



## Teacher Discourse in Postdigital Education: A Critical and Systematic Literature Review

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### Abstract

This study reviews research trends on teacher discourse in postdigital education by examining 26 Scopus-indexed publications from 2019 to 2024 retrieved using the keywords “postdigital education” and “teacher.” Findings reveal limited scholarly attention, with the *Postdigital Science and Education* journal leading in publication volume. A cluster analysis uncovered ten thematic groupings: higher education, digital citizenship, professional digital competence, critical pedagogy, teacher education, COVID-19 responses, and datafication, among others. Seminal contributions include Rapanta et al. (2020) on teacher presence in online instruction; Hrastinski et al. (2019) on educators’ critical imaginaries amid AI and robotics; Green et al. (2020) on transition design for remote learning; Fawns et al. (2021) on ecological datafication frameworks; and Örtengren (2022) on digital competence for citizenship. By synthesizing these insights, the study reconceptualizes teachers as relational, ethical, dialogical, critical, and transformative “subjects-in-becoming” who actively shape learning environments, counteract algorithmic reduction, and foster democratic empowerment. It argues that future teacher-governance models must embrace socio-technical complexity through enhanced digital competence, locally grounded postdigital identities, critical pedagogy and curriculum co-creation, ecological data practices, and flexible, dialogical pedagogies aligned with digital-citizenship ethics. These insights inform future research and policy directions in education.

## Introduction

Postdigital serves as a conceptual lens to articulate the contemporary sense of saturation and disillusionment with digital technology. It reflects a shift in perspective from initial fascination and admiration to growing concern and disappointment regarding the role and impact of digital technology in society (Cramer, 2014; Yeasmin, 2024; Merino et al., 2024). The use of digital technology cannot be viewed as just a subcultural phenomenon; it has changed the mainstream practices of various fields that depend on digital technology systems. Education is a field that has experienced a significant impact from the integration of digital technologies into its systems and practices. Transformations in postdigital educational systems and practices necessitate the central role of teachers. This study focuses on an in-depth analysis of the evolving role of teachers amidst the shifts occurring within postdigital education.

Postdigital education has significantly changed the nature and perspectives of educational subjects within increasingly digitalized educational systems (Ashilova et al., 2023; Guppy et al., 2022). The viewpoint of the academic subject has shifted from a phase of fascination and euphoria to a phase of saturation. A growing emergence of fundamental questions regarding

the roles and responsibilities of educational subjects within educational practices characterizes this saturation.

Postdigital education raises critical questions about the effectiveness of the massive use of technology in addressing contemporary educational challenges. Over the past decade, the transition from digital education to the postdigital era has put the spotlight back on teachers' roles and responsibilities. The postdigital era is characterized not only by the integration of technology in education but also by the realization that technology cannot be the only solution to the complexity of today's educational problems (Cramer, 2015; Gratani et al., 2023; Jandrić, 2021).

The use of technology in postdigital education demands a critical and reflective approach, with the recognition that technology is part of broader social and cultural structures (Jandrić et al., 2018; Jandrić & Knox, 2022). The role of teachers in this context is crucial, not only as transmitters of knowledge but also as facilitators of learning that encourages critical and collaborative thinking (Selwyn, 2011; Mugabekazi et al., 2025; Dochia, 2025). Adapting to the evolving curriculum and implementing project-based teaching methodologies and critical thinking is imperative (Knox, 2019; Buchman, 2024). Emerging challenges include overcoming the technology gap and developing adequate digital skills for managing and integrating technology into the learning process (Archambault & Barnett, 2010; Arifin & Darmawan, 2021). Previous studies have demonstrated various approaches to integrating technology into education; however, there remains a gap in the literature concerning the specific impact of these changes on teaching practices in the postdigital era (Greenhalgh, 2008). This gap highlights the need for a systematic and critical literature review that can reveal how teachers adapt and innovate in continuously evolving educational environments. The present study aims to address this gap by comprehensively analyzing the teacher's role in postdigital education. The findings from this systematic review are expected to inform policymakers, educational practitioners, and researchers by offering insights necessary to formulate effective strategies for teacher professional development and the implementation of technology in education.

## Methods

The current research takes its methodological orientation of a critical bibliometric approach with systematic literature review as its basis. It is not just that this approach was chosen to chart a field but to interrogate the ways in which scholarly discourses about teacher discourse in post digital education are produced, circulated and changed. Here, no mechanical listing of publications or keywords can be understood by the bibliometric method, but one can think of it as a reflective form of inquiry with the capacity of reading the intellectual terrain of education as a vibrant discourse, which is informed by philosophical assumptions, political agendas, and epistemological investments. Incorporating the quantitative form of the bibliometric mapping with the interpretive delicacy of the critical analysis, the study aims to go beyond the surface level tendencies and bring into the light the more profound conceptual frameworks, which are the foundations of contemporary imagination of the teacher in the postdigital era.

The first one involved a careful mapping of the intellectual land that the work was going to occupy. Postdigital education, by definition, is not simplifiable; it is a phrase that was coined in disappointment with the rose-coloured glasses of the digital modernity and as a result of an acknowledgment that education is now operating in the hybrid frontiers where digital and human readily interact. In this topography, the teacher is not a passive actor who is being adjusted to technology but a relational subject who is grappling with identity, ethics and agency in a technological saturation. This understanding shaped the methodological position of the

study, namely that the teacher as a subject of postdigital discourse needs to be perceived as a subject of study and as a player in the story of education unfolding. As a result, the review was meant to get not only that which has been written on teachers, but also that which those writings say about the philosophical anxieties and aspirations that were embedded in postdigital thought.

Based on this orientation, the study resorted to Scopus as the key database an informed choice based on its large coverage of cross-disciplinary journals and high metadata features. Scopus is not only extensive, but it also has the ability to follow intellectual connections within the field of education technology, digital pedagogy, and the philosophy of education. The time frame was intentionally narrowed down to 2019-2024, when postdigital has become an established theoretical and empirical term in the field of education. The emphasis on these years was then historical and conceptual; it takes a moment when postdigitality language started to form the way educational researchers think of the teacher not as a digital practitioner but as a critical, ethical and situated object.

