



## Generativity and Teacher Engagement in the Digital Society: A Systematic Review of Psychosocial and Institutional Dimensions

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DOI: <https://doi.org/10.54392/ajir2629>

Received: 20-10-2025; Revised: 23-03-2026; Accepted: 15-04-2026; Published: 07-05-2026



**Abstract:** The generativity emerges as a construct closely linked to teaching, becoming a protective factor for teacher well-being and engagement. However, studies on the relationship between generativity and teacher engagement are still incipient. Objective: To analyze the relationship between the development of generativity and work engagement among teachers within the framework of a digital society. Method: A systematic review was conducted under PRISMA guidelines, encompassing empirical articles published up to 2025, that addressed the relationship between generativity and teacher work engagement. A total of 6,664 records were identified through database searching. After duplicate removal, 6,539 records were screened by title and abstract, of which 6,419 were excluded. The remaining 120 full-text articles were assessed for eligibility, and six studies met the inclusion criteria and were included in the review. Results: The analysis of the research included in this systematic review indicates that there are factors that influence the potentially generative development of teachers, manifested in three dimensions: a) Personal dimension; b) Organizational dimension; and c) teaching transformations in the digital society. Discussion: Teacher generativity emerges as a relevant, though still underestimated, psychosocial resource for understanding work engagement, the construction of teacher identity, and the revaluation of teaching in the digital society. Likewise, teacher generativity is linked to reflective competencies such as emotional intelligence, autonomy, and resilience, enabling teachers to cope with scenarios of uncertainty and innovation. While the digital dimension remains underexplored, generative dispositions may equip teachers to navigate technological change. This gap highlights an urgent need for research on generativity and engagement in the digital era.

**Keywords:** Teacher Generativity, Work Engagement, Digital Society, Systematic Review, Psychosocial Resources.

### 1. Introduction

Within the framework of the transformations that education is going through in the post-pandemic digital society, teaching work has acquired new complexities that affect both the meaning of the educational task and the physical and mental health of teachers (Fuentes-Vilugrón *et al.*, 2022; Rastegar & Rahimi, 2023). Increasing digitalization (Pichardo *et al.*, 2021), the emergence of emerging technologies such as artificial intelligence (Estévez *et al.*, 2024; González & González, 2025; Khoso *et al.*, 2025), the increase in pedagogical bureaucratization (Pastrana, 2017), the fragmentation of the educational bond (Viscardi & Rivero, 2016), and the weakening of social recognition of the teaching function have generated scenarios of high emotional and cognitive demand for those who teach



(Carey & Sutton, 2024; Vizoso, 2022), especially in vulnerable contexts such as rural and urban schools with high precariousness (Sáez-Delgado *et al.*, 2024).

In this context, understanding the factors that sustain teachers' motivation, well-being, and professional engagement becomes not only relevant but urgently necessary. Likewise, it is essential to understand the internal dynamics that sustain teachers' work engagement and the psychosocial factors that modulate their well-being and motivation. One of these factors, still little explored in the educational field, is generativity. Unlike teaching engagement, which refers to a positive affective-cognitive state of vigor, dedication, and absorption, generativity operates as a deeper motivational orientation: the adult's concern for guiding future generations and leaving a lasting legacy. In the teaching profession, this orientation functions as a psychosocial resource and a source of meaning that nurtures, sustains, and protects work engagement over time, rather than being a component of engagement itself.

Based on developmental psychology, generativity has been classically defined by Erikson (1950) as the interest in establishing and guiding new generations, representing one of the main evolutionary tasks of adulthood. However, more recent research (McAdams & de St. Aubin, 1992; Sandoval-Obando, Zacarés, & Iborra, 2022; Schnell, 2009) have expanded this concept to a motivational perspective, identifying generativity as a multidimensional construct that involves various roles and tasks such as parenting, volunteering, social or political participation, mentoring, or grandparenthood, linked to transcendence and the construction of a legacy that lasts and transcends over time (Ercoli & Sandoval-Obando, 2021; Sandoval-Obando & Zacarés, 2020; Sandoval-Obando *et al.*, 2021; Sandoval-Obando *et al.*, 2022a). Complementarily, the Job Demands-Resources model (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004) positions generativity as a personal resource that buffers job demands and fosters work engagement, particularly in demanding contexts.

In the context of teaching culture, generativity is manifested in a genuine interest in contributing to the development of others, the transmission of values, experiences, and knowledge to younger generations (Sandoval-Obando, 2021a; 2021b), pedagogical involvement, collaboration, and the construction of learning communities that far transcend the limits of space and time with which school is defined (Korlat *et al.*, 2024; Sandoval-Obando & Calvo, 2022a; Sandoval-Obando & Riquelme Brevis, 2023). In other words, it is positioned as a particularly relevant component in the teaching culture and in those professions oriented to the care and development of others (Sandoval-Obando *et al.*, 2022b; Sandoval-Obando & Calvo Muñoz, 2022b; Sandoval-Obando *et al.*, 2023; Obando & Peña-Troncoso, 2023).

