit? How do elements perceived as sensitive or difficult to comprehend manifest in the students' narratives? How can Auschwitz-Birkenau be conceptualised as an educational resource with a distinct influence on students' meaning-making and narrative construction when confronted with human suffering? The empirical data consist of 36 student texts from two eighth-grade classes (students aged 14–15) who participated in a study trip to Auschwitz-Birkenau, alongside students' own photographs of the locations visited during the trip and two group interviews with the respective classes.

Drawing on existing research on encounters with memorial sites and difficult knowledge (Britzman, 1998; Lehrer & Milton, 2011; Simon, 2011), the paper employs a narrative and thematic analysis of the empirical material to deepen the analytical insights and to foreground the students' own experiences and voices. This presentation seeks to contribute to a nuanced understanding of how such encounters can encompass both disciplinary depth and emotional complexity, and how memorial sites function as learning environments and an educational resource that shape and influence students' understandings of traumatic and sensitive historical events. The findings indicate that students draw on their own lifeworld's, current global issues, their immediate physical well-being, prior knowledge of the Holocaust, and inherited norms and values when making sense of and processing the experience of being at the site. This underscores the importance of teachers providing a didactic space that allows such processing and for questions that arise retrospectively (Bormann, 2018; Chinnery, 2019), rather than assuming that all questions and reflections can be anticipated in advance through traditional instructional planning.

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KNECHT, Petr, ČERVENKOVÁ, Iva

Pre-service Teachers' Readiness to Develop Key Competencies in Lesson Planning

Keywords. competency-based education, pre-service teachers, curriculum alignment, lesson planning, textbook use

Abstract. The paper is situated in the context of the ongoing curriculum reform in lower secondary schools in Czechia, which emphasises a shift from content-oriented education towards the systematic development of cross-curricular key competencies (Evans et al., 2020). The revised national curriculum defines the following key competencies: learning, communication, personal and social, civic and sustainability, entrepreneurship and work, problem-solving, cultural, and digital. The study examines how secondary pre-service teachers reflect on their preparedness to foster and develop key competencies and how this is subsequently translated into lesson planning. Previous research indicates that teacher readiness is a key factor in the successful implementation of competency-based education (Niu et al., 2021), while studies on curriculum alignment show that instructional materials often fail to reflect the intended cognitive and competency demands of the curriculum (Lemu et al., 2026). Against this background, the study addresses the problem of how future teachers interpret and enact competency-based curriculum requirements in conditions where teaching materials are not fully aligned with these expectations. It specifically asks: Which competencies do pre-service teachers perceive as teachable, and how are these competencies operationalised in lesson planning under conditions of textbook misalignment?

The empirical data consist of 30 lesson plans developed by teacher education students in a general didactics course. Students were asked to design a lesson focused on a competency they considered personally well developed and felt confident fostering in pupils, within their subject specialisation. At the same time, they were required to work with existing textbooks. The study applies content analysis to examine both the selection of competencies and their instructional operationalisation following a systematic, rule-guided approach to category development and interpretation (Mayring, 2000). The analysis focuses on two main aspects: (1) which competencies students perceive as mastered and teachable, and (2) how specific competency components are translated into instructional design. It also identifies competencies students feel unprepared to develop and analyses how they address the limitations of textbooks in supporting competency-based teaching. The findings reveal an uneven representation of competencies and a gap between curricular expectations and students' perceived readiness. They further demonstrate that textbook-based instruction tends to limit the

implementation of higher-order competencies, reflecting broader patterns of misalignment between curriculum goals and instructional materials (Lemu et al., 2026). The study concludes that pre-service teachers need to develop the ability to critically adapt and compensate for the limitations of textbooks in order to implement competency-based education effectively. Such adaptive expertise is closely linked to reflective practice and the development of professional knowledge in teacher education (Ponomariovienė et al., 2025).

Evans, C. M., Landl, E., & Thompson, J. (2020). Making sense of K-12 competency-based education: A systematic literature review of implementation and outcomes research from 2000 to 2019. *The Journal of Competency-Based Education*, *5*(4), Article e01228. https://doi.org/10.1002/cbe2.1228

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LENLER, Henriette

Teaching Materials as Circulation: Didactic Decision-Making in Vocational Education

Keywords. vocational education, teaching materials, material circulation, sociomateriality, didactic decision-making

Abstract. In research on textbooks and educational media, attention has mainly been directed towards how materials are designed and evaluated. What tends to fade into the background is how these materials are actually handled once teaching is underway. In vocational education, this becomes difficult to ignore. Teaching takes place in settings where tools, machines, ingredients, digital platforms and worksheets are not just present, but entangled in what teachers and students are trying to do. This paper asks: How do teaching materials move within vocational teaching practices, and how do these movements shape teachers' didactic decision-making? Rather than approaching materials as something that is first selected and then implemented, the analysis follows what happens to them in use. To capture this, the paper introduces the notion of material circulation: materials are taken up, combined with other elements, adjusted, set aside, and sometimes brought back again across activities and contexts. These shifts are not peripheral. They are part of how teaching is held together, particularly in situations where relations between theory-oriented and practice-oriented teaching shift. The analysis draws on qualitative material from both workshops and classrooms and includes observations and interviews with vocational teachers in blacksmithing, culinary education and electrical training. In total, the study is based on 111 hours of observation. The analytical approach is informed by practice-theoretical perspectives and by relational approaches to educational media, attending to how teaching unfolds through ongoing relations between people, artefacts and activities. Across the material, teaching resources do not behave in a consistent way. At times, a worksheet or a digital platform helps to stabilise what is going on by making tasks visible and giving direction to the activity. At other times, the same material becomes less helpful. It competes with the pace of workshop work, creates hesitation, or is quietly set aside when students lose orientation. A worksheet intended to guide a calculation may gradually lose its relevance as attention shifts towards handling the material itself. Similarly, a digital platform may structure the beginning of a lesson but become less useful when the practical task no longer aligns with its categories. Seen from these situations, didactic decision-making does not appear as something that precedes teaching. It takes shape within it. Decisions emerge in response to what materials make possible, but also to what they fail to support. The paper contributes to research on textbooks and educational media by shifting the focus from materials as

designed objects to materials as participants in teaching practice, whose meaning and function are continuously reworked in use.

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LI, Han-Yu

Indigenous Representation in Taiwan's High School History Textbooks: A Decolonial and Social Justice Perspective

Keywords. indigenous, textbook analysis, social justice, decolonisation, history education

Abstract. This study investigates how Indigenous peoples are represented in Taiwan's senior high school history textbooks under the 12-Year Basic Education Curriculum Guidelines. Although recent curriculum reforms have emphasised multiculturalism and Indigenous education, it remains unclear whether textbook narratives have moved beyond symbolic inclusion toward deeper structural critique and epistemic transformation. Against this background, the study addresses the following research question: To what extent do current history textbooks in Taiwan promote cultural recognition, expose structural inequality, and support the epistemic subjectivity of Indigenous peoples?

The study adopts a qualitative content analysis design. The data consist of five Ministry-approved senior high school history textbooks, all from the compulsory first volume on Taiwan history and published in 2025 by Longteng, Nani, Taiyu, Hanlin, and Sanmin. To examine patterns of representation, the study develops a three-part analytical framework informed by culturally responsive education, decolonial thought, and social justice theory. The framework includes: (1) cultural recognition and Indigenous subjectivity, (2) knowledge decolonisation and epistemic justice, and (3) institutional critique and social transformation. These dimensions are operationalised through a set of analytical indicators applied to textual, visual, and narrative units. To strengthen the validity of the framework, the indicators were reviewed and revised through consultation with twelve scholars in history education and indigenous education. The findings reveal that all five textbook versions have increased the visibility of Indigenous peoples within the broader narrative of Taiwan's history. Rather than being confined to the prehistoric past, Indigenous peoples are more often presented as historical actors involved in the formation of Taiwan's multiethnic society. However, the treatment of inequality remains limited. Structural issues are usually framed through policy shifts, such as colonial classification systems or land administration, while the enduring effects of dispossession, marginalisation, and unequal resource distribution receive less sustained attention. In addition, although some textbooks acknowledge Indigenous activism, such as movements for naming rights and cultural restoration, Indigenous knowledge systems are still rarely positioned as central interpretive frameworks. More often, they appear as supplementary cultural content rather than as legitimate forms of historical

knowledge. Overall, the textbooks appear to be moving from additive multicultural inclusion toward a more transformative orientation, but they have not yet fully realised a decolonial reconfiguration of historical understanding. This study contributes a three-stage framework—*Cultural Representation*, *Epistemic Reconstruction*, and *Systemic Transformation*—to guide future textbook development. For history education to achieve cognitive justice, textbooks must move beyond the *state-centred* perspective and allow Indigenous worldviews to fundamentally reshape our understanding of the past.

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MAKOVSKÝ, Miloš, MYŠÁKOVÁ, Dagmar

Designed for Creativity? Analysing Digital Teaching Resources for AI-Integrated Art Education

Keywords. art education, generative artificial intelligence, mixed-methods research, creativity

Abstract. The growing capabilities of generative artificial intelligence (AI) tools raise a number of questions in the field of education—including art education. This paper presents the results of mixed-methods research focused on two interrelated areas: the attitudes of different stakeholder groups toward the use of AI in teaching, and an analysis of available methodological support for art education. The first part draws on a questionnaire survey conducted within the PRAKTIK-AI project (2025–2028, Technology Agency of the Czech Republic) among three groups of respondents: (1) academic staff at faculties preparing future teachers, (2) student teachers, and (3) mentors at primary and secondary schools supervising teaching practice (N = 265). The survey aims to map the readiness of individual groups to integrate AI into teaching and to identify their specific needs. Preliminary results indicate significant differences between groups: student teachers show openness toward AI, yet lack guidance in the areas of ethics and source verification. Experienced teachers report a greater need for strengthening digital literacy as a prerequisite for adopting AI tools. Across all groups, demand for concrete teaching scenarios rather than theoretical frameworks resonates clearly. The second part of the paper therefore focuses on a content analysis of available online teaching resources. In the Czech context, these include: (1) methodological materials produced by the non-profit organisation *AI dětem*, and (2) materials for pupils, parents, and teachers *Ve světě umělých obrazů* [In the World of Artificial Images] (Palacký University Olomouc, 2023). These were supplemented by additional cases from abroad.

The following research questions guided the content analysis: In what ways is AI integrated into art education in the available methodological support? What types of AI tools are used in available methodological support focused on AI in art education? How are conditions for developing pupils' creativity embedded in the available methodological support for AI in art education? A partial strand of the ongoing content analysis focuses on the potential of available methodological materials for developing pupils' creativity. This analysis builds on an analytical procedure previously applied by the authors (Makovský & Myšáková, 2025), which focused on coding oriented toward appropriate conditions for the development of creativity in art education as defined by Štěpánková (2015). This partial category was not chosen arbitrarily. As Šobáňová (2023) notes, the integration of AI into art education is

accompanied by various concerns, some of which relate to a potential decline in pupils' interest in traditional art-making and fears of losing creativity, motivation, and craft skills. Zeng et al. (2025), by contrast, see potential in AI for increasing pupil motivation through greater interactivity, immediate feedback, and personalised learning, and highlight its potential to reduce frustration arising from pupils' perceived inability to achieve satisfying results in their own traditional work. The results of the content analysis will serve as an orientation map of available approaches and tools, applicable across target groups for methodological guidance, and as one of the foundations for developing an online platform to build AI competences among teachers within the PRAKTIK-AI project.