The search process was carried out in a controlled careful manner and interpretative sensitivity. Boolean operator postdigital education AND teacher was used to filter peer-reviewed journal articles that are in English language and belong to the category of Social Sciences, Education, and Philosophy of Education. The interest was not to gather all the peripheral relations to the digital pedagogy but to limit it to works that directly address the teacher as the core of the postdigital discourse. This sorting was informed by the rule of conceptual relevance: contents were included based not only on quantitative criteria but on whether the text was actually contributing to the philosophical discussion of what it is to teach and to be a teacher in a world where digitality has become ubiquitous and invisible.

The screening process was conducted as a dialogical interaction after the first search instead of a technical process. All the articles retrieved were considered based on whether they fit the research focus after reading their abstracts, keywords, and scope of the topic with attentiveness. A number of studies were ruled out, not due to lack of significance, but due to being more peripheral or instrumental in their approach to teachers, which contributed little to the philosophical interrogation, which was central in this question. Finally, a final corpus was chosen of twenty-six (26) articles. All of which are the most visible and substantial voices that influence the academic knowledge of teachers in postdigital education and each of them helps to create an emergent intellectual constellation which is going to be traced and critically read in the proposed study.

After finalization of the corpus, data extraction was then done in a systematic way. Bibliographic metadata that includes names of authors, the year of publication, title, journal, and number of citations were summarized into a tabular format and saved in CSV format to enhance consistency and transparency. However, it was not only a data management action, it was for an instant a methodological reflection. Each of the items in the database represented not only a number but a node in a developing epistemic network -a trace of intellectual work, an embodiment of scholarly discourse, and, in a sense an artifact of philosophy. This interpretive deference had to be given to the data, since bibliometrics, when deprived of contextual flavor, may tend to reduce the richness of intellectual life to charts and graphs.

In order to illustrate and analyze the links between these nodes, the data were loaded into VOSviewer (van Eck & Waltman, 2010), a software that maps co-occurrences, citation patterns and thematic clusters. The study used VOSviewer as a visualization tool to show the relationship between some concepts like digital citizenship, professional digital competence, critical pedagogy, and teacher education as gravitational centers around which other concepts revolved. Nevertheless, these visual networks were not regarded as the final truths, on the

contrary, they were understood as tentative cartographies that can be read further. Bibliometric visualization as a practice in this strategy, then, acts as a sort of philosophical cartography a way of making visible the invisible relations which constitute the discursive life of the field.

## Results and Discussion

### Research progress on keyword Post digital

Bibliometric analysis of publications on postdigital draws consistent growth in the number of scientific articles since 2019 with a peak in 2022. The researcher selected 26 relevant articles for the literature review on teacher discourse in post-digital education in the Scopus database namely:

Table 1. List of Scholarly Articles on Postdigital Education and Teachers' Digital Competence (2019–2024)

YEAR	Authors	Title	SOURCE
2019	Hrastinski S.; Olofsson A.D.; dkk	Critical Imaginaries and Reflections on Artificial Intelligence and Robots in Postdigital K-12 Education	Postdigital Science and Education
2020	Rapanta C.; Botturi L.; dkk	Online University Teaching During and After the Covid-19 Crisis: Refocusing Teacher Presence and Learning Activity	Postdigital Science and Education
2020	Green J.K.; Burrow M.S.; Carvalho L.	Designing for Transition: Supporting Teachers and Students Cope with Emergency Remote Education	Postdigital Science and Education
2021	Fawns T.; Aitken G.; Jones D.	Ecological Teaching Evaluation vs the Datafication of Quality: Understanding Education with, and Around, Data	
2021	Rapanta C.; Botturi L.; dkk	Balancing Technology, Pedagogy and the New Normal: Post-pandemic Challenges for Higher Education	Postdigital Science and Education
2022	Lubicz-Nawrocka T.; Owen J.	Curriculum Co-creation in a Postdigital World: Advancing Networked Learning and Engagement	Postdigital Science and Education
2022	Arantes J.A.	The 'Postdigital Teacher Identities' Praxis: a Discussion Paper	Postdigital Science and Education
2022	Colasante M.	Not drowning, waving: The role of video in a renewed digital learning world	Australasian Journal of Educational Technology
2022	Johnson M.W.; Suvorova E.A.; Karelina A.A.	Digitalization and Uncertainty in the University: Coherence	Postdigital Science and Education

		and Collegiality Through a Metacurriculum	
2022	Örtégren A.	Digital Citizenship and Professional Digital Competence Swedish Subject Teacher Education in a Postdigital Era	Postdigital Science and Education
2022	Farag A.; Greeley L.; Swindell A.	Freire 2.0: Pedagogy of the digitally oppressed	Educational Philosophy and Theory
2022	Villar-Onrubia D.; Morini L.; dkk	Critical digital literacy as a key for (post)digital citizenship: an international review of teacher competence frameworks	Journal of E-Learning and Knowledge Society
2022	Grushka K.; Buchanan R.; Whittington M.; Davis R.	Postdigital Possibilities and Impossibilities behind the Screen: Visual Arts Educators in Conversation about Online Learning and Real-world Experiences Visual Pedagogies and Blended Learning	Video Journal of Education and Pedagogy
2023	Escaño C.	Postdigital education: an approach from critical and media pedagogy for a post-COVID19 context;	Revista Mediterranea de Comunicacion
2023	Ferrante P.	Educational platforms: Uses and challenges in the post-digital school. A study in secondary schools of the City of Buenos Aires;	Education Policy Analysis Archives
2023	Markauskaite L.; Carvalho L.; Fawns T.	The role of teachers in a sustainable university: from digital competencies to postdigital capabilities	Educational Technology Research and Development
2023	Arantes J.; Buchanan R.	Educational data advocates: emerging forms of teacher agency in postdigital classrooms	Learning, Media and Technology
2023	Ejsing-Duun S.; Pischetola M.	'Does it matter?': Learning through Aesthetic Experiences in a Higher Education Communication Design Course	Postdigital Science and Education
2023	Gravett K.; Baughan P.; Rao N.; Kinchin I.	Spaces and Places for Connection in the Postdigital University	Postdigital Science and Education
2024	Gazzano A.	Stakeholders' views on programming in	Arts Education Policy Review