On the other hand, engagement (hereinafter referred to as work engagement) has been widely studied in the fields of social sciences, education, and health as a key variable in occupational well-being and life satisfaction (Sandoval-Obando *et al.*, 2025). Work engagement is a positive, fulfilling, and enduring work-related state of mind characterized by vigor, dedication, and absorption (Schaufeli *et al.*, 2002, 2012; Schaufeli & Bakker, 2003). Thus, a work engagement has been shown to have a strong association with worker satisfaction, performance, and mental health (Schaufeli & Taris, 2014; Soria-Barreto *et al.*, 2021). In the teaching field, this construct acquires nuances, as it not only involves the fulfillment of tasks, but also cognitive and emotional bonding, pedagogical involvement with students, collaboration, and improvement in teaching and learning processes (Kusmawan *et al.*, 2025; Shu, 2022; Wang, 2022; Zhang, 2022).

Building on this perspective, primary education—recognized as a formative stage for children's holistic development (Birhan *et al.*, 2021; Armijos & Rubén, 2024)—constitutes a highly demanding context for teachers at social, cognitive, emotional, and pedagogical levels (Palma-Troncoso *et al.*, 2024; García, 2021). In the post-pandemic digital environment, the pedagogical role has been substantially strained, generating multiple challenges and obstacles (Nobre *et al.*, 2024; Tan & Tan, 2021). Abrupt transitions to hybrid modalities, unequal access to technology, continual curricular and regulatory changes mandated from central authorities, professional isolation, and digital fatigue have contributed to heightened stress, anxiety, and emotional exhaustion among teachers, particularly in rural and marginal urban schools (Fuentes-Vilagrón *et al.*, 2022; Rastegar & Rahimi, 2023; Aguilar *et al.*, 2024; Yang & Du, 2024).

The urgency of examining the relationship between generativity and teacher engagement lies in three pressing reasons. First, teacher retention and career sustainability depend increasingly on intrinsic sources of



motivation, such as purpose, legacy, and meaningful contribution. Second, the digital transformation of education demands not only technical competencies but also adaptive, reflective, and generative dispositions that allow teachers to reframe their professional identity and role. Third, the current policy emphasis on measurable performance and standardization often overlooks the existential and developmental dimensions of teaching, leaving a critical gap in both initial teacher training and continuing professional development.

Against this backdrop, it is necessary to examine whether generativity, understood as a psychologically grounded orientation toward caring for others, functions as a protective psychosocial resource that strengthens work engagement and promotes greater life satisfaction and psychological well-being among teachers. Preliminary evidence indicates that teachers with higher generativity report a stronger sense of purpose in life, greater resilience in the face of educational adversity, and more flexibility toward pedagogical change and innovation (Mabade & Ngobenj, 2024; Sandoval-Obando *et al.*, 2023; Sandoval-Obando & Calvo Muñoz, 2022a; Sandoval-Obando & Ramírez Jiménez, 2023)

Paradoxically, there is a gap in the development of the available literature on the relationship between generativity and teaching engagement in primary education that consider the particularities of the contexts (urban or rural) in which teaching is carried out and the impact of the contemporary digital ecosystem (Bertlin, 2024; Villar & Lawford, 2024; Zhang *et al.*, 2024). Without a systematic synthesis of the existing evidence, both researchers and policymakers lack a coherent framework to design interventions, professional development programs, and institutional policies that intentionally cultivate generativity as a resource for teacher well-being and engagement. Thus, the present systematic review seeks to answer the following research question: What is the relationship between teacher generativity and work engagement among primary school teachers, according to the available empirical evidence?.

## 2. Materials & Methods

### 2.1 Study Design

The researchers conducted a systematic literature review (SLR) following the PRISMA guidelines (Page *et al.*, 2020). The protocol was registered on the PROSPERO <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251070667> platform (Fuentes-Vilugrón *et al.*, 2025).

We included empirical studies (quantitative, qualitative, and mixed), as well as previous reviews published up to 2025, that were peer-reviewed and written in English, Spanish, or Portuguese. Likewise, for the construction of the research question and the selection of studies, the PECO model (Morgan *et al.*, 2018) was used to define the inclusion and exclusion criteria. This model is an adaptation that differs from the PICO model, focusing specifically on intervention studies. It allows for the formulation of a question that considers the association between exposure and results, facilitating the identification and synthesis of existing evidence (see Table 1).

**Table 1.** PECO Model

| Component             | Description                                                                                                                        |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Population (P)</b> | Teachers working at primary, secondary, or tertiary education levels in urban or rural contexts within schools (public or private) |
| <b>Exhibition (E)</b> | Manifestations of teacher generativity                                                                                             |
| <b>Comparator (C)</b> | No explicit comparator required                                                                                                    |
| <b>Result (O)</b>     | Levels of work engagement in teachers/teachers' engagement                                                                         |

Search strategies (make a search table for each database).