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MAYEUR, Ingrid

Public Service Audiovisual Archives as Learning Materials through Platform Remediation: A Case Study in Media Education (French-Speaking Belgium)

Keywords. platformisation, semantic learning materials, audiovisual archives, remediation

Abstract. The production of audiovisual archives by dedicated organisations such as INA (France) or RTBF-SONUMA (Belgium), coupled with their editorialisation in online repositories, has created new opportunities for producing learning materials in a context of increased knowledge circulation through digital devices (Seurrat, 2025). While the use of archives related to history and cultural heritage seems to be well established in the educational field (e.g., Annet, 2025), their transformation into learning materials for media education should be examined, particularly when media organisations are positioned as actors in this field through educational resource platforms. By analyzing a corpus of archives produced by the Belgian public service RTBF-SONUMA, transformed into educational resources through the platform *e-classe* for trainers and teachers in French-speaking Belgium, we intend to address to the following questions: What processes are involved in the production of learning materials suitable for formal education, on the basis on audiovisual archives from a public service that were not originally created for this purpose? More specifically, how is this audiovisual archive transformed into a resource available on a platform dedicated to the educational community? Through what operations of cutting, remixing, or adaptation, and through which pedagogical, authoritative, or institutional mediation?

Considering the platform *e-classe*, it appears that, on the one hand, learning materials with the mention of RTBF-SONUMA as a producer constitute almost half of the whole resources available (i.e., 4345 of a total amount of 10582), while, on the other hand, they represent more than a third of resource for media education (i.e., 238 of a total amount of 664; survey date: April 3, 2026). While *e-classe* intends to be a platform for creating and sharing learning materials with validation (institutional and/or by peers), this significant representation raises several questions, such as motivations (i.e., cost issues), the link with learning outcomes in media education (targeted competencies, anticipated role of media production in a didactic scenario, etc.), and the material transformation of the original archive into learning material (by defining extracts, focus, adding metadata, etc.). Our method will rely on qualitative analysis of platforms as devices of intermediation, coping with educational issues (Bullich, 2018; Carton & Tréhondart, 2020), combined with a corpus analysis focusing on series such as *television news* (extracts, 34

items) or *Questions à la Une* (full episodes, 3 items). This kind of approach aligns with established research methods in the field of media education, as it considers learning materials not only as supports for the learning process, but also as *prescriptive discourses* that provide information on the representations associated to media education as a discipline and the targeted outcomes (Fastrez & Landry, 2023, p. 221). From this point of view, our hypothesis is that audiovisual archives from the public service are assigned the value of providing educational materials to address socially acute questions, or controversial issues, in a school context, thereby emerging as an authority in formal education that should be discussed.

Annet, K. A. (2025). Reimagining history: The role of digital archives in education. *Eurasian Experiment Journal of Humanities and Social Sciences*, *7*(1), 8–15.

Bullich, V. (2018). La “plateformisation” de la formation [The “platforming” of learning]. *Distances et Médiations des Savoirs*, (21). https://doi.org/10.4000/dms.2096

Carton, T., & Tréhondart, N. (2020). La plateformisation de l’éducation aux médias et à la citoyenneté. *Spirale – Revue de recherches en education*, *66*(3), 77–94.

Fastrez, P., & Landry, N. (2023). *Media literacy and media education research methods: A handbook*. Routledge.

Seurrat, A. (2025). *Savoirs en circulation: Les ressources d’éducation et de formation à l’ère numérique*. ISTE Editions.

MAYEUR, Ingrid, POURPARDIN, Elsa

Research-Informed Learning: The Integration of Content from *The Conversation France* into Textbooks

Keywords. open science, open educational resources (OER), scientific mediatisation, The Conversation

Abstract. How can articles from *The Conversation France* be reused in French textbooks? And how does this editorial reuse reflect a peculiar form of scientific mediation between the press, academia, and formal education? Rooted in the ICCA project *Plateformisation et médiation scientifique: le cas de The Conversation France*, directed by Elsa Poupardin and Étienne Candel (Université Paris Cité), our inquiry will consider the following axes: (1) the material adaptation of a digital resource for use in a print textbook (which may also include a digital version); (2) the transformation of a text combining journalistic and scientific perspectives on current events into an educational resource tailored to the school context; and (3) the pedagogical scenarios in which the article is embedded (curricular disciplines, learning objectives, competencies, instructions and methods, activity's place within the lesson sequence, etc.). The widespread circulation of knowledge through digital devices provides opportunities for diverse forms of social reappropriation; in this respect, the fabrication of learning materials deserves particular attention (Seurrat, 2025) as it testifies to the social circulation of, on the one hand, resources that were not initially designed for pedagogical purposes, or, on the other hand, educational resources that are created by actors outside the institutional educational system (such as private organisations), which may also take the opportunity to establish partnerships with the formal education sector. Such circulation could be interpretated in light of the *knowledge commons* movement: referring to "a resource shared by a group of people that is subject to social dilemmas" (Hess & Ostrom, 2011, p. 7), and initially concerned with natural resources, commons have progressively been related to digital information, due to its (seemingly) non-rivalrous nature and its replicability. The *Open Science* and *Open Educational Resources* movements are two major outcomes of this field. The commoning of works has become predominant in these areas, relying on licenses that provide greater flexibility in their dissemination; this is notably the case for articles published by *The Conversation* (Abiteboul & Bancilhon, 2024, p. 55).

Our enquiry will be based on a corpus analysis, from an impact study conducted by the organisation, which identified a list of 13 articles with the associated textbook (*The Conversation France*, 2025, pp. 36–37). Additionally, if the role of articles of *The Conversation France* has been acknowledged—at least from a potential point of view (Falgas, 2017), our

hypothesis remains that these uses do not support the learning of their specific multimodality as digital texts, even if latter provides an opportunity for fostering competencies in media education. We hope, through our analysis, to provide insight into this particular form of scientific mediation, which contributes to research-informed learning within the context of formal education.

Abiteboul, S., & Bancilhon, F. (2024). *Vive les communs numériques ! Logiciels libres, Wikipédia, le Web, la science ouverte, etc.* Odile Jacob.

Falgas, J. (2017). Le site d'information The Conversation France comme ressource pédagogique : Enquête exploratoire sur les identités professionnelles des acteurs [The Conversation France, an information website as a pedagogical resource: Exploratory survey of the professional identities of the actors]. *Distances et médiations des savoirs*, *17*. https://doi.org/10.4000/dms.1771

Hess, C., & Ostrom, E. (Eds.). (2011). *Understanding knowledge as a commons: From theory to practice*. MIT Press.

The Conversation France. (2025). *The Conversation 2025 rapport d'impact*. https://doi.org/10.64628/AAK.7us7k6t3c

Seurrat, A. (2025). *Savoirs en circulation : Les ressources d'éducation et de formation à l'ère numérique*. ISTE Editions.

MCCUSKER, Sean

Clowns, Bricks and Data: A Playful Pedagogy for Designing Inclusive Educational Media

Keywords. playful pedagogy, data visualisation, clowning, educational media design, statistical literacy

Abstract. Contemporary quantitative methods education is often shaped by tools and techniques deeply entrenched in the predigital era, a time when the lack of computational power meant that the manipulation of data was cumbersome and inferential statistical models, along with their underlying assumptions, were required to represent the underlying data in tractable ways. The persistence of these models into current curricula means that curriculum design drawing on these traditions is often structured in ways that fail to recognise the historical contingency of these techniques or engage with the affordances of current technologies. The consequence is a curriculum architecture that forecloses the exploratory, improvisational engagement that genuine reasoning with data requires. Were statistical analysis to be invented today, it would almost certainly look very different. This has significant implications for how we teach reasoning and engagement with quantitative data.

This paper addresses that problem through the lens of educational media design, arguing that tools built on principles of playfulness and enquiry, which allow users to engage unencumbered by ego within an error-friendly environment, would constitute a substantively different mode of statistics education, one that represents a more inclusive model which involves learners in the complex, multivariate data that underpin all of life's interesting problems. The paper draws on three converging research programmes. The first of these is the use of LEGO Serious Play as a methodology for dismantling dominant group narratives (McCusker, 2020); the second is the application of clowning philosophies and practices to professional settings as a means of building familiarity with failure, improvisation and discomfort (McCusker, 2023); and the third is a sustained programme of work in statistical literacy and data visualisation centred on the SMARTplotter, a graphical educational medium enabling users to engage with authentic, complex, real-world data without the technical barriers of conventional statistical software (Nicholson et al., 2013; McCusker & Nicholson, 2026). Each of these strands fosters a disposition of openness to complexity through challenges to accepted wisdom and curricular traditions, which typically shape and constrain learners' relationships with quantitative data. This paper reflects upon the principles of educational media design which emerged during the development of the SMARTplotter, read through the frameworks of clowning pedagogy and LEGO Serious Play. It examines how pedagogical effects, produced across multiple classroom

deployments over two decades, can be illuminated by frameworks that foreground playfulness and relational creativity (Glăveanu, 2013). The paper presents a set of design principles for educational media derived from this convergence, framing the SMARTplotter not merely as a data interface but as an exemplar of what inclusive educational media design looks like when it takes seriously the barriers that conventional quantitative tools erect for learners who do not already inhabit the culture of statistics. The argument has implications for researchers and practitioners engaged in designing educational resources for diverse learners, particularly in contexts where disciplinary gatekeeping, expressed through tool choice and pedagogical convention, reproduces existing inequalities of access and participation.

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MEDINA DE OLIVEIRA, Flávio

Textbooks as Formative Devices: Teacher-Made Materials and Critical Development in Japanese Language Teacher Education

Keywords. textbooks, teacher education, Japanese language teaching, teacher-made materials, Manualistics

Abstract. This paper examines the formative role of textbooks in teacher education and training, particularly within Japanese language licensure programs in Brazil, where imported or translated materials are predominant. While textbooks are often treated as neutral pedagogical tools, this study adopts a Manualistics-informed perspective to conceptualise them as cultural, social, and political artifacts shaped by processes of selection, legitimation, and silencing. The research problem lies in understanding how such materials influence not only what is taught but also how future teachers conceive language, culture, and pedagogy. Accordingly, the central research question is: to what extent and in what ways do textbooks function as formative devices in initial teacher education, and how can teacher-made materials tension or reconfigure this formative influence? The study is grounded in theoretical contributions such as those from Williams (1976), Forquin (1992), Goodson (1990), and Escolano (2006), which frame textbooks as instances of “edited curriculum” and selective tradition. Methodologically, the research combines theoretical analysis with empirical examination of reflective Teaching Practice Reports produced by pre-service teachers enrolled in a Japanese language licensure program. These reports (collected between 2016 and 2025) document lesson planning, teaching experiences, and the development of teacher-made materials within supervised teaching contexts. The corpus was examined through qualitative thematic analysis, focusing on recurring references to textbook use, lesson organisation, content selection, pedagogical adaptation, and reflections on teacher-made materials. Analytical categories were constructed inductively from recurrent patterns identified in the reports and interpreted in dialogue with the theoretical framework of Manualistics and curriculum studies. The analysis sought to understand how pre-service teachers justify pedagogical decisions and how these decisions reveal tensions between inherited textbook models and alternative approaches associated with critical and communicative language teaching.