		Japanese elementary schools: current issues and future perspectives in music	
2024	Westbrook F.	TikTok Videos, Carnavalesque Provocations for Teachers: Political Responses to Populism's Right-Wing: Pedagogical Provocations	Video Journal of Education and Pedagogy
2024	Örtegren A.	Philosophical underpinnings of digital citizenship through a postdigital lens: Implications for teacher educators' professional digital competence	Education and Information Technologie
2024	Webster J.	Updating Digital Citizenship Education for a Postdigital Society	New Zealand Journal of Educational Studies
2024	Escaño C.; Dewhurst M.	Thinking in (the) Common: COMOOC experience as a third space to create community from education and the arts;	Revista Interuniversitaria de Formacion del Profesorado
2024	Kerruish E.	Postdigital Teaching of Critical Thinking in Higher Education: Non-Instrumentalised Sociality and Interactivity	Postdigital Science and Education
2024	Örtegren A.; Olofsson A.D.	Pathways to professional digital competence to teach for digital citizenship: social science teacher education in flux	Teachers and Teaching: Theory and Practic

Source: Scopus database and developed by researchers

The growth of publications about teacher discourse in the context of postdigital education since 2019 experienced growth in 2022, slightly sloping in 2023 and rising again in 2024, which is depicted in the following figure:

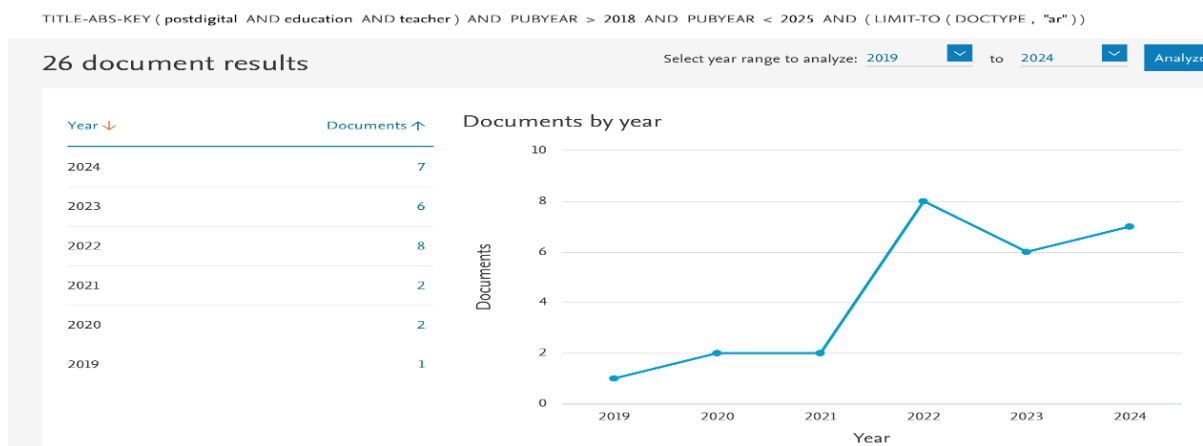


Figure 1. Number of documents published annually on the Scopus Database

Source: The Authors Based on Scopus database 2019 – 2024

Bibliometric analysis of research on teacher discourse and postdigital education from 2019 to 2024 documented relevant articles to be analyzed. As many as 26 articles increased until 2022; there were eight articles and decreased in 2023 to 6 articles, and in 2024, there were seven articles. This increase in publications indicates that the academic community is growing in knowledge about the relevance and need to research teacher discourse in postdigital education. Teacher discourse in post-digital education has an excellent opportunity to be considered with further research on post-digital education themes.

### Analysis of journal with the most paper publications about teacher discourses on the postdigital education context

Based on the data analyzed in the article, the following table presents the journals and publishers that published articles on teacher discourse in postdigital education.

Table 2. Journal with the most publications related to the concept of postdigital education

Rank	Journal	Total article	Country	H-index	Quartile	Publisher
1	Postdigital Science And Education	12	<u>Switzerland</u>	29	Q1	<u>Springer International Publishing AG</u>
2	Video Journal Of Education And Pedagogy	2	<u>Netherland</u>	8	Q4	<u>Brill Academic Publishers</u>
3	Arts Education Policy Review	1	United Kingdom	30	Q1	Taylor and Francis Ltd.
4	Australasian Journal Of Educational Technology	1	Australia	68	Q1	Australasian Society for Computers in Learning in Tertiary Education
5	Education And Information Technologies	1	United States	76	Q1	Kluwer Academic Publishers
6	Education Policy Analysis Archives	1	United States	58	Q3	<u>Arizona State University</u>

7	Educational Philosophy And Theory	1	United Kingdom	61	Q1	Taylor and Francis Ltd
8	Educational Technology Research And Development	1	United State	109	Q1	Springer Boston
9	Journal Of E Learning And Knowledge Society	1	Italy	24	Q3	Italian e-Learning Association
10	Learning Media And Technology	1	United Kingdom	62	Q1	Routledge
11	New Zealand Journal Of Educational Studies	1	Singapore	24	Q2	Springer Singapore
12	Revista Interuniversitaria De Formacion Del Profesorado	1	Spain	8	Q1	Asociacion Universitaria de Formacion del Profesorado (AUFOP)
13	Revista Mediterranea De Comunicacion	1	Spain	8	Q1	Universidad de Alicante
14	Teachers And Teaching Theory And Practice	1	United	76	Q1	Taylor and Francis Ltd.

Source: elaboration by the author based on the Scopus and Scimagojr database in 2024

In the table reviewing journal publications related to postdigital education, Postdigital Science and Education ranks first with 12 articles and an h-index of 29. It is classified in Quartile 1 (Q1) by Springer International Publishing AG. Following this, the Video Journal of Education and Pedagogy has published two articles, holds an h-index of 8, and is categorized in Quartile 4, published by Brill Academic Publishers. The remaining articles are distributed across reputable journals ranging from Quartile 1 to Quartile 4, all published by well-established publishers indexed in the Scopus database.