The researchers conducted their search using the following databases: Web of Science (WOS), Scopus, PubMed, PsycINFO, and SciELO. Controlled and uncontrolled descriptors were combined using Boolean operators (see table 2). The general strategy used was: (("generativity") OR (generative behavior) OR (teacher generativity) AND (primary school teachers) OR (secondary school teachers) OR (higher education teachers) AND (engagement) OR (work engagement) OR (professional commitment) OR (teacher engagement) AND (school) AND (Educational



context)); and in Spanish: (("generatividad" OR "comportamiento generativo" OR "generatividad docente")) AND (("profesores de educación primaria" OR "profesores de educación secundaria" OR "profesores de educación superior" OR "docentes")) AND (("engagement" OR "compromiso laboral" OR "compromiso profesional" OR "compromiso docente")) AND (("escuela" OR "contexto educativo" OR "institución educativa"))

**Table 2.** Search strategies by database

| Database             | Search Strategy                                                                                                                                                                                                                                                                                                                                                                                                                       | N     |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Web of Science (WOS) | (TS=("generativity" OR "generative behavior" OR "teacher generativity")) AND (TS=("primary school teachers" OR "secondary school teachers" OR "higher education teachers")) AND (TS=("engagement" OR "work engagement" OR "professional commitment" OR "teacher engagement")) AND (TS=("school" OR "educational context"))                                                                                                            | 3.946 |
| Scopus               | TITLE-ABS-KEY(("generativity" OR "generative behavior" OR "teacher generativity") AND ("primary school teachers" OR "secondary school teachers" OR "higher education teachers") AND ("engagement" OR "work engagement" OR "professional commitment" OR "teacher engagement") AND ("school" OR "educational context"))                                                                                                                 | 10    |
| PubMed               | ((("generativity"[Title/Abstract] OR "generative behavior"[Title/Abstract] OR "teacher generativity"[Title/Abstract])) AND (("primary school teachers"[Title/Abstract] OR "secondary school teachers"[Title/Abstract] OR "higher education teachers"[Title/Abstract])) AND (("engagement"[Title/Abstract] OR "work engagement"[Title/Abstract] OR "professional commitment"[Title/Abstract] OR "teacher engagement"[Title/Abstract])) | 1     |
| Scielo               | (generativity OR generatividad OR "comportamiento generativo" OR generatividade) AND (teachers OR profesores OR docentes OR professores) AND (engagement OR compromiso OR engajamento OR commitment)                                                                                                                                                                                                                                  | 2.707 |
| PsycNet              | ((("generativity" OR "generative behavior") AND ("teachers" OR "educators")) AND ("engagement" OR "work engagement" OR "teacher commitment"))                                                                                                                                                                                                                                                                                         | 0     |

## 2.2 Eligibility Criteria

### 2.2.1 Inclusion

- Quantitative, qualitative, and/or mixed empirical studies that evaluated the generativity and work engagement in the development (personal or professional) of teachers.
- Articles published in English, Spanish, or Portuguese
- The sample participants in the studies were required to be teachers working at the primary, secondary, or tertiary education levels.
- Studies that addressed generativity and engagement to teaching work/teacher engagement.

### 2.2.2 Exclusion

- Studies that did not explicitly analyze at least one of the following elements were excluded: generativity or work engagement. Likewise, studies where the relationship between these concepts was not part of the objective or main analysis were excluded.



- b) Data from grey literature (e.g. theses, unpublished theses, technical reports, self-published papers, conference proceedings, or any other type of document that has not gone through a transparent, rigorous, and objective peer review process) were excluded. This was critical to ensure the validity and reliability of the analyzed evidence.
- c) We excluded studies where the full and open-access version of the document could not be obtained. Full access is essential for performing a critical evaluation and accurately extracting the necessary data.
- d) Studies published in languages other than Spanish, English, or Portuguese were eliminated, as this restriction was necessary to ensure comprehension and detailed analysis of the texts.
- e) Research that addressed aspects of generativity or work engagement but focused on professions or contexts outside the field of teaching, was excluded.

### 2.3 Study Selection Procedure

The PRISMA flow was used for article selection. For this, the manuscripts were exported from the databases and imported into Rayyan. Initially, duplicates were removed, followed by a review of titles and abstracts, and subsequently, full texts. Two independent reviewers (C.A.-H. and F.C.-N.) analyzed the articles, with discrepancies resolved by consensus or through consultation with a third evaluator. Data extraction and synthesis were represented in a predefined table that considered the identification of the study (author, year, title, and type of study), the sample or participants (n, gender, age range), information collection instruments, and synthesis of the main findings.

### 3. Results

The analysis of the research incorporated in this systematic review (see Table 3) indicates a consistent, though still incipient, relationship between teacher generativity and work engagement.