The analysis suggests that textbooks frequently operate as implicit pedagogical models, shaping both content organisation and methodological assumptions in teacher education. Many pre-service teachers reproduce familiar textbook structures, often reflecting more structuralist and homogeneous conceptions of language and culture. At the same time, the

development of teacher-made materials emerges in the reports as a significant moment of pedagogical reflection. The process of selecting, organising, and adapting content requires pre-service teachers to confront practical and theoretical decisions regarding what and how to teach. The reports also indicate recurring difficulties related to content overload, time management, and balancing communicative and structural dimensions of language teaching. The study concludes that textbooks function not only as instructional resources but also as formative devices that shape pedagogical assumptions and professional practice. However, the analysis also indicates that the production of teacher-made materials, particularly when associated with reflective practice, may contribute to more critical and context-sensitive forms of teacher development in Japanese language education.

Escolano, B. A. (2006). El libro escolar y la cultura de la educación: La manualística, un campo en construcción. In B. A. Escolano (Ed.), *Currículum editado y sociedad del conocimiento: Texto, multimedialidad y cultura de la escuela*. Tirant lo Blanch.

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MICHAUX-COLIN, Florence

"Staying in the Game": Undertaking Professional Training in Response of the Emergence of Generative Artificial Intelligence in School?

Keywords. generative artificial intelligence, media and information literacy, professional teacher training

Abstract. How does professional training help teachers move from a defensive stance regarding generative artificial intelligence (Gen AI) to one in which they apprehend it as an educational object? This ongoing research examines how teachers (1) auto rated their understanding of artificial intelligence, and (2) how this rating influences their design of educational sessions around its use by students. Our theoretical perspective is based on Perrenoud's work (1996) and his concept of *teaching as a profession*, where teachers are at the same time strained by a strong collective institutional frame and facing alone problematic situations in the classroom. We also use Vergnaud (2011), showing that teachers facing an unfamiliar technical object first apprehend it analogically through objects already known to them. Data were collected by participant observation in three workshops intended for teacher-librarians (secondary school), based on a sharing of experience and a co-construction of sessions. The objective of these workshops was to design educational sessions to help students integrate generative artificial intelligence into their information ecosystem. Forms were used to identify the initial representations of the 18 participants of Gen AI technology. Respondents were also asked to engage in an exercise, ("If Gen AI was …"), thus taking up Bruillard's (2025) proposal to use the production of metaphors to better grasp certain representations necessary for the appropriation of Gen AI as a new educational tool.

Preliminary results show that two-thirds of the 18 teachers tend to reproduce behaviour already observed in response to the emergence of prior media like television or Web 2.0. Gen AI is accused of exposing pupils to disinformation and cognitive laziness and suspected of eventually leading to an inability to inform and document themselves. Gen AI systems are perceived as obstacles to learning processes. The participants who submitted negative metaphors are also those who slowed down the construction of pedagogical sessions during the workshops, insisting that the scenario focus on demonstrating to the pupils that Gen AI is not a reliable tool and focusing their discourses on the criticism of the tool itself. Teachers using more positive metaphors gradually elaborate pedagogical sessions introducing Gen AI as a help for academic progress and a tool for educational equality. Their objective becomes no longer to transfer existing informational skills, but to teach pupils how to use Gen AI as a new

tool to assess their ability to implement an information approach. Petit (2020) has described a similar cognitive process for each new media entering the classroom: TV was seen as a tool dazing pupils and Google as an instrument disseminating false information. By maintaining representations of an opaque and mystifying Gen AI, teachers risk removing precisely the conditions that make it possible for the pupils to appropriate it. The space for dialogue and experimentation offered by the training promotes an initial reflexivity that also appears during interviews. It remains to be seen whether this development is sustainable and could lead to a real appropriation. Frau-Meigs (2024) is promoting the idea that Gen AI has to be apprehend as a media instead of a technology. This opens up new perspectives in the construction of training curriculum for teachers.

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Frau-Meigs, D. (2024). *User empowerment through media and information literacy responses to the evolution of generative artificial intelligence (GAI)*. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000388547

Perrenoud, P. (1996). *Enseigner : Agir dans l'urgence, décider dans l'incertitude*. ESF.

Petit, L. (2020). *L'éducation aux médias et à l'information*. PUG.

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MORTENSEN-BUAN, Anne-Beathe, NORDBERG, Kari

Learning Design for Diverse Voices: Using Learning Materials on a Controversial Issue in Lower Secondary School

Keywords. learning materials, learning design, controversial issues, democratic participation

Abstract. This paper examines how teachers can design and use diverse learning materials to engage students in discussions of controversial issues, to support the development of democratic competence. The study explores how two experienced lower secondary teachers in Norway collaboratively planned and implemented an interdisciplinary teaching session on wolf conservation and management. This is a topic characterised by conflicting values, emotional investment, and competing knowledge claims, and is hence an example of what Jøsåk and Kjøstvedt (2024) describe as controversial issues in school settings. We explore the following question: How can teachers assemble, adapt, and apply diverse learning materials to represent multiple voices in a controversial issue to promote students' critical thinking and democratic participation?

The study is based on a qualitative case design drawing on three data sources: (1) learning materials developed by the teachers, including a multimodal student booklet; (2) transcripts from a recorded planning meeting; and (3) observations of the teaching session. Design for learning, as conceptualised by Selander and Kress (2010), and typologies of learning materials developed within IARTEM scholarship (Hansen & Gissel, 2017), guide the analytical approach. These frameworks highlight how teachers' professional judgement can shape adaptations and orchestrations of learning materials in dynamic classroom environments. The booklet assembled by the teachers integrated excerpts from public debates, digital journalism, fact-checking tools, social-media screenshots, role-based texts, and tasks from national learning platforms. These materials were didacticised and redidacticised to represent diverse perspectives, allowing students to engage with conflicting voices—including farmers, environmentalists, hunters, and activists—and to consider both the underlying values and the knowledge-based dimensions of the conflict. This process aligns with Hansen and Gissel's (2017) discussion of how teachers transform semantic and didactic learning materials to enhance learning potential.

Findings show that teachers' professional judgement was important for selecting, adapting, and sequencing learning materials to align with curriculum aims about Democracy and citizenship and Sustainable development, as formulated in the Norwegian Core Curriculum (Royal Ministry of Education and

Research, 2017). By introducing students to authentic controversies and guiding them through structured reflection, debate, and critical evaluation of sources, the teachers created learning opportunities that fostered democratic participation, perspective-taking, and critical literacy. The study illustrates how interdisciplinary teaching and diverse learning materials can support students in navigating complex societal issues, even when the issue is not personally charged in their local context. This work contributes to international discussions on diversity in educational materials by showing how teachers can creatively reimagine and design learning resources that give space to multiple voices and prepare students for participation in pluralistic, global societies.

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NAGURA, Satsuki, KAGEURA, Kyo

Characteristics of Logical Inference at the Transition to Higher Education: An Analysis of Arguments in Japanese University Entrance Examinations

Keywords. logic, argument, form of inference, university entrance examinations, Japanese language

Abstract. In the 2018 revision of Japan's Course of Study, the subject of Japanese was reorganised, introducing "Logical Japanese" as a new subject in upper secondary school. This reform aims to address the long-standing deficit of logical writing skills in higher education, implicitly assuming a gap between upper secondary and higher education. However, the precise nature of this gap and the specific level of logic expected of students have yet to be identified. This study aims to provide a starting point for elucidating this gap by examining university entrance examinations as a high-stakes educational medium that defines the requirements at the transition to higher education. The research question is to identify the characteristics of logic required at this transition, focusing on logical inference. We employed symbolic logic as an analytical instrument to objectively formalise forms of inference. The foundational unit upon which inferences are drawn and to which the property of being logical is attributed is the "argument," consisting of premises and conclusions (Copi et al., 2016, pp. 5–6). Translating arguments into symbolic logic allowed us to abstract away the contents and evaluate them purely based on the underlying forms of inference. Constructed-response questions and their model answers (approximately 50–150 characters) from the 2025 Japanese university entrance examinations, sourced from past-exam workbooks, were analysed. The 2025 examinations were selected because this cohort is the first to complete their secondary education under the latest curriculum, reformed in 2018 and implemented in 2022. We selected questions requiring reasons for specific claims in argumentative texts (e.g., "Why does the author make the highlighted statement?"), yielding 44 questions that constitute the complete pool under these criteria. All questions and their model answers were translated into logical expressions using symbols defined in propositional or predicate logic. We then reconstructed the underlying inferences using the rules of natural deduction, regarding the sets of questions and model answers as an argument, answers as premises, and questions as conclusions.

The analysis focused on two primary aspects: (1) the forms of inference employed and (2) the extent to which quantificational expressions (e.g., "all", "some") were integrated into inferences. The findings revealed that the logic required in examinations is largely confined to propositional logic. While we

attempted to formalise the arguments using predicate logic, 36% of the questions were found to be incompatible with this framework. These cases required transformations of propositions rather than operations that delve into their internal structure. The inferences were predominantly limited to elementary forms, specifically Modus Ponens ($P \rightarrow Q, P \vdash Q$) and Modus Tollens ($P \rightarrow Q, \neg Q \vdash \neg P$). Although rules for elimination and introduction of quantifiers ($\forall, \exists$) appeared in some arguments, they did not play an essential role in inferences. The findings indicate that entrance examinations rely on a limited set of forms and pay little attention to quantification. Although the logic is emphasised in the latest curriculum, entrance examinations do not yet require advanced inferences. This study provides a critical starting point for redefining what should be taught about logic in language.

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NAKAZONO, Yuki

West German Demand for GDR Educational Materials: The Correspondence of the Schoolbook Publisher *Volk und Wissen*, 1969–1973

Keywords. Volk und Wissen, East and West Germany, schoolbook publishing, demand

Abstract. This presentation examines the correspondence between the export department of the German Democratic Republic (GDR) schoolbook publisher Volk und Wissen and West German actors from the late 1960s to the early 1970s. It analyses around 1,300 letters preserved in the *Bundesarchiv* (German Federal Archives; collection DR 200), most of which were written in response to West German inquiries from 1969, 1971, 1972, and 1973. This period coincided with the years of West Germany's *Ostpolitik*, a policy of rapprochement toward Eastern Europe and the GDR. The analysis focuses on which groups of West German actors showed interest in educational materials from the GDR and how this demand was distributed regionally and thematically. At the time, GDR publications were commonly obtained in the Federal Republic of Germany (FRG) either through the state intermediary for book exports and imports, *Deutsche Buch-Export und -Import GmbH*, or through West German publishers holding licensing rights. Some interested parties, however, contacted Volk und Wissen directly to order materials or request free sample copies. About half of the surviving letters are replies addressed to private individuals or schools, while the remainder are addressed to bookshops, publishers, or libraries. The correspondence is analysed qualitatively and quantitatively in terms of sender groups, themes, and regional origin. Many of the letters mention requested titles or journals, thereby providing insight into concrete interests. As Rau (2023) has shown, the FRG was an important market for Volk und Wissen as a source of foreign currency. Since the 1950s, the publisher had sought contacts with West German partners in order to sell licensing rights and place advertisements. The surviving letters reveal how the publisher was embedded in exchanges with West German educational circles. Because the correspondence consists almost exclusively of the publisher's reply letters, while the original inquiries are largely missing, and because the surviving correspondence contains no letters from 1970, the analysis can capture only those patterns of demand that are visible in the preserved replies. It is therefore contextualised through additional publishing sources, such as annual reports and internal documents. The paper explores how East and West Germany were connected through schoolbooks and educational materials as material objects. Blume (2024) has analysed the Leipzig Book Fair as a nexus of book circulation, publishing

exchange, and cultural politics between East and West Germany during the Cold War, and she identifies the Ostpolitik period as a phase in which pre-existing contacts in the book trade were institutionally expanded. Against this backdrop, this study approaches schoolbooks not only as pedagogical texts but also as media of exchange. It argues that, even amid ongoing political antagonism, schoolbooks and educational materials could cross political borders and make transnational dimensions visible. In this way, the paper contributes to schoolbook research by highlighting the circulation, exchange, and reception of educational materials in divided Germany.