### Most cited articles

This section will analyze the number of citations of 26 articles on teacher discourse in the context of postdigital education presented in the following table:

Table 3. Most Cited Articles on Teacher Discourse in Postdigital Education

Rank	Title	Auhtors	Year	Source	Cited by
1	Online University Teaching During and After the Covid-19 Crisis: Refocusing Teacher	Rapanta C.; Botturi L.; Goodyear P.; Guàrdia L.; Koole M.	2020	Postdigital Science and Education	1121

	Presence and Learning Activity				
2	Balancing Technology, Pedagogy and the New Normal: Post-pandemic Challenges for Higher Education	Rapanta C.; Botturi L.; Goodyear P.; Guàrdia L.; Koole M.	2021	Postdigital Science and Education	228
3	Critical Imaginaries and Reflections on Artificial Intelligence and Robots in Postdigital K-12 Education	Hrastinski S.; Olofsson A.D.; Arkenback C.; etc	2019	Postdigital Science and Education	72
4	Designing for Transition: Supporting Teachers and Students Cope with Emergency Remote Education	Green J.K.; Burrow M.S.; Carvalho L.	2020	Postdigital Science and Education	69
5	Ecological Teaching Evaluation vs the Datafication of Quality: Understanding Education with, and Around, Data	Fawns T.; Aitken G.; Jones D.	2021	Postdigital Science and Education	31
6	Digital Citizenship and Professional Digital Competence Swedish	Örtegren A.	2022	Postdigital Science and Education	21

	Subject Teacher Education in a Postdigital Era				
7	The role of teachers in a sustainable university: from digital competencies to postdigital capabilities	Markauskaitė L.; Carvalho L.; Fawns T.	2023	Educational Technology Research and Development	20
8	Curriculum Co-creation in a Postdigital World: Advancing Networked Learning and Engagement	Lubicz-Nawrocka T.; Owen J.	2022	Postdigital Science and Education	12
9	Freire 2.0: Pedagogy of the digitally oppressed	Farag A.; Greeley L.; Swindell A.	2022	Educational Philosophy and Theory	9
10	The 'Postdigital Teacher Identities' Praxis: a Discussion Paper	Arantes J.A.	2022	Postdigital Science and Education	8
11	Digitalization and Uncertainty in the University: Coherence and Collegiality Through a Metacurriculum	Johnson M.W.; Suvorova E.A.; Karelina A.A.	2022	Postdigital Science and Education	8
12	Philosophical underpinnings of digital citizenship through a postdigital	Örtegren A.	2024	Education and Information Technologies	7

	lens: Implications for teacher educators' professional digital competence				
13	Spaces and Places for Connection in the Postdigital University	Gravett K.; Baughan P.; Rao N.; Kinchin I.	2023	Postdigital Science and Education	7
14	Critical digital literacy as a key for (post)digital citizenship: an international review of teacher competence frameworks	Villar- Onrubia D.; Morini L.; Marín V.I.; Nascimbeni F.	2022	Journal of E-Learning and Knowledge Society	6
15	Educational data advocates: emerging forms of teacher agency in postdigital classrooms	Arantes J.; Buchanan R.	2023	Learning, Media and Technology	5
16	Not drowning, waving: The role of video in a renewed digital learning world	Colasante M.	2022	Australasian Journal of Educational Technology	4
17	Postdigital education: an approach from critical and media pedagogy for a post- COVID19 context; [Educación Postdigital:	Escaño C.	2023	Revista Mediterranea de Comunicacion	3

	un enfoque desde la pedagogía crítica y mediática para un contexto post-COVID19]				
18	Postdigital Possibilities and Impossibilities behind the Screen: Visual Arts Educators in Conversation about Online Learning and Real-world Experiences Visual Pedagogies and Blended Learning	Grushka K.; Buchanan R.; Whittington M.; Davis R.	2022	Video Journal of Education and Pedagogy	2
19	Stakeholders' views on programming in Japanese elementary schools: current issues and future perspectives in music	Gazzano A.	2024	Arts Education Policy Review	1
20	Educational platforms: Uses and challenges in the post-digital school. A study in secondary schools of the City of Buenos Aires;	Ferrante P.	2023	Education Policy Analysis Archives	1

	[Plataformas educativas: Usos e desafios na escola pós-digital. Um estudo em escolas secundárias da cidade de Buenos Aires]; [Plataformas Educativas: Usos y Desafios en la Escuela Postdigital. Un Estudio en Escuelas Secundarias de la Ciudad de Buenos Aires]				
21	‘Does it matter?’: Learning through Aesthetic Experiences in a Higher Education Communication Design Course	Ejsing-Duun S.; Pischetola M.	2023	Postdigital Science and Education	1
22	Pathways to professional digital competence to teach for digital citizenship: social science teacher education in flux	Örtegren A.; Olofsson A.D.	2024	Teachers and Teaching: Theory and Practice	1
23	TikTok Videos, Carnavalesque Provocations for	Westbrook F.	2024	Video Journal of Education and Pedagogy	0

	Teachers: Political Responses to Populism's Right-Wing: Pedagogical Provocations				
24	Updating Digital Citizenship Education for a Postdigital Society	Webster J.	2024	New Zealand Journal of Educational Studies	0
25	Thinking in (the) Common: COMOOC experience as a third space to create community from education and the arts; [Pensar en (el) común: Experiencia COMOOC como tercer espacio para crear comunidad desde la educación y las artes]	Escaño C.; Dewhurst M.	2024	Revista Interuniversitaria de Formacion del Profesorado	0
26	Postdigital Teaching of Critical Thinking in Higher Education: Non- Instrumental ised Sociality and Interactivity	Kerruish E.	2024	Postdigital Science and Education	0

Source: The Result of the author elaboration based on the Scopus database 2024

Postdigital Science and Education is the journal that has published the most articles on teacher discourse in postdigital education, with 12 publications. One of the most cited articles, authored by Rapanta, discusses open university teaching during and after the COVID-19 crisis,

emphasizing the importance of presence and education in learning activities. This article has been cited 1,120 times. The discourse on teachers is also addressed in several educational theory and philosophy journals. Scholars such as Rapanta, Petar Jandrić, Fawns, and Ortegren play key roles in shaping and sustaining the research discourse in this area. The COVID-19 pandemic has acted as a catalyst in intensifying discussions around teacher roles in postdigital education, particularly about themes such as distance education, digital learning environments, and the central role of teachers as learning leaders.

### Co-occurrence of author keywords in postdigital Education

Furthermore, the researcher described the spread and depth of teacher discourse in postdigital education using the keywords of articles in the Scopus database.

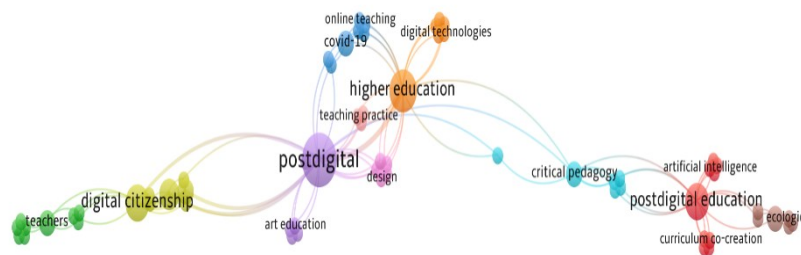


Figure 2. Keywords linkage of Postdigital education and teachers (Scopus source)

Source: Scopus database mapped using VOSviewer.