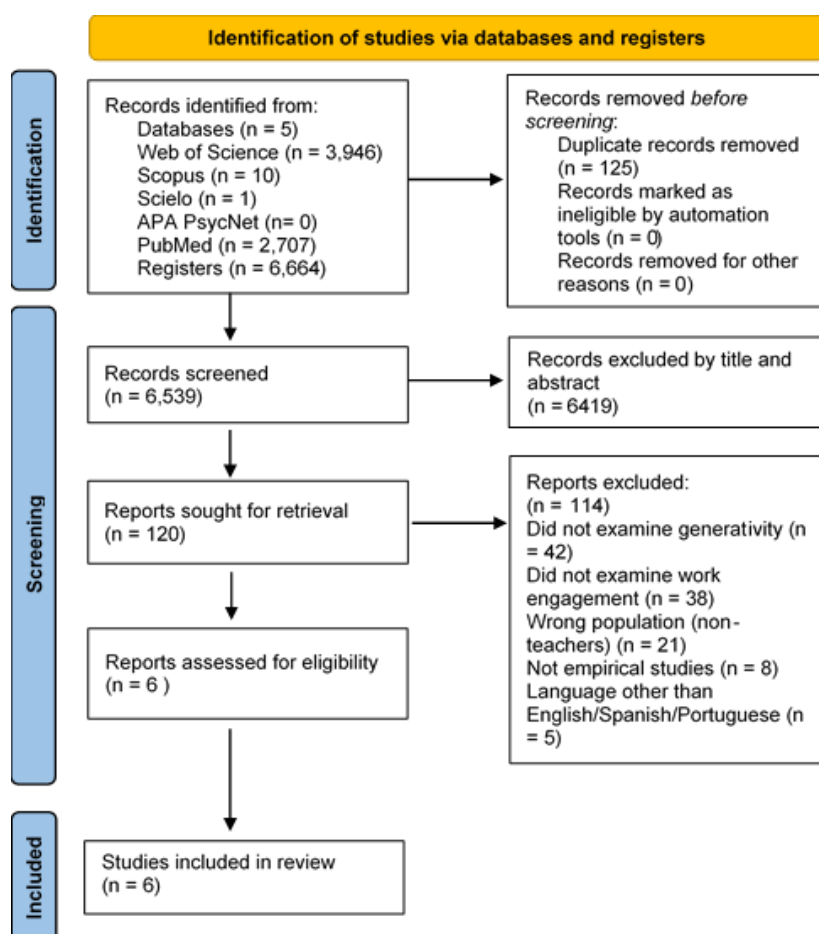


Figure 1. PRISMA Flowchart





This relationship is manifested through three interrelated dimensions that shape teachers' generative development and, in turn, influence their professional commitment: a) Personal dimension; b) Organizational dimension; and c) Teaching transformations in the digital society. Each of these dimensions provides empirical and theoretical insights into how generativity operates as a psychosocial resource that sustains, and protects teacher engagement, particularly in demanding and digitally mediated contexts.

The flow chart presented in Figure 1 illustrates the selection process for the studies included in this research. In this regard, 6,664 documents were initially identified in the Web of Science (n=3,946), PubMed (n=2,707), Scopus (n=10), Scielo (n=1), and APA PsycNet (n=0) databases. Subsequently, through Rayyan, 125 duplicates were identified and eliminated, allowing for the evaluation of the remaining 6,539 missing records. For the initial evaluation and screening, titles and abstracts were analyzed, excluding 6,419 documents. A total of 120 reports were identified that preliminarily met the eligibility criteria. Subsequently, the articles were evaluated in depth through an extensive review, and six articles were selected to meet the eligibility criteria established in this review.

### 3.1 Personal Dimension

The personal dimension refers to internal motivations, the meaning of life, emotional development, and pedagogical involvement, manifested in a teaching engagement characterized by personal and social attributes linked to emotional regulation, empathy, optimism, resilience, and autonomy. This is not only associated with healthy relational dynamics between teachers and all educational actors (Fuentes-Vilugrón *et al.*, 2025) but it is also part of a protective and identity component in the face of the challenges that comprise the socio-emotional, cognitive, and mental demands of the teaching task (Odena & Welsh, 2009). Thus, generativity contributes to teachers promoting the integral development of future generations (Aparisi *et al.*, 2020). Therefore, generativity is considered a predictor of teachers' personal well-being, acting as a protective factor against burnout and helping to modulate their motivations, interests, and objectives (Aparisi & García, 2018).

Additionally, emotional intelligence is also found to be related to generative development (Aparisi *et al.*, 2020). This shows that the emotional development of teachers is a factor that could enhance their generative capacity and work engagement (Costa *et al.*, 2021; Bastian & Widodo, 2024). In this context, generativity is also influenced by the professional experiences and life histories of teachers, which shape the construction of their educational legacy (Jiménez-Cruces *et al.*, 2024). Similarly, it is reflected in the ability to establish relational dynamics based on trust, reciprocity, respect, and affectivity with their students (Fernández *et al.*, 2022; Franke *et al.*, 2001). Likewise, these relationships are established between peers, where a generative teacher constantly seeks collaborative work and dialogue for the continuous improvement of their pedagogical practices, based on critical reflection processes, enriching the teaching and learning processes (Fuentes-Vilugrón *et al.*, 2023; Riquelme *et al.*, 2016).

### 3.2 Organizational Dimension and Teaching Engagement

The organizational dimension consists of structural conditions, institutional culture, leadership, collaborative work, and teacher professional development (Valdés & Guerra, 2023). This dimension plays an essential role in the development of generativity and teaching engagement. Institutional culture and leadership shape whether teachers perceive their workplace as a space that values their contribution and legacy. When school leaders promote trust, recognition, and pedagogical autonomy, teachers are more likely to develop generative concerns (Bektaş *et al.*, 2020; Coban *et al.*, 2020). This recognition strengthens teachers' affective attachment to their institution, a key component of work engagement. In this sense, working conditions can both contribute to and hinder the growth of generative pedagogical practices (Leiva-Guerrero & Polanco-Madariaga, 2024). In other words, the educational institution can value and support the autonomy of teachers and their critical and reflective thinking (de Faría & del Carmen, 2010; Leiva & Astorga, 2014), thereby creating an environment conducive to generativity. However, the formation and implementation of generative learning models is not without tensions, mainly with traditional or rigid models of the school system (Flick, 1996).

