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# Global research trends in digital competence and teaching media: A bibliometric study

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## Abstract

This study aims to map global research trends on digital competence and teaching media in education over the period 2005–2025 using a bibliometric approach. A total of 432 peer-reviewed documents indexed in Scopus were retrieved using a TITLE-ABS-KEY query and filtered by publication years and language. The analysis combined descriptive statistics (Microsoft Excel) with science mapping and performance indicators using VOSviewer and Biblioshiny (Bibliometrix). We examined annual scientific production, leading sources, influential documents and authors, country productivity and collaboration patterns, and thematic structures through keyword co-occurrence, thematic mapping, and thematic evolution. Results show a clear growth trajectory, with low output before 2010, a steady rise after 2016, and a pronounced surge during the COVID-19 period, reaching its peak in 2023 (58 documents). Highly cited publications emphasize teacher readiness and the pedagogical use of digital media, indicating that digital competence has become a central construct in contemporary teaching practice and professional development. Spain, Germany, and Indonesia emerge as the most productive contributing countries, while international collaboration is particularly visible in European and US-linked networks. Core publication outlets include education-technology journals and proceedings, with *Computers & Education* and *Teaching and Teacher Education* serving as key dissemination platforms. Keyword and thematic analyses highlight dominant concepts such as digital competence, media literacy, and teacher training, as well as competence frameworks (e.g., DigCompEdu), and reveal a shift from conceptual discussions toward implementation-focused research addressing classroom integration, institutional adaptation, and psychological factors such as self-efficacy. These findings provide a consolidated overview of influential actors, thematic trajectories, and emerging directions, offering evidence to guide future

research agendas, teacher professional development strategies, and policy decisions for strengthening digital education ecosystems.