The Scopus database, visualized using VOSviewer, categorizes all keywords into 10 clusters. Based on the visualization, it is evident that there is still a limited number of studies that specifically examine teacher discourse within postdigital education. The central keyword in this discourse is teacher, which is primarily associated with the concept of digital citizenship.

Table 4. Cluster Distribution of Articles and Keywords

Cluster	Color	Keywords (Alphabetical Sort)	Total Items
Cluster 1	Red	Artificial intelligence; automation; curriculum co-creation; educational robots; K12- Education; networked learning; postdigital education; student engagement; student as partners;	9 items
Cluster 2	Green	Critical digital literacies; digital competence; pedagogical provocation; political; populist; public square; teacher competence framework; teacher; tiktok	9 items
Cluster 3	Dark Blue	Covid-19; design for learning; emergency situation; hybrid learning; instructional design; online teaching; pedagogical content knowledge;	7 items
Cluster 4	Yellow	Democratic assignment; digital citizenship; professional digital competence; social science teacher; socio-technical relation; teacher education; teacher educators;	7 items
Cluster 5	Purple	Art education; common; dialogical education; digital citizenship education; postdigital; third educational space	6 items

Cluster	Color	Keywords (Aphabetical Sort)	Total Items
Cluster 6	Light Blue	Bio-informational capitalism; bio-politics; critical media education; critical pedagogy; critical thinking; postcovid 19	6 items
Cluster 7	Orange	Digital technologies; emergency remote teaching; higher education; online learning and teaching; pedagogy; post-covid	6 items
Cluster 8	Brown	Datafication; ecological; educational platforms; evaluation; google classrom; teaching	6 items
Cluster 9	Pink	Design; feminist new materialism; pbl (problem based learning); pragmatism; problem based learning	5 items
Cluster 10	Salmon Pink	Educational design; teaching practice; video	3 items

Source: Scopus database and graphed with VOSviewer

Cluster 1 examines the core concerns of postdigital education: integrating AI, automation, educational robotics, and networked learning; refining curriculum co-creation and K–12 design; and promoting learner engagement through student partnerships. Based on studies from 2019 to 2022, it associates postdigital education with themes such as Google Classroom integration, ecological datafication in evaluation, and challenges in implementing AI in school settings. Cluster 2 focuses on “teacher,” organized into three thematic strands. First, it addresses professional-competence issues critical digital literacies, digital-competence frameworks, and professional standards. Second, it explores sociopolitical pressures such as populism, public engagement, and TikTok as a form of popular media. Third, it considers pedagogical provocations. Research from 2022 to 2024 also links teaching practice to digital citizenship, intertwining teacher education and critical-digital-skills development within broader sociopolitical contexts. Cluster 3 identifies COVID-19 as the central keyword, framing education as an emergency. Through studies primarily conducted in 2020, it examines urgent instructional design, hybrid-learning models, pedagogical-content knowledge, and online teaching. The pandemic perspective extends postdigital theory, prompting “design-for-learning” and hybrid strategies to address disruptions and reinforce postdigital paradigms. Cluster 4 highlights digital citizenship, emphasizing its integration into teacher education and professional development. It underscores professional digital competence, the roles of teacher educators, and socio-technical relations exemplified by democratic assignments. Positioned within the postdigital era, digital citizenship connects to digital literacies and competencies yet remains distinct from the specific domain of postdigital education indicating potential for deeper conceptual alignment. Cluster 5 examines the broader concept of “postdigital,” extending beyond “postdigital education.” It links postdigital to educational design and positions digital citizenship as a bridge to targeted pedagogical issues. This cluster proposes a “third educational space” characterized by flexible, interactive educator–learner dynamics grounded in dialogical engagement and ethical digital-citizenship practices. Cluster 6 explores the interplay of education, technology, and sociopolitical structures through the lenses of critical pedagogy, biopolitics, bio-informational capitalism, and critical-media education in the post–COVID-19 context. Critical pedagogy emerges as a central node, shaping postdigital educational practices and fostering critical thinking amid the power dynamics of informational capitalism. Cluster 7 focuses on higher education’s adaptation following COVID-19, spotlighting emergency remote teaching, online learning, and hybrid models. Studies from 2021 to 2022 document how institutions incorporated digital technologies while upholding fundamental pedagogical principles, marking a transformative shift toward blended

educational approaches. Cluster 8 investigates the role of datafication in postdigital education, featuring keywords such as ecological considerations, educational platforms, evaluation, Google Classroom, and teaching. Data drawn from digital platforms underpins evaluative processes and drives ecological improvements in pedagogy. Data literacy is essential for adaptive learning environments, demonstrating how postdigital approaches leverage data-driven strategies for sustainable teaching. Cluster 9 highlights deep and creative pedagogical approaches, notably problem-based learning (PBL), supported by critical methodologies, innovative design, and active learning. The inclusion of feminist new materialism brings a materialist, relational perspective that reconceptualizes teaching and learning. This cluster advocates dynamic, multidimensional educational environments that transcend traditional boundaries. Cluster 10 examines the use of technology and media in educational contexts, focusing on educational design, teaching practice, and video-media integration. Although a niche area, educational design remains pivotal, rooted in pedagogical theory. Teaching practice encompasses the application of these designs in both physical and virtual classrooms, while video media enhances knowledge transmission and learner engagement via digital platforms.

Based on the data developed through the Scopus database and visualized using VOSviewer, ten keywords emerged as the most strongly connected in illustrating the discourse on teachers within the context of postdigital education. The following table presents the keywords with the highest link strength:

Table 5. Keywords with the strongest Link Strength

Keywords	Link Strength	Occurance	Average Publication Year
Postdigital	29	8	2022,88
Higher Education	23	5	2022
Postdigital Education	16	4	2021,75
Digital Citizenship	15	4	2023
Professional Digital Competence	11	3	2023,33
Teacher	9	2	2023
Critical Pedagogy	8	2	2023,5
Covid-19	8	2	2020
Teacher Education	8	1	2023
Datafication	6	2	2022

Source: Scopus database, processed and visualized by the researcher using VOSviewer.