Collaborative work and professional learning communities function as organizational scaffolds for generativity. Loef *et al.* (2001) and Seely *et al.* (2011) demonstrated that teachers who participate in sustained, collaborative professional development are more likely to appropriate generative practices.



**Table 3.** Data extraction and synthesis

| Title                                                                                                                              | Authors                                                              | Year | Sample                                                             | Studio Design | Instruments                                                                                                        | Summary of the Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------|--------------------------------------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Relationship between emotional intelligence, generativity and self-efficacy in secondary school teachers                           | Aparisi, Granados, Sanmartín, Martínez-Monteagudo & García Fernández | 2020 | N = 834 teachers; male: 476, F: 358; 94.9% Spanish, 5.1% European) | Quantitative  | Trait Meta-Mood Scale (TMMS-24); Loyola Generativity Scale (LGS); and the General Self-Efficacy Scale (GSE).       | The results showed statistically significant differences between the EI profiles found and the different dimensions of generativity and self-efficacy. Logistic regression analysis revealed that EI was a statistically significant predictor of generativity, as teachers with high EI scores were more likely to exhibit high scores in positive generativity and self-efficacy, and less likely to have high scores in generative doubts.                                                                                                                                                                                                                                                      |
| Capturing Teachers' Generative Change: A Follow Up Study of Professional Development in Mathematics                                | Franke, Carpenter, Levi & Fennema                                    | 2001 | N = 22 teachers                                                    | Qualitative   | Classroom observation; Follow-up interviews                                                                        | All 22 teachers maintained some use of the children's thinking, and 10 teachers continued to learn in remarkable ways. The 10 teachers involved in generative growth (a) saw children's thinking as central, (b) possessed detailed knowledge about children's thinking, (c) discussed frameworks for characterizing children's mathematical thinking development, (d) perceived themselves as creators and elaborators of their knowledge about children's thinking, and (e) sought out colleagues who also possessed knowledge about children's thinking for support. The follow-up revealed insights into generative growth, sustainability of modified practice, and professional development. |
| A generative professional development program for the development of science teacher epistemic orientations and teaching practices | Bae, Hand, & Fulmer                                                  | 2022 | N= 23 teachers; male: 5, female: 18); European-Americans           | Mixed         | Epistemic Orientation Survey for Knowledge Generation (EOS-KG); Levels of Teacher Implementation (TIL); Interviews | Three teacher profiles were created, and each profile exhibited distinct patterns in their understandings of generative learning and teaching practices over three consecutive years. The study highlighted several important results. (a) Three profiles of teacher changes were generated: fast adopters, slow adopters, and adopters with difficulties. (b) Consistent patterns of change were found in each profile across three                                                                                                                                                                                                                                                               |

|                                                                                                       |                        |      |                                                 |             |                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------|------------------------|------|-------------------------------------------------|-------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                       |                        |      |                                                 |             |                                                                                         | different data sources: EOS-KG, TIL, and interviews. (c) Generative professional development workshops played a significant role in shaping teacher epistemic orientations for knowledge generation and effective teaching practices. The findings imply that teachers benefit from regular long-term support (at least 18 months) to sustain changes in the theoretical foundations of generative environments and pedagogical practices.                                                                                                                                                                                            |
| Not a oneshot deal: Generative professional development among experienced teachers                    | Seely, Zisook & Fisher | 2011 | N = 2 experienced teachers                      | Qualitative | Classroom observation, interviews, and briefings                                        | The findings indicate that teachers transformed their pedagogical practices around writing and, at the same time, reconsidered what it means to become renewed professionals.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Understanding a generative learning model of instruction: A case study of elementary teacher planning | Flick, L.              | 1996 | N= 24 teachers; American                        | Qualitative | Recordings and transcripts of planning sessions; Field notes; Planning documents        | The results of the study show that teachers understood the Generative Learning Model (GLM) as an activity-focused strategy, which generated tensions with their training in objective-based explicit instructional models (MPIs). Despite valuing active methodologies, they expressed difficulties in formulating research objectives and evaluating processes, as well as insecurity regarding their scientific knowledge. Although they showed a positive attitude towards science teaching, GLM was perceived as more complex to implement, especially in contexts with students with sociocultural and linguistic disadvantages. |
| A generative model of teachers' thinking on musical creativity                                        | Odena & Welch          | 2009 | N= 6 secondary school music teachers in England | Mixed       | In-depth interviews with video-elicitation technique; Musical Career Path Questionnaire | A generative model is suggested for how teachers' thinking about creativity might evolve: teachers' past experiences, both in and out of school, and their daily teaching in the classroom shape their perceptions of musical creativity. This occurs through an ongoing interaction that has the potential to modify teachers' perceptions over time.                                                                                                                                                                                                                                                                                |