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NINOMIYA, Akira

Delphi Study on “Textbooks of the Future” in the Post-Digital Era

Keywords. post-digital era, future textbooks, Delphi method, generative AI, textbooks

Abstract. As the *post-digital era*—a period where digital technology functions as a permanent, invisible infrastructure—permeates global education, the fundamental definition of the textbook is shifting from a static information container to a dynamic, AI-augmented learning environment. While recent bibliometric research indicates a surge in studies on digital classrooms, particularly in the Asia-Pacific region, a critical gap remains in understanding how localised socio-cultural values interact with global technological trends. This study aims to identify the major trends impacting the future of educational media and to construct foresight scenarios for textbooks toward the 2035–2040 horizon. To achieve this, a multi-stage Delphi study was conducted. In the initial round, 22 trends and 20 specific textbook characteristics were identified based on the ideas of 28 experts. These findings formed the basis for subsequent quantitative rounds. This presentation discusses the comparative results of an International Delphi Survey (n = 33, primarily from Europe and the Pacific Rim) and a Japanese Delphi Survey (n = 39), highlighting the divergence between global technological trajectories and regional (Japanese) pedagogical (textbooks, curriculum) features and implementation.

A multi-round Delphi method was employed between 2024 and 2025 to build consensus among global experts, including researchers, publishers, and policymakers. Data were collected using a 5-point Likert scale. Beyond descriptive statistics (mean, standard deviation, and median), the analysis utilised Pearson correlation coefficients (r) and p-values to uncover the structural relationships between macro-technological trends and localized pedagogical features. This approach allows the study to move beyond surface-level agreement to identify the underlying logic of expert consensus.

The results reveal a striking *statistical synchronicity* regarding the primary drivers of change. Both cohorts identified the widespread adoption of Generative AI (Trend 10) and general technological innovation as the most impactful trend (Japan M = 4.38; International M = 4.36). However, a dramatic *AI Agency Gap* emerged concerning the autonomy of artificial intelligence. While international experts leaned toward accepting AI-designed textbooks (Feature 6: M = 3.45) and AI-based national curricula (Feature 5: M = 3.48), Japanese experts explicitly rejected these concepts (F6: M = 2.46; F5: M = 2.74). Correlation analysis further reveals a distinct structural divergence. In

the Japanese cohort, a statistically significant positive correlation was found between the adoption of GenAI (T10) and the acceptance of AI-based curricula (F5: $r = 0.35$, $p = 0.03$) and AI-led textbook design (F6: $r = 0.35$, $p = 0.04$). In contrast, while the international cohort showed similar r-values, these relationships did not reach statistical significance (F5: $p = 0.21$; F6: $p = 0.22$). Furthermore, the impact of Government DX Policy (T1) showed a stronger statistical trend toward pedagogical features in Japan (F5: $p = 0.07$; F6: $p = 0.10$) compared to the international data (F5: $p = 0.36$; F6: $p = 0.13$). This study proposes the “Strategic Pacer” model to describe Japan’s unique trajectory: a state of being technologically synchronised with global trends yet pedagogically cautious. While GenAI is accepted as a foundational infrastructure, the delegation of educational agency remains heavily mediated by regional values and human-centric governance.

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ÖNDER, Cetin

Beyond the Official Curriculum: Teacher Agency and Local Adaptation in Turkish Heritage Language Education in Germany

Keywords. heritage language education, teacher agency, culturally responsive pedagogy, curriculum enactment, multilingualism

Abstract. Textbooks are often treated as fixed pedagogical artifacts transmitting predetermined ideologies (Apple & Christian-Smith, 1991). Yet research in curriculum studies has shown that teachers do not simply implement textbooks but actively mediate, interpret, and transform them in practice (Priestley et al., 2015). This paper examines how teachers in Turkish heritage language (Herkunftssprachenunterricht/Erstsprachenunterricht) classrooms in Germany negotiate between textbook mandates—ranging from Turkish state-produced MEB materials to locally developed series such as Anadolu and Önel Verlag—and the lived realities of their multilingual, multi-generational student populations (Gogolin, 2025; Karadağ & Baş, 2019). The study draws on three interconnected strands. The primary analytical lens is Priestley et al.'s (2015) ecological model of *teacher agency*, which reconceptualises professional practice as emerging from the interplay between individual dispositions, structural conditions, and cultural-discursive resources. This is complemented by *curriculum enactment* research (Shawer, 2009), which foregrounds teacher use of textbooks as pedagogical negotiation rather than neutral implementation, alongside *culturally responsive pedagogy* (Gay, 2018). Together, these frameworks enable an analysis of teacher-enacted adaptations as a form of curricular co-creation that fundamentally reshapes how official materials function in practice.

The study is guided by the following questions: (1) How do teachers modify, supplement, or bypass textbook materials they perceive as outdated, irrelevant, or ideologically problematic? (2) What local knowledge and contemporary experiences do they integrate into their teaching? (3) How do they navigate tensions between textbook narratives and students' present-day realities in German urban contexts? (4) What strategies do teachers employ to address sensitive topics—such as religion, gender roles, or identity conflicts—that they perceive as being handled inadequately? The study employs a qualitative multi-method design within an interpretive paradigm (Creswell & Poth, 2018). Following a preliminary questionnaire, data collection is currently underway across three strands: (1) semi-structured interviews with HSU/ESU teachers, focused on pedagogical decision-making and strategies for localising content; (2) classroom observations, with attention to textbook adaptation and reframing; and (3) documentary analysis of teacher-produced

supplementary materials as tangible evidence of curricular co-creation. Data will be analysed using reflexive thematic analysis (Braun & Clarke, 2022), enabling both inductive coding and deductive application of the theoretical frameworks. This qualitative approach is appropriate because teacher agency is enacted through tacit knowledge and adaptive strategies that textual resources alone cannot reveal and quantitative surveys cannot capture. This paper contributes to IARTEM's focus on teachers as co-creators by demonstrating that textbook research must account for the enacted curriculum of teacher-mediated adaptations. It argues for reconceptualising heritage language textbooks not as complete pedagogical packages but as negotiable scripts that teachers interpret, resist, and transform in light of local contexts and professional judgment. The study offers insights for textbook design, teacher education, and policy in multilingual settings.

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Shawer, S. F. (2009). Classroom-level curriculum development: EFL teachers as curriculum-developers, curriculum-makers and curriculum-transmitters. *Teaching and Teacher Education*, *26*(2), 173–184.

PORUBOVÁ, Nikol, SIKOROVÁ, Zuzana, ČERVENKOVÁ, Iva

Learning Materials in the Context of Inclusive Education at Lower-Secondary Schools in English and Science Education

Keywords. inclusive education, inclusion-sensitive learning materials, teacher agency, lower secondary education

Abstract. The role of learning materials in inclusive education is increasingly acknowledged; however, existing research has predominantly focused either on the design of materials or on teachers' beliefs about inclusion, with limited attention to how inclusive potential is actually identified and enacted in everyday work with materials. This creates a gap in understanding inclusion as a situated and materially mediated practice rather than a property of resources themselves. This study therefore aims to examine how lower-secondary teachers of English and Science conceptualise and enact inclusion-sensitive learning materials in practice. It asks: (1) How do teachers interpret the inclusive potential of learning materials? (2) What inclusive elements do they enact through their work with these materials? (3) How are these practices shaped by professional uncertainty and systemic constraints? To address these questions, the study adopts a sequential mixed-methods design grounded in paradigmatic pluralism (Tashakkori & Teddlie, 2010). Data were collected through interviews combining structured and open-ended components with 87 teachers (English n = 40; Science n = 47). Quantitative elements provided an overview of response patterns, while qualitative analysis enabled in-depth exploration. In addition, in-depth qualitative interviews were conducted with eight selected teachers and analysed using reflexive thematic analysis (Braun & Clarke, 2019), followed by typological analysis (Cohen et al., 2017) to capture patterned configurations of practice.

The findings challenge the assumption that inclusivity can be understood as a stable feature of learning materials. Instead, inclusion emerges as an enacted and contextually mediated property shaped by teachers' interpretative and adaptive work. Teachers demonstrated fundamentally divergent conceptualisations of inclusion-sensitive learning materials, ranging from proactive design-based differentiation, through selective and situational adaptation, to approaches that reject material differentiation in favour of instructional compensation. Five interrelated dimensions were identified: (1) divergent conceptualisations of inclusion-sensitive materials, (2) teacher agency as a mediating mechanism of inclusive enactment, (3) professional uncertainty as a structural feature of practice, (4) systemic constraints shaping the scope of action, and (5) wellbeing as a boundary condition of sustainability. Notably, uncertainty was not limited to novice teachers but appeared as an inherent aspect of negotiating inclusive material work, while

systemic constraints were differentially interpreted in relation to professional responsibility. The typological model further reveals three distinct orientations-structurally integrative, reflective-pragmatic, and instructionally compensatory which represent qualitatively different logics of how inclusion is conceptualised, enacted, and sustained. These orientations do not reflect levels of commitment but distinct configurations of agency, constraint, and sustainability. By conceptualising inclusion as an enacted property of learning materials, the study contributes to reconceptualising the role of materials in inclusive education. It foregrounds the material dimension of teacher agency and demonstrates that inclusive potential is co-constructed through the interaction of materials, professional judgement, and institutional conditions. These findings have implications for the design, evaluation, and use of learning materials, as well as for supporting sustainable inclusive practices in diverse classrooms.

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POUGNET, Danielle

Fighting Inequality and Failure in Higher Education: The Role of a Methodology Handbook in Developing Academic Skills – A Study in Nursing Education

Keywords. transversal competencies, third-party mediator, social inequalities, cultural capital, secondary-to-higher education transition, educational materials

Abstract. The transition from secondary to higher education represents a critical challenge for many students, particularly in professional training programmes such as nursing. This transition requires mastering new academic codes and methodological skills that are often left implicit, thereby creating inequalities among students depending on their cultural capital (Bourdieu, 1979). This study investigates whether a dedicated methodology handbook can function as an effective mediating tool—*a third-party mediator* (Pougnet, 2022)—to reduce these inequalities and support academic success among first-year nursing students. The research problem emerged from a striking observation made in a nursing training institute in 2022: 98% of surveyed students considered the methodology teaching unit non-essential to their academic success, while 70% believed they had already mastered the required academic skills. In reality, only 12% had validated that unit, and the majority were struggling across all teaching units. This gap between perceived and actual competence, closely linked to students' varying cultural capital, motivated the development of a methodology handbook (Pougnet, 2024) and the present comparative study. The central research question is: Can a methodology handbook serve as an effective third-party mediator to foster the acquisition of academic skills and reduce achievement inequalities in first-year nursing education? The study adopts a mixed-methods comparative design, drawing on both quantitative and qualitative data collected across two cohorts of first-year nursing students who followed the same methodology course delivered by the same instructor. Cohort A did not have access to the handbook, while Cohort B used it throughout the academic year. Data sources include academic results, questionnaires administered at three time points (beginning of year, end of first semester, end of year), and semi-structured interviews conducted at the end of the year with a sample of students from both cohorts.