Keywords with the highest link strength indicate the intensity of co-occurrence and the conceptual relevance between terms most frequently and significantly discussed in postdigital education. First, postdigital has the highest link strength, signaling its role as a dominant and foundational concept. It serves as a core keyword that shapes the direction and structure of postdigital education, especially when considered in more specific applications. Second, higher education highlights technology integration within the realm of tertiary education as a highly relevant and frequently discussed theme, often in connection with both the general concept of postdigital and the more specific notion of postdigital education. Third, postdigital education represents a more focused derivative of postdigital, capturing the dynamics of education in a postdigital era and linking to a wide range of related themes and keywords. Fourth, digital citizenship emerges as a crucial concept intersecting with the broader notion of postdigital and the more targeted scope of postdigital education. Digital citizenship represents a key competency that can be embedded in pedagogical approaches and curriculum design. It addresses the urgent need to educate educational subjects both teachers and students to navigate

the challenges and opportunities presented by postdigital education. The interconnections among these keywords are illustrated using VOSviewer as shown below:

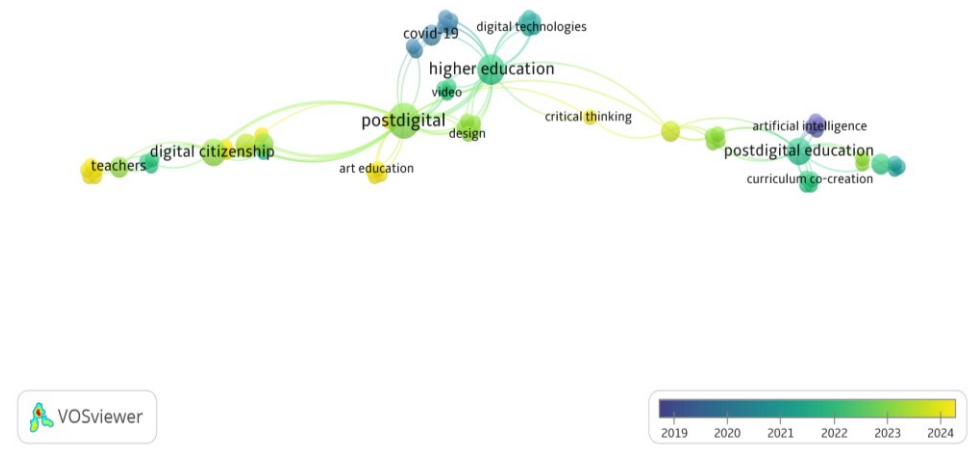


Figure 3. Co-occurrence of author keyword related teacher discourse on the context postdigital Education.

### Co-authorship networks of countries

Countries' co-authorship

Table 6. Countries' co-authorship

Country/Territory	Document	Citation	Link Strength
Australia	8	1389	222
Spain	5	1358	125
United Kingdom	5	64	115
New Zealand	4	64	110
Sweden	4	102	140
Canada	2	1349	60
Denmark	2	73	86
Portugal	2	1349	60
Switzerland	2	1349	60
United States	2	9	32
Argentina	1	1	12
Italy	1	6	20
Japan	1	1	20
Russian Federation	1	8	20

Source: Author's elaboration based on Scopus data (2024).

Articles related to teacher discourse in the context of postdigital education, when examined by author affiliation, reveal the following: First, Australia leads with eight publications, accumulating 1,389 citations and a total link strength 222. Second, researchers from Spain have published five articles, receiving 1,358 citations and a link strength of 125. Third, the United Kingdom also contributed five articles, with 64 citations and a link strength of 115. These metric indicators suggest strong collaboration and strategic partnerships in the study of teacher discourse within postdigital education. International partnerships are vital in advancing future research through global knowledge networks and innovation ecosystems.

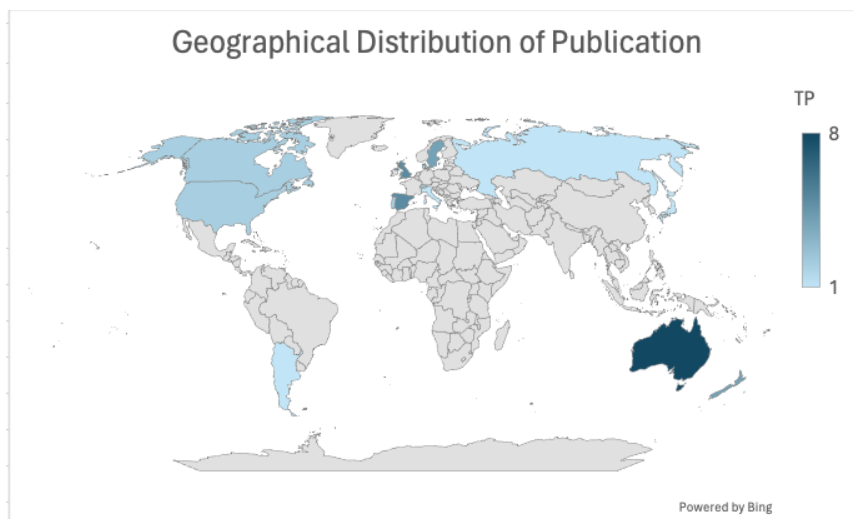


Figure 4. Geographical Distribution of Publication

Source: Author elaboration based on the Scopus database 2024

### Result and discussion: a conceptual analysis of the role of teachers in postdigital education

The author coded several concepts and sub-concepts from the research data sources and presented them in the following table.