**Table 3.** Methodological Quality Assessment (EACSH)

| Title                                                                                                                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | Total | Quality   |
|------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|-------|-----------|
| Relationship between emotional intelligence, generativity and selfefficacy in secondary school teachers                            | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 5 | 5  | 5  | 2  | 5  | 5  | 5  | 5  | 5  | 5  | 1  | 5  | 5  | 94    | Very high |
| Capturing Teachers' Generative Change: A FollowUp Study of Professional Development in Mathematics                                 | 5 | 5 | 5 | 1 | 5 | 5 | 5 | 1 | 5 | 5  | 5  | 3  | 5  | 5  | 5  | 5  | 5  | 5  | 1  | 5  | 5  | 91    | Very high |
| A generative professional development program for the development of science teacher epistemic orientations and teaching practices | 5 | 5 | 1 | 1 | 5 | 5 | 5 | 5 | 5 | 5  | 5  | 3  | 5  | 5  | 5  | 5  | 3  | 5  | 1  | 5  | 5  | 89    | Very high |
| Not a oneshot deal: Generative professional development among experienced teachers                                                 | 5 | 5 | 5 | 5 | 4 | 5 | 4 | 1 | 3 | 4  | 5  | 5  | 1  | 5  | 5  | 5  | 5  | 5  | 1  | 5  | 5  | 88    | Very high |
| Understanding a generative learning model of instruction: A case study of elementary teacher planning                              | 5 | 5 | 1 | 1 | 5 | 5 | 5 | 3 | 5 | 5  | 5  | 5  | 1  | 5  | 5  | 5  | 5  | 5  | 1  | 5  | 5  | 87    | Very high |
| A generative model of teachers' thinking on musical creativity                                                                     | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 5 | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 1  | 5  | 5  | 97    | Very high |

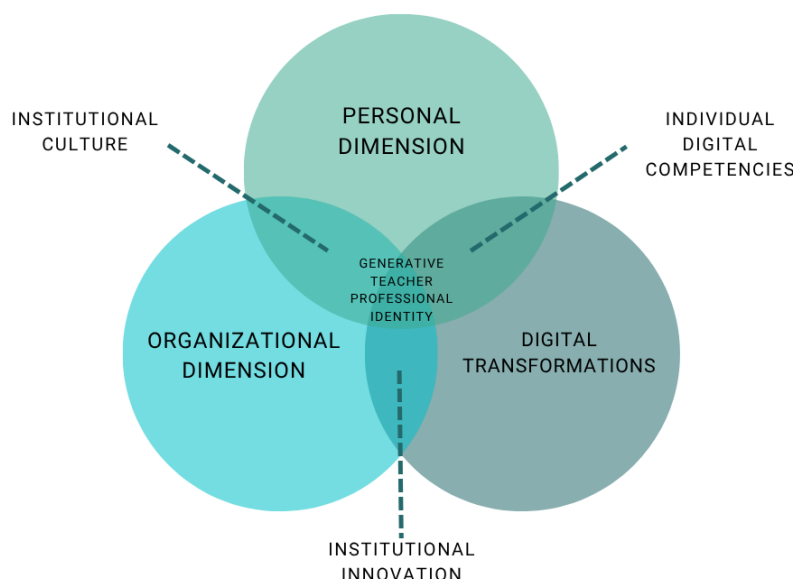
**Note:** Benchmarks 1= Title; 2= authorship metadata; 3= summary; 4= keywords; 5= introduction, justification and context of the topic; 6= introduction, citations; 7= objectives; 8= methodology, study design; 9= methodology, participants; 10 = methodology, instruments; 11 = methodology, statistical analysis; 12 = results, description; 13 = results, tables and/or figures; 14= data analysis; 15= conclusion; 16 = contribution; 17= recommendations; 18= references; 19= appendices (if applicable); 20= reference regulations; 21= format.

These collegial interactions provide both emotional support and intellectual stimulation, which sustain teachers' vigor and dedication over time. Management teams must trust in their teachers' capabilities, leading to greater engagement from educators to their institution (Bektaş *et al.*, 2020; Çoban *et al.*, 2023; Dederich & Pietsch, 2023). However, this also raises the challenge and need for continuous training through generative professional development programs, initiatives that are sensitive to the interests and previous experiences of students, as well as to the needs of the context in which the institutions are located (Bae *et al.*, 2022). Thus, well-designed development pathways of this kind help teachers appropriate new theoretical and methodological frameworks in coherence with their existing repertoires, classroom routines, and everyday problem-solving, thereby nurturing a reflective, collaborative, and generative school culture (Seely *et al.*, 2011). The findings regarding the relationship between generativity and teaching engagement in a digital society context have enabled the identification of categories that facilitate the integration and contextualization of the results along three interrelated axes (see Figure 2).

### 3.3 Teaching Transformations in the Digital Society

Although the intersection between generativity and the digital transformation of education remains underexplored, the reviewed studies provide emerging evidence on how digital contexts shape generative teaching practices. In this regard, Bae *et al.* (2022) demonstrated that generative professional development programs enhanced teachers' epistemic orientations toward knowledge generation, enabling them to integrate digital tools as mediators of collaborative inquiry. Similarly, Franke *et al.* (2001) and Seely *et al.* (2011) described how generative teachers appropriated digital resources to document, reflect upon, and share their pedagogical reasoning, thereby sustaining their professional growth beyond formal training settings.