Results demonstrate significant differences between the two cohorts. Cohort B showed higher pass rates not only in the methodology unit, but across all teaching units, suggesting effective transfer of acquired skills. 89% of Cohort B students reported using the handbook regularly across their courses. 50% noted improved personal organisation, reflecting the development of self-regulated learning strategies consistent with Zimmerman's (2002) model.

Students also reported greater academic confidence and a reduced dropout rate. Importantly, the perceived utility of methodology teaching evolved positively throughout the year for Cohort B, in line with expectancy-value theory (Eccles & Wigfield, 2002), while Cohort A showed no such change. Students in Cohort A also displayed more difficulty transferring methodological tools to other units. These findings confirm that the handbook functions as a third-party mediator in the sense defined by Pougnet (2022): an instrument that renders implicit academic expectations explicit, fosters the internalisation of learning strategies through Vygotskian (1997) mediation, and contributes to greater equity by democratising access to academic codes regardless of students' cultural background. This research has direct implications for the design of educational materials in professional higher education and for addressing inequalities in learning resources.

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POUGNET, Danielle

From Textbook to Active Mediator: The Transformation of the Handbook in Hybrid Learning Environments in Nursing Education

Keywords. educational materials, handbook, hybrid learning, mediation, nursing education

Abstract. The handbook is one of the most enduring and widely studied educational materials in professional training. Yet its actual function in contemporary learning environments—where students navigate a complex ecosystem of digital tools, peer networks, AI assistants and clinical resources—remains underexplored. This paper addresses that gap by asking: how does the handbook transform its function in hybrid learning environments, and what new role does it assume in relation to the diversity of digital and human mediators available to students? The study draws on the conceptual framework of the *third-party mediator* (tiers) developed by Pougnet (2022), which theorises learning as a dynamic relational system involving the learner, a mediating figure (*passeur*)—human, material or immaterial—and an in-between space (*entre-deux*) where meaning is constructed. This framework is deployed here as an analytical tool focused specifically on the handbook as a material mediator, in order to examine how it articulates with, competes with, or complements other mediating resources in hybrid environments. The research adopts a qualitative, comprehensive and inductive design. Empirical data were collected over six months in a nursing training institute (IFSI) in Normandy, France, with 182 first-year nursing students. Three complementary methods were used: empirical observation of students across their different learning spaces (lecture halls, skills labs, digital platforms, clinical placements); 18 comprehensive group interviews exploring students' representations of learning resources and their actual practices; and documentary analysis of digital interaction traces and circulated materials, including annotated handbook copies shared among peers. Data were analysed using categorical content analysis (Bardin, 2013), with a specific grid constructed to identify mediator types, handbook uses and in-between space dynamics.

The findings reveal four successive and sometimes simultaneous transformations in the handbook's function. First, it shifts from an individual reference tool to a shared language: students use it as a common vocabulary that structures peer exchanges across digital and physical spaces. Second, it moves from individual reading to a collective object: annotated copies circulate, pages are photographed and shared via WhatsApp, and the handbook becomes the anchor of collaborative study sessions. Third, it serves

as a bridge between formal and informal learning: students mobilise it not to memorise content, but to legitimise and validate the informal knowledge constructed through peer networks and clinical experience. Fourth, it partially substitutes for the instructor as the primary source of authoritative knowledge, prompting a reconfiguration of the instructor's role from knowledge transmitter to resource curator and learning facilitator. Critically, the handbook retains a distinctive function that digital mediators cannot replicate: its institutional legitimacy and structural stability make it an irreplaceable anchoring node in an otherwise fluid informational ecosystem. These findings have direct implications for the design of educational materials in professional higher education. Handbooks should be conceived not only as content repositories but as social and relational objects designed to support annotation, circulation and collaborative use. The research also opens questions about how students from diverse cultural and linguistic backgrounds relate to the handbook as a mediating object—a dimension that remains to be explored and is directly relevant to the conference's central theme of diversity in educational materials.

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RODRÍGUEZ GUIMERÁNS, Ana, MARTÍNEZ DELGADO, Clara, CASTRO RODRÍGUEZ, María Montserrat

Diversity in Children's Storybooks: A Discourse Analysis of Diversity in Contemporary Children's Literature

Keywords. early childhood education, children's literature, critical discourse analysis, inclusive education

Abstract. Early Childhood Education (ECE) constitutes the first formal educational experience for children. Although this stage is not compulsory within the Spanish education system, enrolment rates in the second cycle of ECE (ages 3–6) reach approximately 97% of the child population (Instituto Nacional de Estadística, 2025). During this period, children engage with a wide range of didactic materials and resources that not only support the development of the competences established in the relevant regulations, but also contribute to the acquisition of social values—and counter-values—that shape their understanding of the world and of those who inhabit it. Among these materials, children's storybooks hold particular relevance due to their longstanding role in conveying moral and social content through playful, appealing and accessible narratives, which accounts for their strong presence in contemporary early childhood education. In recent years, the pedagogical value of storytelling has been accompanied by a proliferation of new thematic approaches that respond to the characteristics of today's society: complex, ever-changing and diverse (Anaya Reig et al., 2025; Tovar Martínez & Polo Sánchez, 2021).

Within this context, the present study aims to describe and analyse how diversity is represented in a sample of five storybooks widely popular among Early Childhood Education in Spain. Methodologically, this research employs Critical Discourse Analysis (CDA). This method provides an analytical framework for investigating the narratives in children's books and their projection onto social practice (Fairclough, 2023). From a CDA perspective, the analysis does not assume that the voices and actions of fictional characters directly reflect the authors' intentions, but rather examines how meanings about diversity are discursively constructed through textual, visual and semiotic elements. Critically examining discourse necessarily entails understanding that written texts are enacted in everyday practices. It is precisely through this translation of discourse into social practice that the possibility—or impossibility—of achieving genuinely inclusive education emerges. The selection of the five picture books was carried out through a systematic review of educational platforms and teaching blogs using the search criterion *stories to work on inclusion*. The most frequently recommended titles across these sources were subsequently selected, as

their recurrence across sources suggests their visibility and circulation within Early Childhood Education contexts. The analytical categories focus on the construction of gender and the imaginaries surrounding diversity, examining text, images and other semiotic components integrated within the storybooks. Following the review of the selected titles (*Elmer*, *The Rainbow Fish*, *Por cuatro esquinitas de nada*, *El cazo de Lorenzo*, *Monstruo Rosa*), the analysis reveals that while contemporary children's literature often expresses a clear intent to promote inclusion, narrative patterns that perpetuate deficit-based and ableist perspectives persist. Whereas some stories celebrate difference as a source of richness, others rely on the abandonment of the *self* (constructed as different and therefore problematic) in order to attain social acceptance. Thus, although core values such as empathy, respect, collaboration and solidarity are prominently conveyed, they often coexist with paternalistic portrayals of those who fall *outside the norm*. Ultimately, there is a pressing need to move beyond narratives that merely explain differences towards stories that approach human diversity as a natural and inherent aspect of existence.

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RODRÍGUEZ GUIMERÁNS, Ana, RODRÍGUEZ RODRÍGUEZ, Jesús, MARTÍN GÓMEZ, Sebastián, GAYO PÉREZ, Pablo

Digital Teaching Materials in Compulsory Secondary Education in Spain: Main Findings from the secundari@ digit@l Project

Keywords. education, educational technology, didactic material, web portal, secondary school

Abstract. This paper presents the main results of the research project *Digital teaching materials in Compulsory Secondary Education: analysis and proposals for their school and socio-family use* (*Secundari@ Digit@l*, PID2022-137366OB-I00). The project is structured around four main objectives: to analyse the pedagogical and technological characteristics of a sample of digital educational content repositories and platforms designed for Compulsory Secondary Education, including both commercial and institutional initiatives (Study I); to identify the representations and views of the different stakeholders involved (teachers, students, families, and publishers) regarding the transition from textbooks to digital teaching materials (DTM) (Study II); to explore the educational use of these materials in the classroom and their impact on teaching and learning processes, with particular attention to student diversity, through a sample of schools in the Canary Islands, Galicia, and the Valencian Community (Study III); and, finally, to transfer the knowledge generated through training activities aimed at different educational stakeholders, as well as through the development and validation of a multimedia and interactive guide including recommendations for the creation and educational use of these materials (Study IV).

Based on these objectives, the project seeks to answer questions such as the following: What types of digital educational materials are currently offered in the Spanish context for Compulsory Secondary Education?; What pedagogical models underlie these offerings?; What differences exist between commercial and institutional platforms?; What representations do the different educational and social stakeholders hold about them?; How are these materials used in practice?; What impact do they have on teaching and learning processes?; and What recommendations can be made to promote the pedagogically meaningful production and use of online school resources and content?

To address these questions, the project adopts a mixed-methods research design, combining quantitative and qualitative approaches. The data collection instruments were designed *ad hoc* and validated through expert judgement. In Study I, a total of 11 platforms, 115 DTM, 29 applications, and 18 video games were analysed. In Study II, a total of 25 interviews were conducted with 68

participants. In Study III, three case studies were carried out in educational institutions. This paper will present the most relevant findings of the project, which is currently in its final stage of development. Particular attention will be paid to the results derived from Studies I, II, and III, and some of the main knowledge-transfer initiatives currently being developed within the framework of the project will also be outlined.

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ROUMY-AKUE, Magali, LOFFREDA, Magali, KUMMER-HANNOUN, Pascale

For an Open, Inclusive and Empowering Documentation and Information Center: Co-designing a “Signage Constellation” as a Didactic Agent in an Agrocampus

Keywords. didacticized signage, enabling environment, boundary object, co-design, agricultural education

Abstract. Agricultural education today faces the challenge of training professionals in the Anthropocene era. In this context, the *Cultiv'@cteurs* research project, which has been underway since 2023 at an agricultural campus in the Paris region, aims to expand access to and use of resources that facilitate the acquisition of the knowledge and skills needed to train these professionals. However, there is a significant disconnect between theoretical documentary resources and concrete professional environments. More specifically, students at the agrocampus struggle to make the connection between the botanical knowledge acquired at the Documentation and Information Center (CDI) and the living plants handled in the sales greenhouse. The central research question is how to design an educational signage system that connects these two spaces and their distinct classification systems—botanical, documentary, and commercial—in order to create a “conducive environment” for training. According to Cuvelier and Fernagu (2023), such an environment must ensure that resources are not only available but can also be effectively applied in professional practice.