Table 7. Coding Several Concept Teacher Discourse

Coding Theme	Philosophical Description	Key Concepts / Philosophical Quotes	Relevant Keywords	Source References
Teacher as Relational and Adaptive Entity	The teacher is not a fixed entity, but a subject that is constantly becoming within a fluid socio-techno-material network.	“The teacher’s existence is a continuous engagement within an ontological network.”	Relationality, becoming, intra-action, sociomateriality, learning space, ontological dynamism	Ejsing-Duun & Pischetola, Gravett et al., Markauskaite et al.
Teacher as Guardian of Ethics and Critical Awareness	The teacher bears moral responsibility in reading, filtering, and responding to the logic of technology that displaces human values.	“The teacher questions who benefits from the technology and what is sacrificed.”	Digital ethics, critical literacy, moral responsibility, technology evaluation, postdigital awareness	J.A. Arantes, Farag et al., Örtégren & Olofsson

<b>Coding Theme</b>	<b>Philosophical Description</b>	<b>Key Concepts / Philosophical Quotes</b>	<b>Relevant Keywords</b>	<b>Source References</b>
Teacher as Mediator and Architect of Meaning	The teacher is not merely a facilitator, but a creator of dialogical and ecological spaces of meaning where learning becomes a human act.	“The teacher not only teaches about the world but invites students to understand the world together.”	Dialogical, meaning-making, mediation, ecological design, reflective pedagogy, human-material interaction	Fawns et al., Rapanta et al., Colasante
Teacher in the Face of Commodification and Algorithmization	The teacher’s identity is reduced to data and a tool of digital capitalism. Critical resistance becomes a mode of existence and survival.	“The teacher in the data space is a subject that must resist algorithmic de-subjectification.”	Educational commodification, algorithmic identity, datafication, surveillance, platform economy, tech critique	J.A. Arantes & Buchanan, Kerruish, Escaño
Teacher as Transformative and Democratic Agent	Education is an emancipatory praxis. The teacher creates learning spaces as sites of freedom, awareness, and social transformation.	“Education is a political act. A conscious teacher educates for freedom, not obedience.”	Transformation, emancipation, critical pedagogy, social justice, digital democracy, dialogical space	Farag et al., Lubicz-Nawrocka & Owen, Webster

Source: Author’s elaboration based on Scopus data (2024).

First, the teacher as a relational and adaptive entity describes the teacher as not a fixed entity but a subject constantly becoming in a fluid socio-techno material network (Gravett et al., 2023). Teacher identity shapes and forms the ecosystem through interactions with students, technology, and space. In postdigital education, teacher identity negotiates the meaning of its existence dynamically fixed, fluid, and contextual. The teacher's existence is a process of continuous engagement in the ontological network between the body, technology, and learning materials, so the teacher is a link that is becoming not finished (Ejsing-Duun & Pischetola, 2023; Gravett et al., 2023; Markauskaite et al., 2023a).

Philosophical reflection on the teacher begins with an awareness of subjectivity, ethics, and the teacher’s existence within the socio-technological network. The advancement of AI and

educational robotics has shifted the teacher's role from a transmitter of knowledge to a facilitator of individualized learning and an accompanist alongside the student. Thus, the teacher's condition in postdigital education does not merely demand new skills but signifies an ontological transformation. Fixed structures no longer define the teacher's existence but as a subject-in-becoming within ever-evolving relations. The teacher is a relational and adaptive entity whose being is shaped through active engagement in a fluid socio-techno-material assemblage. (Gravett et al., 2023). Teacher relationality in the postdigital context is not only determined by interpersonal relationships but also by the teacher's relationship to materials, space and technology (Ejsing-Duun & Pischetola, 2023). The teacher must also adapt to learning dynamics, manage uncertainty, and redesign learning processes within hybrid environments that integrate digital and non-digital dimensions (Green et al., 2020; Johnson et al., 2022). The concept of the teacher as a relational and adaptive entity aligns with ecological approaches and the holistic development of teacher capabilities (Markauskaite et al., 2023a; Villar-Onrubia et al., 2022)

Second, as a guardian of ethics and critical awareness, the teacher plays a pivotal role in upholding ethical values amidst data deluge and algorithms' dominance. The teacher is not merely a technology user but a custodian of meaning and value. Through critical awareness, the teacher resists the reduction of learning into an instrument of control. Critical digital literacy becomes a vital tool teachers embody and impart enabling students to read the world beyond the screen. Within the postdigital ecosystem, the teacher emerges as an ethical subject, critically questioning: Who benefits from digital technologies? What is sacrificed in their advancement? Moreover, what remains hidden beneath the surface of technological progress? (J. A. Arantes, 2022; J. Arantes & Buchanan, 2023; Farag et al., 2022; Örtégren, 2022, 2024; Örtégren & Olofsson, 2024) In postdigital education, teachers are required not only to master the use of technology in learning processes but also to cultivate critical and ethical awareness in its application. Concepts such as "Freire 2.0," digital oppression, and algorithmic teacher identity highlight the urgency of critiquing the power structures embedded in educational technologies. As ethical agents, teachers are value keepers and guardians of humanity an essential stance within an increasingly digitized and rapidly evolving educational landscape. Suppose teacher identity in postdigital contexts is shaped through intra-action between human and non-human agents within a mutually constitutive ontological network. In that case, the teacher's existence becomes a fluid, contextual, and continuously negotiated ontological engagement.

Third, the teacher, as a mediator and architect of meaning, shifts from the role of knowledge archivist to that of a subject who creates spaces of meaning. These spaces are constructed through dialogue, lived experience, reflection, and the orchestration of learning ecologies. As a creator of meaningful spaces, the teacher engages in reflective praxis, viewing education as a process of learning and becoming. With critical awareness, the teacher serves as a guardian of dialogue not only teaches about the world but invites students to understand and engage with the world meaningfully (Colasante, 2022; Fawns et al., 2021; Rapanta et al., 2020, 2021). The teacher serves as an architect of meaning, creating conditions that enable students to construct meaningful understanding through critical processes such as dialogue, reflection, and interaction with diverse learning elements. In this role as mediator and relational guide, the teacher helps students make sense of the interconnectedness between body, emotion, materiality, and digital space (Ejsing-Duun & Pischetola, 2023). The role of the teacher in postdigital education demands contextual sensitivity and the capacity to design meaningful and deep learning experiences in response to the complexities of the postdigital era. Suppose the teacher's engagement with digital technology goes beyond technical proficiency and requires

ethical reflection and critical awareness of human values. In that case, the teacher becomes an ethical agent who negotiates the boundary between human presence and algorithmic domination in education.

Fourth, the teacher, under the threat of commodification and algorithmization, faces a fragmentation of professional identity as postdigital education increasingly positions teachers as influencers, content providers, or even channels for marketing educational technologies. Technology must not be seen as a neutral tool but as an ideological space where the teacher is positioned as an object rather than a subject. In the postdigital context, education is governed by data-driven systems, turning the teacher from a driver of learning into a component driven by commodification and algorithmic logic. Thus, teachers require philosophical resistance to defend their humanity against the encroachment of algorithmic control in postdigital education (J. A. Arantes, 2022; J. Arantes & Buchanan, 2023; Escaño, 2023; Kerruish, 2024). Teachers in the postdigital context are subjects of a data economy system that works under algorithmic supervision and commercial pressure. The role of teachers is increasingly trapped in the commodification structure of education that utilizes student data to become objects of the digital economy, and teachers are reduced to "performative actors for digital platforms in education." Finally, teachers need to develop the role of critical and ethical agency to respond and negotiate the role of teachers in a reflective and transformative manner. Suppose postdigital places teachers in a complex ecosystem that demands a renegotiation of meaning, identity, and authority. In that case, teacher existence is a reflective process that philosophically shapes the social, technological, and moral context.