However, Flick (1996) identified significant tensions between teachers' generative intentions and the technological constraints of their institutional contexts. Teachers expressed insecurity regarding their digital competencies and reported difficulties in aligning generative, inquiry-based pedagogies with standardized curricula and assessment systems. These tensions were particularly acute in schools serving socioculturally disadvantaged students, where unequal access to technology and limited technical support hindered the implementation of generative learning models. In this sense, the digital society operates as both a challenge and an opportunity for teacher generativity.



**Figure 2.** Teacher generativity triad

Figure 2 offers an integrative framework for understanding how generativity is configured through dimensions related to sustained teacher engagement in digitally mediated contexts. As illustrated, teacher generativity is located at the center and is linked to three dimensions: a) the personal dimension, which includes motivational aspects, life meaning, socio-emotional development, and pedagogical involvement; b) the organizational dimension, which encompasses institutional structure, leadership, collaborative work, and professional development;



and c) transformations in the digital society, which represent the technological context including digitalization, artificial intelligence, hybrid modalities, and digital fatigue that can either support or challenge generative pedagogical practices. It is argued that these dimensions influence each other. For example, organizational culture can strengthen teachers' emotional development or optimize their capacities and use of digital tools; conversely, digital fatigue can affect generativity or professional engagement; likewise, teachers with high motivations tend to shape their institutional environment.

### 3.4 Evaluation of Methodological Quality

In this systematic review, methodological quality and risk of bias were appraised using the Scale for Evaluating Scientific Articles in Social and Human Sciences (López-López, Tobón & Juárez-Hernández, 2019), which consisted of 21 items evaluated with a 5-point scale: 1=very low level; 2=low level; 3=medium level; 4=medium-high level; and 5=very high level. In this regard, the results of this scale revealed that 100% of the documents had a very high level of quality, reflecting a engagement from the authors and scientific journals to scientific rigor in the research process. The quality evaluated in the selected research provides credibility, reliability, and validity to the results and conclusions presented in this work (see Table 3).

## 4. Discussion

The findings systematized in this systematic literature review enable us to outline a complex, yet revealing, panorama regarding the relationship between generativity and work engagement among teachers in diverse school contexts, particularly within the post-pandemic digital society framework. Through the analysis of quantitative, qualitative, and mixed studies—carried out at various educational levels and contexts—it is observed that teacher generativity emerges as a relevant, although still underestimated, psychosocial resource for understanding work engagement, the construction of teacher identity, and the transformation of teaching in the digital society.

First, it is found that generativity acts as a transversal motivational and symbolic dimension, which gives meaning to professional practice beyond its instrumental, pedagogical, or curricular demands. This motivational character is theoretically grounded in Erikson's psychosocial theory, which posits generativity as the adult's conscious and unconscious desire to care for future generations—a drive that transforms obligations into a purpose-driven vocation. Likewise, the sense of life meaning that permeates generative teaching is not a byproduct but a central component of generativity itself. McAdams and de St. Aubin (1992) argue that generativity arises from our need to leave a lasting mark and to feel valuable to others. When teachers view their work as a legacy that transcends their own temporality, this meaning-making process strengthens their engagement and protects them from burnout (Lan *et al.*, 2021; Sandoval-Obando & Ramírez, 2023).

In the studies reviewed (Aparisi *et al.*, 2020; Bae *et al.*, 2022), generativity appears to be associated with personal dispositions such as self-efficacy, emotional intelligence, resilience or epistemic orientations for teaching, all of which are considered protective factors of teaching engagement. Specifically, regarding emotional intelligence, Aparisi *et al.* (2020) demonstrated that it significantly predicts generativity, as emotionally regulated teachers are better equipped to establish trusting, empathetic, and reciprocal relationships. These relational bonds strengthen teachers' affective attachment to their work (a core component of engagement) and create a supportive environment that sustains dedication even in challenging contexts. In other words, generativity is not limited to a merely altruistic or ethical disposition but is articulated with reflective and adaptive competencies that allow teachers to face scenarios of uncertainty and innovation (Anghel *et al.*, 2024; Carswell & Conway, 2024; Demir & Gürbüz, 2023). This articulation acquires special relevance in the digital society, where teachers face permanent demands to update and reformulate their roles.

From a processual perspective, qualitative studies (Flick, 1996; Loef *et al.*, 2001; Seely *et al.*, 2011) show that the development of generative practices is associated with professionalization trajectories sustained over time, which are synergistically nourished by deep pedagogical reflection and links with educational communities in which collaboration and reciprocity are decisive. This pedagogical involvement is the behavioral enactment of generativity.



Respect to, [Franke et al. \(2001\)](#) and [Odena and Welch \(2009\)](#) showed that generative teachers engage deeply with students' thinking, adapt their teaching to diverse needs, and seek continuous improvement through reflection and collaboration. This deep immersion in pedagogical practice is a clear manifestation of being fully concentrated and happily absorbed in one's work, which can sustain work engagement. It is through this involvement that generativity materializes in the classroom. This is key, as it contrasts with professional development models focused on specific interventions or instrumental training, which tend to have a limited impact on engagement and teaching agency. In this sense, generativity is linked to a more profound and more lasting type of professional change, characterized by an orientation towards the significant transmission of knowledge, pedagogical innovation, and the construction of educational legacy ([Pinazo-Hernandis et al., 2023](#); [Sandoval-Obando & Calvo-Muñoz, 2022b](#); [Villar & Serrat, 2021](#); [Wang et al., 2023](#)).