The study employs a design research epistemology where the "project" serves as an epistemic instrument for thinking in action. This approach, grounded in Findeli (2005), is relevant because it allows for the formulation and testing of hypotheses through the creation of artifacts in direct empathy with stakeholders. The methodology integrates ethnographic traditions with a co-design process. This collaborative posture is essential for accessing situated knowledge, aligning with the principles of empathic design described by Gagnon and Côté (2014). Research was conducted in two distinct phases to gather comprehensive data. During the first ethnographic phase, data consisted of field immersions, photographic documentation, field notebooks, and informal interviews with staff. Analysis focused on the “classificatory discordance” between the Universal Decimal Classification in the CDI and merchandising logics in the greenhouse. Classification systems were analysed as “boundary objects” that facilitate or hinder coordination between heterogeneous worlds. This follows the framework of Trompette and Vinck (2009), viewing such objects as supports for heterogeneous translations. In the second co-design phase, empirical data included recorded workshop

sessions, student drawings, and documentary research logs from a cohort of BTS students. This phase utilized the “boundary object” framework to understand how learners navigate the consequences of classification, as explored by Bowker and Star (1999/2023).

Initial findings revealed a state of “signage eclecticism” where existing indicators were graphically heterogeneous and buyer-oriented rather than learner-oriented. This led to the development of a “signage constellation”, which is a flexible, seasonal, and appropriable visual system. Preliminary workshop results indicate that learners initially engage with plants through affective and aesthetic lenses rather than professional or ecological ones. Consequently, the signage object is redefined as a “didactic agent” that must operate an “attentional conversion”, shifting the learner’s gaze from the plant as an object of desire to the plant as a biological organism within a professional ecosystem.

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SASAKI, Yuta, MIYATA, Rei, ABEKAWA, Takeshi, KAGEURA, Kyo

Developing and Applying a Systematic Classification Framework for Visual Representations in Textbooks: An Exploratory Analysis of Japanese Primary and Lower Secondary Science Textbooks

Keywords. visual representation classification, Japanese science textbooks, primary school, lower secondary school, quantitative analysis

Abstract. Visual representations—such as photographs, illustrations, graphs, and maps—constitute an important component of school textbooks (Pingel, 2010, pp. 48–49). To advance our understanding of these visual representations, it is necessary to clarify (1) what types of visual representations appear, (2) how frequently they occur, and (3) how they are arranged. Such foundational analyses are important for two reasons. First, identifying the types of visual representations can improve the comprehensiveness of subsequent applied research, such as studies measuring students' understanding of visual materials. Second, quantitative data on the frequency and spatial distribution of visual representations enable both diachronic and synchronic comparisons across textbooks and subjects. However, such analyses involve methodological challenges. Most notably, there is no widely shared framework for consistently identifying and classifying visual representations with sufficient reliability. Some studies of textbooks developed frameworks for qualitative analysis of visual representations focusing only on representation types (LaDue et al., 2015; Tang, 2022), but some important points remain ambiguous, including what constitutes the minimal unit of analysis, and how different types should be categorised. This also makes it difficult to compare results across different studies.

To address these issues, this study proposes a preliminary framework toward an explicit classification of visual representations in textbooks. First, a review of previous studies that have measured visual representations shows that such research has been conducted without a shared fine-grained classification framework. A framework was then developed through an exploratory analysis of visual representations in two Japanese science textbooks—one primary and one lower secondary—published by Tokyo Shoseki, a major textbook publisher in Japan. Science textbooks were selected because they contain a relatively large number of visual representations compared with other subjects in Japan (Asato et al., 2020). The focus on primary and lower secondary textbooks reflects previous research indicating a gap in linguistic representations between these school levels (Arai & Kageura, 2020). Through a comprehensive examination of visual representations in the two textbooks and manual exploratory coding, classification rules were developed. The

proposed framework consists of two stages. First, the minimal units (areas) of visual representations are identified and then their types are determined, including procedures for handling borderline cases across categories. Second, these minimal units are combined according to explicit rules. Although further validation across additional textbooks and subject domains is required, this compositional procedure can reduce ambiguity and enable consistent identification across coders. Based on the coding results from the proposed framework, both the number and total area of visual representations were measured.

In both primary and lower secondary textbooks, photographs and illustrations predominated: photographs accounted for 54.6% (primary) and 46.9% (lower secondary) of the total, while illustrations accounted for 42.2% and 44.6%, respectively. In contrast, the number and total area of tables, graphs, and maps tended to increase in lower secondary textbooks. Regarding domain-specific differences, the number of photographs per page increased from primary to lower secondary school in the biology domain, whereas a decreasing trend was observed in the other domains (i.e. physics, chemistry, and earth science).

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SCHLÖSSER, Nico

Discursive Plurality in a Textbook Series for German as a Foreign Language – and How to Work with Critical Textbook Literacy in the Foreign Language Classroom

Keywords. GFL textbook, multimodal critical discourse analysis, discursive plurality, critical textbook literacy, foreign language classroom

Abstract. Language textbooks participate in negotiating orders of belonging. When it comes to societal heterogeneity, research has repeatedly shown that such textbooks tend to restrict and exclude, mainly due to stereotyping and homogenisation. In this paper, I conduct a Multimodal Critical Discourse Analysis (Machin & Mayr, 2023) of *prima aktiv*, a textbook series for German as a foreign language in lower secondary school, published in Germany for the international market. To increase the transformative impact of my analysis, I investigate the textbook series from the perspective of discursive plurality. My research questions are: (1) Regarding societal heterogeneity, what instances of discursive plurality are to be found in *prima aktiv*? (2) To what extent is discursive plurality observable throughout the textbook series? Thus, both discursive openings and closings are addressed. I understand the concept of discursive plurality as the discursive construction of social realities in which multiple meanings, perspectives, positions and agentic options are made possible (Zabel, 2024). Societal heterogeneity is located within four dimensions of social identity (Appiah, 2018): (1) race-ethnicity-language-religion-country, (2) social class, (3) gender, (4) (dis)ability. Expanding Weninger's (2021) framework, I analyse how discursive openings and closings operate within different functional types of meaning construction: (1) meaning as representation, pointing at ideational plurality within the represented world of human experiences; (2) meaning as perspectivation, which implies that various subject positions (incl different epistemologies) can be made possible through the allocation of multiple voices; (3) meaning as interaction and interpellation, which focuses on how visuals position viewers and on how tasks (and the linguistic resources that they provide) address and position learners; (4) meaning as action, asking to what extent the textbook series encourages learners to challenge representations.

Findings indicate that *prima aktiv* represents societal heterogeneity mainly through visuals of Black, Indigenous, People of Colour (BIPoC), migrant names and real-world people with migration experiences; through limitations, cost negotiations and low(er)-cost activities; through separation and single parenthood; through people with physical impairments. The textbook series contains numerous text formats (e.g., online forums and podcast interviews) that make individual voices visible and heard. Due to richness of details and

local contexts, the vlog episodes included in *prima aktiv* seem to have a particular potential as discursive devices of pluralisation. Open and pluralising interpellations are also detectable. The textbook series does not offer tasks that encourage regular work aimed at challenging representations. Discursive closings include an essentialist understanding of cultures, racialisation and ethnicisation, stereotyping (e.g., through stock images and European gazes) and the normalisation of middle-class living conditions, of nuclear families with heterosexual parents and of able-bodied people. Aiming at Critical Textbook Literacy (as a variant of Critical Literacy), my paper concludes with suggestions for how critical and transformative work with restrictive textbook representations could be done in the foreign language classroom. Overall, my study is grounded in critical (decolonial and anti-racist) pedagogies for foreign language education (Kubota & Motha, 2025; Zabel, 2024) and may also serve as a methodological stimulus for further textbook analysis.

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SHESHADRI, Shruti

From Skills to Sociocultural Practice: A Continuum-Based Rubric for Analysing Language Arts Textbooks

Keywords. textbook analysis, language pedagogy, sociocultural learning, communicative language teaching, comparative education

Abstract. Research on language arts textbooks has largely focused on content representation and curriculum alignment, offering limited insight into how textbooks conceptualise language learning theoretically. In particular, existing approaches do not adequately capture the continuum between skills-based, functional models of instruction and integrated, sociocultural approaches to language as practice. This paper addresses the following research question: How do textbooks systematically account for the pedagogical continuum between divisive, skills-based instruction and integrated, sociocultural language learning? To address this gap, the paper introduces a continuum-based analytical rubric grounded in traditions of EFL/ESL textbook analysis and sociocultural theories of language learning. The rubric organises textbook features along a three-point continuum ranging from mechanical, decontextualised skill instruction to interactive, communicative, and culturally embedded language use. Its methodological contribution lies in operationalising pedagogical assumptions through a set of structured variables, including phonics development, use of learners' first language (L1), opportunities for group work, design of learning activities, and integration of communicative tasks. This approach enables systematic comparison across textbooks while preserving sensitivity to pedagogical nuance. The rubric was developed and iteratively applied to a purposive sample of early-grade reading books across four national education systems. Textbooks were analysed dimension by dimension, with each feature positioned along the continuum to identify patterns of pedagogical orientation within and across contexts.

Preliminary findings indicate that textbooks rarely align consistently with a single pedagogical paradigm. Instead, they exhibit hybrid and sometimes contradictory configurations, combining communicative elements with strongly segmented skill instruction within the same units. These patterns suggest that textbooks function as sites where competing theories of language learning are negotiated rather than coherently implemented. By offering a theoretically grounded and empirically tested methodological tool, this paper contributes to comparative textbook research and provides a framework for analysing how pedagogical paradigms are encoded in educational materials.

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SLEZÁK, Patrik

Mastering the Prompt: Secondary School Teachers' Perspectives on Designing Learning Materials with AI

Keywords. artificial intelligence, learning materials, pedagogical prompting, material design, secondary education

Abstract. The growing availability of artificial intelligence (AI) tools has expanded the ways teachers can design learning materials (UNESCO, 2023). While teachers' opinions on AI are ambivalent (Kopecký et al., 2023), research shows that educators are increasingly using AI to develop instructional content such as test items, worksheets, and differentiated activities (Crosthwaite et al., 2024). Yet despite this growing adoption, significant ethical concerns persist, particularly around output reliability and threats to student independence (Uygun, 2024). Recent data reveal that 53% of Czech educators utilise some form of AI tool, with 35% having experience specifically with ChatGPT (Kopecký et al., 2023). Nonetheless, the specific tasks for which teachers use AI during the pre-interactive stage of teaching, especially concerning the creation of learning materials within the Czech environment, have not been investigated. This study addresses the following question: What are the perspectives and experiences of Czech secondary school teachers regarding the use of AI in designing learning materials? Additionally, this study examines the challenges educators face and the new skills required to develop educationally effective resources. A qualitative research design was employed to capture the depth and complexity of teachers' subjective experiences with AI-assisted material design for teaching purposes. The study focused on seven Czech teachers at upper secondary pedagogical schools selected through purposive sampling to ensure maximum variability in subject specialisation, experience and prior technological proficiency. This institutional context is particularly relevant, as participants stated that the lack of suitable textbooks for pedagogical programs compels teachers to create original resources, highlighting the potential of AI tools in material design. Data were collected through individual semi-structured interviews conducted between January and February 2025. The interviews, ranging from 22 to 41 min, were recorded, transcribed and anonymised. Open coding was performed using Atlas.ti software, followed by reflexive thematic analysis (Braun & Clarke, 2019), a method that enables the identification of patterns within the data while acknowledging the researcher's active role in interpretation.