Fifth, teachers are transformative and democratic agents that can facilitate democratic space in learning. Teachers with critical consciousness will be able to feel and reject pedagogical authoritarianism and open space for students to become active critical citizens through dialogue, collaboration, and digital empowerment. If education is a political act, teachers must be conscious of educating for freedom, not obedience and discipline (Farak et al., 2022; Lubicz-Nawrocka & Owen, 2022; Webster, 2024). As a transformative agent, the teacher plays a pivotal role in dismantling authoritarian structures within education through democratic, critical, and emancipatory approaches. In this role, the teacher acts as a facilitator of consciousness transformation, empowering students to understand and change the conditions they face critically. Postdigital education demands the teacher's ethical commitment to human values, democracy, and social justice. If education is a political act that calls for liberation rather than mere obedience and discipline, then the teacher as a transformative and democratic agent must cultivate dialogical, critical, and emancipatory learning spaces where students are empowered as reflective, ethical, and socially engaged digital citizens amidst the complexities of the postdigital world.

### **Critical Reflection on Teacher Discourse in postdigital Education**

First, the teacher is considered a holistic and ecological subject within the postdigital educational paradigm. Rather than merely a technology user, the teacher embodies a subjectivity rooted in holistic capabilities integrating cognitive, emotional, ethical, and relational dimensions in active engagement with both digital and non-digital learning ecologies. (Markauskaite et al., 2023a). A teacher with holistic capabilities transcends mere technical competence, embodying ethical, social, and ecological sensitivity. Such a teacher becomes an active agent within a hybrid learning system ecologically connected across human, technological, and value-laden dimensions, as well as within physical and digital learning spaces. Second, the teacher as a transformative agent and digital critic is central to postdigital education. As articulated by Farak et al. (2022) through the lens of Freire 2.0, critical digital

literacy is essential as a means of liberation from educational practices subordinated to corporate digital logics. In this view, the teacher emerges as a liberatory subject who engages in reflective and dialogical pedagogy to challenge domination and empower students in navigating the socio-technological conditions of their time. Third, the teacher, as a curriculum co-developer and designer of learning experiences, plays a vital role in shaping postdigital education. Lubicz-Nawrocka & Owen (2022) emphasize this role through a democratic approach grounded in collective intelligence, where the teacher acts as an equal collaborator alongside students and fellow educators in crafting responsive curricula that address the complexities of the future. In this capacity, the teacher designs learning experiences that contextually integrate emotional, social, and technological dimensions, fostering holistic engagement and meaningful learning (Fawns et al., 2021). Fourth, teachers are digitized subjects and agents of resistance to data capitalism and algorithmic digitalization. In this context, teacher identity is shaped by the logic of surveillance and commercialization (Escaño, 2023). As an agent of resistance, the teacher creates otium spaces of non-instrumental reflection as a form of interruption against automation and digital control. In the postdigital context, the role of the teacher becomes inherently political and philosophical, positioning the teacher not merely as a facilitator of content but as a reflective subject who questions, disrupts, and reimagines the conditions of learning within systems shaped by algorithmic logic and technological governance. Fifth, as a philosophical thinker and negotiator of meaning, the teacher takes on a critical and political role within postdigital education. Beyond being a technical professional, the teacher becomes a reflective philosopher capable of interrogating how technology mediates knowledge, social relations, and subjectivity (Escaño, 2023). This role, the teacher critically asks: For whom is this technology? What values are deconstructed or reconstructed through its use? As a postdigital subject, the teacher does not merely facilitate technological use but assumes an ethical and philosophical stance in actively responding to the tensions between algorithmic power and human values.

Algorithmic identities formed from digital data require teachers to have a critical sensitivity to how digital spaces affect students materially, emotionally, and socially. Teachers play a central role in building a collaborative and contextual curriculum by becoming agents of resistance to instrumentalist digitalization. Literacy is understood as a tool of liberation, and postdigital education requires teachers to teach and create transformative and equitable learning spaces amidst the commercialization of technology. If, in postdigital education, teachers are subjects who continue to become through negotiating meaning amidst technological flows and social complexity, then the role of teachers is existential and transformative as the meeting point between humans and machines, between pedagogy and algorithms, and between meaning and data. Suppose critical reflection on teachers' discourse in postdigital education is taken as the foundation for formulating alternative concepts of teacher governance. In that case, such conceptual development must recognize that the teacher's existence is inseparable from the complex socio-technological dynamics of contemporary education. Consequently, teachers must be empowered as active, adaptive, and reflective subjects through the enhancement of professional digital competencies, the formation of postdigital identities grounded in local values, the implementation of critical pedagogy and curriculum co-creation, the ecological use of data, and the cultivation of flexible and dialogical pedagogical spaces bridging the gaps between theory, practice, and the ethics of digital citizenship within a framework of transformative educational democracy..

## Conclusion

From 2019 to 2024, research on teacher discourse in postdigital education has been limited, with the Postdigital Science and Education Journal publishing the majority of studies. A

cluster analysis reveals core themes higher education, digital citizenship, professional digital competence, critical pedagogy, and COVID-19 highlighted by key works: Rapanta et al. (2020) on online teaching presence; Hrastinski et al. (2019) on critical imaginaries amid AI and robotics; Green et al. (2020) on transition designs; Fawns et al. (2021) on ecological datafication; and Örtégren (2022) on digital competence for citizenship. Collectively, these studies reconceptualize teachers as dynamic, ethical practitioners “subjects-in-becoming” who shape learning environments, counteract algorithmic standardization, and foster democratic engagement. Future teacher-governance models must embrace socio-technological complexity by strengthening digital competence, nurturing context-embedded postdigital identities, fostering critical pedagogy and curriculum co-creation, leveraging ecological data strategies, and designing flexible, dialogical pedagogical spaces that integrate theory, practice, and digital-citizenship ethics.

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