The analysis revealed that teachers perceive AI through a lens of profound ambivalence regarding the design of learning materials. A core theme emerged around the concept of *pedagogically oriented prompting*—the ability to formulate instructions that align with specific didactic goals, student

proficiency levels, and curricular demands. Participants identified this skill as a decisive factor in determining the quality and usability of AI-generated content. Active users reported significant time savings in producing test questions, differentiated tasks, and activity suggestions, describing AI as a *fountain of ideas* for resource design. However, all participants emphasised that AI-generated materials invariably require teacher review and adaptation because the outputs may contain inaccuracies or lack contextual relevance. The study suggests that for AI to become a constructive partner in material design, professional development must move beyond generic technical training toward didactically grounded prompt engineering, equipping teachers with strategies for crafting prompts that yield accurate, relevant, and pedagogically valuable learning resources.

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STARÝ, Karel, STARÁ, Jana

The Use of Digital Interactive Textbooks in Higher Education

Keywords. digital textbooks, higher education, digital textbook user behaviour

Abstract. Student teachers must be viewed not only as learners, but also as users of pedagogical approaches that are conveyed through the textbooks they learn from. Textbooks must then shift from expository texts to a flipped approach in which texts focus on elements directly tailored to the needs of students, who very often are in teaching practice while studying (Sockett, 2025). On the other hand, authors aim to provide students with a comprehensive understanding of key concepts, one that is not reduced to the mere application of individual techniques. Creating structured and comprehensive content that students will use effectively is not currently simple, given the great diversity of resources and offerings available on the internet (Roncaglia, 2018; Stará & Vodrážková, 2022). This was more feasible in traditional static textbooks than in reactive, interactive, and immersive documents (Bruillard, 2022). We believe that research into how digital teaching materials are used by student teachers can contribute to an understanding of how to design materials so that they respond to students' needs and contribute to comprehensive and structured teacher education. We ask the following research questions: How do students use digital interactive textbooks? On which devices do they view the textbook? How much time do they spend using it? How do they navigate through the textbook? How do they use interactive exercises? Interactive digital textbooks offer new opportunities for tracking user behaviour compared to studies of paper textbook usage. Unlike individually searched digital materials, digital textbooks offer a comprehensive system for covering a specific thematic unit with hypertext links, which supports the systematic nature and interconnectedness of the content, as well as external links to content available on the internet. In addition to content structured into concise paragraphs suitable for reading on the screens of various electronic devices, digital textbooks offer interactive exercises designed to assess comprehension and aid retention.

An analysis of usage was conducted on two specific interactive digital textbooks: *Hodnocení pro učení* (*N* = 4,432 unique users) and *Obecná didaktika I: Plánování výuky* (*N* = 9,656 unique users). The preliminary results raise more questions than they answer, and we will need to refine our focus to obtain data that allow us to interpret user behaviour in depth. One example is the time spent working with the textbook. From the data, we currently know how long users keep the textbook open, but we do not know how much time they spend reading the content. The results show that reading the textbook's content is, logically, non-linear. After viewing the cover, readers move on to

the table of contents and then to the chapters that interest them most or were recommended to them by educators. Even the preliminary results have yielded insights that can be taken into account when creating new digital textbooks or modifying existing ones. We can see potential in creating a personal chatbot that acts as a co-pilot to help readers learn from the textbook. Not only can it help them search the book, but it can also offer them (tailored) custom-made exercises, to save excerpts, take notes etc.

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STENSHOLT, Anja Graabræk

Preserving Linguistic Diversity through Neighbouring Language Didactics

Keywords. neighbouring languages didactics, Scandinavian linguistic diversity, metalinguistic awareness

Abstract. In Scandinavia we have neighbouring languages, that is languages that are mutually intelligible without systematic language training (Hårstad, 2021, p. 18). This enables learning thorough authentic texts and provides an opportunity to integrate local Scandinavian knowledge and narratives in using real materials in each other's languages. Focusing on neighbouring languages also helps preserve linguistic diversity in Scandinavia. The planned study will centre around the question *How is neighbouring language teaching addressed and included in textbooks for upper secondary education in Scandinavia?* with the following research questions: (1) What space is allocated to neighbouring languages in Scandinavian textbooks? (2) How do Scandinavian textbooks balance neighbouring language teaching and the teaching of literature in the neighbouring languages? (3) What didactic insight can be drawn from the study, and what suggestions can be made for future textbooks? As a research design I will use a qualitative content/document analysis. A selection of Scandinavian upper secondary first language textbooks and their digital material will be examined. The method will give an overview of central material used in the teaching of the neighbouring languages topic in Scandinavian schools and furthermore an opportunity to evaluate the neighbouring languages didactics. In my analyses of the textbooks, I will focus on how and in which chapters the neighbouring languages content is presented, the amount and type of literary material in neighbouring languages included and the types of tasks used in connection with neighbouring languages content. By combining literature and language teaching when it comes to neighbouring languages students can rely on their metalinguistic language awareness. Theoretically I will draw on research by scholars with extensive experience using literature in the neighbouring languages classroom, for instance Smedberg Bondesson (2014), and dig into the concept of metacognition in the neighbouring languages didactics classroom. I will link my study to *metalinguistic awareness* as described by Hårstad (2021), as well as *language awareness* as used by Haukås (2018), and an important source of information will be a survey conducted by The Nordic Council of Ministers (Nordisk Ministerråd, 2025), which gives recent information about the status of neighbouring languages teaching in the Nordic countries. A thesis I work with is that Scandinavian textbooks separate neighbouring language teaching into specific parts of chapters where differences and similarities between the languages are discussed. I also assume that literary texts in the neighbouring

languages will be included in the textbooks' text collections, and I believe that the topic of neighbouring languages is very minimal in textbooks. Thus, an aim of this this study is to make didactic conclusions from the study that lead to suggestions for future authors of first language textbooks on the topic of neighbouring languages didactics as well as to suggest practical tools that may be useful in the field of studying neighbouring languages.

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WASILEWSKI, Julie

Differentiated Appropriation of Digital Resources in a Finance Micro-Credential: Three Learner Profiles

Keywords. micro-credentials, digital resources, online learning

Abstract. This study examines how the appropriation of digital learning resources shapes learning pathways in corporate finance micro-credentials. It pursues two objectives: (1) to identify distinct learner profiles based on their socio-demographic diversity and internal conditions (prior knowledge, motivations, and constraints), and (2) to examine how these profiles differentially use and combine available resources to structure and consolidate their learning. Micro-credentials are certifications that attest to learning outcomes resulting from short learning experiences, assessed against transparent criteria and designed to be combined within broader learning pathways (Council of the European Union, 2022). As these programmes expand, a central question arises: do digital resources serve all learners equally, or do they help differentiate divergent learning pathways? While the literature has extensively documented behavioural typologies in online learning, such as the four engagement profiles identified by Kizilcec et al. (2013) (completing, auditing, disengaging, sampling), this research has largely relied on activity traces. However, relying solely on predictive analysis carries a risk of reductionism. As Gašević et al. (2015) argue, these approaches remain insufficient to capture the actual quality of learning, in which learners' internal conditions (prior knowledge, motivations, and strategies) are decisive. To address these limitations, we draw on the framework of self-regulated learning (Zimmerman, 2002), which shows that when faced with the same resources, this cyclical and demanding process leads learners to produce very different pathways and adjustment strategies. In the specific context of the ICCF program at HEC Paris, Huguenin (2021) has already shown that resource appropriation varies considerably according to learners' individual educational projects and environmental constraints. This research adopts a qualitative methodology to understand learners' practices. This framework is particularly suited to our context because it allows us to analyse how adult learners autonomously manage their relationship with resources. Seventeen semi-structured interviews were conducted with learners aged 24 to 53 from eight French-speaking countries, working in various sectors (banking, audit, consulting, and social services), and their motivations included career growth and intellectual curiosity. The setting is a corporate finance micro-credential made up of three courses, followed by 600 to 800 learners over nine months, requiring approximately 96 hours of work. The analysis identifies three learner profiles. Subject experts focus on videos and synthetic materials to quickly check what they already know. Intermediate learners use a mix of videos,

written materials, and exercises to build their understanding step by step. Beginners and people changing careers, surprisingly, find the videos too simple and prefer detailed written resources and searching for information elsewhere. For everyone, past exam papers and quizzes are key tools for reviewing knowledge and getting ready for exams. These results show that digital resources are not neutral tools: they interact with learners' internal conditions to produce differentiated and potentially unequal learning pathways, which have important implications for the design of inclusive micro-credentials.

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WU, Pai-Hsing

How Disciplinary Culture Shapes High School Science Teachers' Beliefs on Textbook Assessments and Visual Representations

Keywords. competency-based curriculum, scientific representation, textbook assessments, disciplinary culture, inquiry abilities

Abstract. As science education paradigms shift toward competency-based curricula, such as Taiwan's 2019 curriculum guidelines, the role of textbook assessment items and their multimodal visual representations has become increasingly critical. Scientific representations—such as graphs, tables, and photographs—are essential for concretising complex information, enabling students to decode abstract concepts, and assessing students' higher-order thinking. However, as textbooks transition from traditional rote-memorisation tasks to inquiry-based applications that demand reasoning, argumentation, and analysis, a significant research gap remains regarding how high school science teachers perceive these changes. Specifically, it is crucial to investigate how teachers utilise these multimodal representations to assess students' inquiry abilities and how their unique disciplinary cultures shape their pedagogical beliefs and assessment strategies.

This study adopted a qualitative research design to explore teachers' perspectives on textbook assessments. Semi-structured interviews were conducted with 40 senior high school science teachers in Taiwan. To ensure a comprehensive comparative analysis across different scientific fields, the sample was evenly distributed, comprising 10 teachers from each of the four core disciplines: Chemistry, Biology, Earth Science, and Physics (balanced between 22 females and 18 males). The interview protocol focused on three main dimensions: the teachers' background information, the timing and strategies of utilising textbook items, and their critical views on visual representations. All interview data were transcribed verbatim and analysed using open, axial, and selective coding methods. This rigorous analytical process was supported by NVivo qualitative software and validated by science education experts to establish reliable coding categories and to assess interrater reliability.

The findings reveal that teachers' views on the functionality of textbook items are fundamentally dictated by their specific disciplinary cultures. From an instrumental perspective, Chemistry and Physics teachers predominantly view textbook questions as rigorous training tools, emphasising massive practice, calculation, and structural identification. Conversely, Earth Science and Biology teachers emphasise the diagnostic value of these items, heavily

relying on them to connect concepts and evaluate students' conceptual understanding. Furthermore, while the majority of educators acknowledge the curriculum's successful shift toward knowledge application, a deep disciplinary divide emerged regarding representational "meaningfulness". Over 80% of all interviewed teachers agreed that visual representations facilitate the assessment of inquiry abilities, such as data organisation and causal reasoning. However, Physics (60%) and Chemistry (30%) educators exhibited a stringent critical awareness, demanding that representations must possess "structural meaning". For these physical science teachers, images must contain functional data necessary for logical and mathematical derivation; superficial, real-world photographs (e.g., a contextual picture of an Electronic Toll Collection system used in a velocity-calculation problem) are considered ineffective and potentially distracting. In contrast, natural science teachers (Earth Science and Biology) showed a much higher tolerance for purely contextual images, valuing their pedagogical ability to connect abstract concepts to observable natural phenomena. This study demonstrates that science teachers do not utilise textbook assessments uniformly; rather, their usage is heavily filtered through the lens of their respective disciplinary cultures. The most significant pedagogical implication lies in the concept of "meaningful representations". For textbook publishers and curriculum designers, merely adding visual elements to test items is insufficient. Multimodal assessments must be tailored to the cognitive demands of each scientific field, ensuring that representations provide essential problem-solving structures for the physical sciences while maintaining rich contextual connections for the natural sciences.

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POSTER PRESENTATIONS

CANO VELOSO, Fernanda Emirena

Developing Intercultural Materials for Multilingual Classrooms: A Decolonial and Multimodal Approach in Spanish Language Teaching

Keywords. intercultural competence, multilingual education, decolonial pedagogy, teaching materials, Spanish as a foreign language

Abstract. This study explores how teaching materials for Spanish as a foreign language can be designed to address multilingual and multicultural educational contexts while fostering intercultural competence and critical awareness. The guiding research question is: How can teaching materials respond to multilingual and multicultural classrooms while promoting intercultural understanding and critical reflection? The main objective is to analyse the development of intercultural teaching materials grounded in intercultural communicative competence, critical pedagogy, and decolonial approaches to language education. These perspectives emphasise the importance of cultural dialogue, critical engagement, and the inclusion of diverse epistemologies in language teaching. This qualitative study examines pedagogical materials and practices from the course *Sabores hispano-americanos: língua, cultura e identidade*, offered at a Brazilian public university. The course adopts gastronomy as a cultural axis and incorporates multimodal resources, including videos, artworks, and literary texts, to promote meaningful learning experiences. The findings indicate that culturally relevant themes enhance learner engagement and facilitate connections between personal experiences and the target language. Multimodal and dialogic activities encourage intercultural dialogue, critical reflection on identity, and the questioning of cultural hierarchies. Furthermore, the integration of decolonial perspectives contributes to valuing local knowledge and marginalised voices. The study concludes that developing materials for multilingual classrooms requires not only linguistic adaptation but also cultural and critical responsiveness, supporting inclusive learning environments and the development of global citizenship.

CARTAXO MANOSSO, Simone Regina

School Manuals, Literacy Practices and Curriculum Regulations: Narrative Perspectives from Brazil

Keywords. literacy practices, school manuals, teacher education

Abstract. A mapping conducted in the Brazilian Digital Library of Theses and Dissertations revealed the centrality of research on textbook policies, the evaluation of educational materials, and the circulation of literacy resources within the framework of the Brazilian National Textbook Programme. In the Brazilian context, these studies have predominantly focused on the production, distribution, and policy regulation of textbooks. In contrast, fewer investigations have explored how literacy teachers engage with these materials in their everyday pedagogical practices, attributing meanings to them, reinterpreting prescriptions, and negotiating curriculum regulations in school contexts. It is at this point that the present research, currently underway at the Research Centre on Didactic Publications, Federal University of Paraná (UFPR), Brazil, is situated.

The study addresses the theme Narratives and (Auto)biographies of Literacy Practices, School Manuals and Educational Regulations and is guided by the following research question: How do the literacy practices of teacher educators (professionals responsible for the education of teachers) and authors of school manuals dialogue with, incorporate, reinterpret and/or resist official curriculum regulations in different historical contexts? The overall objective is to analyse, through the narratives and (auto)biographies of teacher educators who are also authors of school manuals, the relationships between literacy practices and official curriculum regulations. The study seeks to understand how these practices engage with, incorporate, reinterpret, or resist normative educational orientations across institutional and historical contexts between 1996 and 2006. The specific objectives include: identifying, retrieving, and organising records of literacy practices expressed in school materials used during the literacy cycle, thus constituting a documentary corpus that enables historical and interpretative analysis; analysing curriculum guidelines and official regulations related to literacy, considering their contexts of production, circulation, and implementation in order to understand the principles and prescriptions guiding pedagogical work in this field; producing and analysing narratives and (auto)biographies of teacher educators, taking their professional trajectories and pedagogical experiences as key sources for understanding the constitution of literacy practices and their relations with school manuals and curriculum regulations; conducting an integrated analysis of literacy practices expressed in school materials and teachers' narratives in dialogue with normative frameworks, identifying convergences, dissonances,

processes of reinterpretation, and strategies of resistance within everyday literacy practices; and systematising guiding principles for the education of literacy teachers, contributing to the improvement of both initial and continuing teacher education and to overcoming prescriptive and decontextualised models of teacher preparation. Methodologically, the study adopts narrative and (auto)biographical approaches (Passeggi, 2021; Souza, 2014, 2023) combined with documentary analysis of school manuals and curriculum guidelines informed by the policy cycle approach (Mainardes & Tello, 2019). The corpus consists of narratives and (auto)biographies of teacher educators who are authors of school manuals, as well as private and public collections of school manuals and curriculum policy documents.

Preliminary findings indicate that the formative practices of authors of school manuals are strongly intertwined with normative orientations and are materialised in these manuals through diverse conceptual perspectives on literacy.

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MAIEROVA, Lenka

Interactive Textbooks and Teachers

Keywords. interactive textbook, interpretive phenomenological analysis, primary, IPA

Abstract. Interactive textbooks and the experiences of primary school teachers in implementing them in the classroom are the central focus of this study. Current pedagogical discourse on digital technologies predominantly evaluates the effectiveness of the tools these technologies bring to the classroom, or on the cognitive and motivational processes among students when using them. This research takes the opposite approach and focuses on a previously neglected yet critical element of the educational process: the teacher and their inner world. It seeks to answer the question of how primary school teachers approach the use of interactive textbooks and how they subjectively experience their integration into daily teaching. The theoretical foundation of this study is based on the assumption that technologies are not merely neutral tools but actively shape the teacher's pedagogical identity and classroom dynamics. Six teachers working at the primary level within the same organisation will participate in the qualitative research, ensuring relative homogeneity among the participants. Methodologically, the research is grounded in interpretive phenomenological analysis (IPA), which allows for an in-depth exploration of lived experience. A fundamental element of IPA is the principle of double hermeneutics, in which the researcher attempts to interpret the meaning that the teacher themselves ascribes to their own experience. Through interpretive phenomenological analysis, we will examine the individual attitudes, experiences, expectations, and biases of teachers regarding their own interactions with interactive textbooks in a school setting. The study will be conducted through a series of semi-structured interviews, which will be coded and analysed. This research study focuses on the process of interpreting work with interactive content in the context of pedagogical practice and on the ways in which digital technologies enter into the construction of teacher identity and influence the dynamics of teaching. Emphasis is placed on identifying key thematic areas that reflect both the emotional and professional burdens and benefits associated with the implementation of digitalisation in the educational environment. The findings contribute to a deeper understanding of the subjective experiences of selected teachers in the first stage of elementary education. These outcomes create an empirically grounded basis for designing methodological support and continuing education systems for educators that will correspond to users' real-life experiences and go beyond a reductive focus on the technical aspects of teaching.

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NADALIN, Eduardo

Reading-Based Materials Design for Polish as a Foreign Language in Brazil: From Theory to Classroom Practice

Keywords. materials development, reading pedagogy, Polish as a foreign language (PLF), teacher agency, linguistic diversity

Abstract. Polish has been taught in Brazil for over a century, linked to historical immigration to the southern states. Today, it is offered, for instance, at Federal University of Paraná (UFPR) and at some public schools and cultural centres to both heritage learners and students with no Polish ancestry. However, the few available textbooks, produced in Poland for diaspora communities, carry Polocentric assumptions—such as heritage-only orientation—that fail to address the diversity of Brazilian learner profiles. A notable example is the textbook *Biało-Czerwoni, gramy razem!* This gap requires teachers to design their own materials, not as improvisation, but as a principled professional competence.

This poster addresses the following question: what theoretical principles can guide the design of reading-based materials for PLF in a context of editorial scarcity. The poster presents a practice-based study on a reading-centred approach to materials design for Polish as a foreign language (PLF), developed over 29 years of teaching practice in Brazil. The approach draws on reading pedagogy—Smith's (1999) concept of non-visual information, Foucambert's (1994) lecturisation, and the 13 reference points for meaningful reading (Nery, 2003) —adapted to PLF instruction. These reference points (prior knowledge, text image, cultural references, transparency, non-linearity, among others) operate as flexible guidelines activated differently according to text, learners and context, rather than as a prescriptive method. The approach is illustrated through a teaching sequence for beginners, built around authentic texts, demonstrating how learners construct meaning without word-by-word translation. The poster argues that designing reading-based materials is a core professional competence for teachers of less commonly taught languages, and that teacher education must develop this capacity, guided by the post-method principles of particularity, practicality and possibility (Kumaravadivelu, 2003), preparing future teachers to respond critically and creatively to their specific contexts.

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Smith, F. (1999). *Leitura significativa* [Reading with Sense]. Artes Médicas.

WANG, Dan

Exam-Oriented Educational Media in Junior Secondary Music Education in China

Keywords. music education, educational media, high-stakes assessment, Chinese Zhongkao, document analysis

Abstract. High-stakes examinations are powerful policy instruments shaping curriculum enactment and classroom practices (Gipps, 1994), yet their influence on music teaching materials remains relatively underexplored. In China, the Music Zhongkao examination is centrally regulated through national curriculum policy while implemented via unified municipal assessments (Xu & Brown, 2016), creating a strong policy-driven framework for music education at the junior secondary level. Although previous research has examined assessment reform and music education policy, limited attention has been paid to the concrete educational media through which examination requirements are translated into classroom practice (Apple, 2014). This paper addresses this gap within the Chinese context by analysing teacher-produced revision materials used to prepare Year 9 students, aged around 14–15 years, for the Music Zhongkao examination. Situated within a broader doctoral project investigating music examination policy and teachers' pedagogical responses, the paper focuses specifically on educational materials (Pingel, 2010). The study is guided by the following research question: How are musical knowledge and assessment-related requirements represented and organised in teachers' Music Zhongkao preparation materials for Year 9 students? The study employs qualitative document analysis of a corpus of exam preparation materials collected from a series of junior secondary schools in both urban and rural contexts. The materials include provincially standardised music textbooks, teacher-created PowerPoint presentations, worksheets, review handouts, listening exercises, and mock examination papers. In cases where teachers were based in the same school, identical revision materials were used, reflecting shared institutional practices rather than individual variation. These artefacts are conceptualised as forms of educational media that mediate between curriculum policy, textbook content, and high-stakes assessment demands (Apple, 2014; Pingel, 2010). The analysis focuses on three dimensions: (1) content selection, examining what types of musical knowledge and skills are emphasised in exam preparation; (2) organisational logic, analysing how revision content is structured according to examination order, thematic units, or grade-level progression; and (3) implied pedagogical activities, identifying the learning actions and musical practices promoted or marginalised by the materials, following Pingel (2010). An iterative coding process and cross-case comparison were used to identify patterns across schools.

Preliminary findings reveal a high degree of standardisation in revision materials across contexts, with all materials closely aligned to provincially prescribed textbooks and official examination requirements. While teachers adopted different strategies for reorganising review content, e.g., sequencing by examination format, thematic categorisation, or grade progression, these differences primarily concerned structural arrangement rather than the selection of musical knowledge. Across both urban and rural schools, exam preparation materials tended to prioritise declarative and examinable knowledge, while practical musicianship activities, e.g., singing, rhythm training, and expressive performance, were comparatively underrepresented, resembling findings by McPhail (2016). Differences between schools were most evident in the degree of material consolidation rather than in curricular autonomy. By conceptualising teacher-produced revision resources as informal educational media, this study contributes to international research on textbooks and educational materials by illuminating how high-stakes assessment policy reshapes the representation of music knowledge and classroom practice.

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