It is also illustrative that in several studies ([Flick, 1996](#); [Odena & Welch, 2009](#)) teachers recognize tensions between their generative interests or motivations and the structural conditions under which the school is organized: work overload, curricular pressures, territorial inequality, and the absence of suitable spaces for the deployment of creativity, autonomy, critical thinking, or collaboration. These tensions indicate that generativity does not unfold automatically but requires institutional conditions that enable it to develop and cultivate throughout the individual's (both personal and professional) development ([Lewis, 2022](#)). At the teaching level, this would be feasible through the promotion of pedagogical autonomy, professional recognition, and teacher development policies that focus on psychological well-being, rather than just performance or the standardization of teaching and learning processes.

Another relevant area of analysis is the impact of generativity on teaching engagement ([Becchetti & Bellucci, 2021](#); [Doerwald et al., 2021](#); [Lan et al., 2021](#)). Although most of the studies reviewed do not directly evaluate this relationship through multivariate statistical models, they collectively offer convergent evidence suggesting that teachers with generative attitudes exhibit higher levels of dedication, persistence, and affective attachment to their work. As elaborated above, this relationship operates through the personal elements of generativity: generative motivations fuel dedication, life meaning sustains vigor, emotional development enables affective attachment, and pedagogical involvement deepens professional engagement through sustained engagement with students' learning and development. For example, a study by [Aparisi et al. \(2020\)](#) demonstrates that emotional intelligence significantly predicts generativity and that both variables are associated with self-efficacy, one of the strongest correlates of professional engagement. In a complementary way, [Bae et al. \(2022\)](#) describe how professional development processes focused on generative practices strengthen the teacher's connection with their daily work, even in adverse social or economic conditions.

The review also enables us to identify a critical limitation in the existing empirical literature on the topics addressed. Specifically, most of the included studies focus on educational levels beyond primary education and originate from contexts in the Northern Hemisphere, which limits the generalizability of their findings to different groups, contexts, and populations. Few studies explicitly address the relationship between generativity and work engagement among primary education teachers in rural or marginal urban contexts in Latin America, which constitutes a critical gap, given the territorial and digital inequalities that characterize many school systems in the region.

This lack of situated studies is also reflected in the scarce problematization of the role of technology in the construction and manifestations of teacher generativity. Although some studies ([Bae et al., 2022](#)) indirectly address the digital dimension through the development of epistemic orientations or innovative pedagogical practices, none explicitly problematize the impact that accelerated digitalization—derived from the pandemic—has on the potentially generative development of teachers. This omission is worrying if one considers that technology not only significantly reconfigures and stresses teaching ([Kovalchuk et al., 2022](#); [Beltrán, 2023](#)), but also intergenerational links ([Chen et al., 2024](#)), the perception of legacy ([Hagedorn, 2023](#)) and the transformation of teaching vocation and identity ([Gagnon, Gagné, & Courcy, 2024](#); [Kumar & Prieto-Flores, 2024](#); [Sánchez Henao et al., 2023](#)).

Regarding the socio-pedagogical implications, this systematic review highlights that generativity represents a relevant and indispensable psychological dimension to strengthen teaching engagement ([Ruiz et al., 2021](#); [Sandoval-Obando et al., 2022b](#); [Sandoval-Obando et al., 2023](#); [Xiao & Zheng, 2025](#)), especially in school contexts marked by uncertainty, fragmentation of relational dynamics, work overload, and imbalance between personal and professional life. Promoting the development of generativity involves not only offering instances of continuous



training but also building school cultures that value mentorship, collaboration, autonomy, meaningful innovation, and a sense of shared purpose. This is not minor, considering that the loss of work engagement is directly linked to an increase in teacher burnout and a decline in teachers' mental health (Carey & Sutton, 2024).

Finally, this systematic review demonstrates that generativity is a key variable, although still emerging, in understanding teacher engagement in the digital society (Evans, 2025; Goh *et al.*, 2025; Howard, 2021). Recognizing and integrating it into the processes of pre-service teacher education and in-service teachers' professional development through the design and development of professional development programs and models of socio-occupational well-being centered on teachers represents not only a valuable theoretical and conceptual contribution but also an ethical and pedagogical urgency for a more humane, sustainable, and transformative education.

## 5. Conclusions

Despite the search and the multiple dimensions associated with generativity, this construct is still in the process of study and incipient development in the Ibero-American context. This review has evidenced that generativity functions as a fundamental resource for sustaining teacher engagement. This is supported by three interrelated dimensions: personal (motivations, life meaning, emotional development, pedagogical involvement), organizational (institutional culture, leadership styles, collaborative work within the educational center), and digital transformations. In this regard, there is a void of empirical research that explicitly considers the relationship between teacher generativity and digital transformations, thus opening a line of research that must be addressed considering today's society, marked by the digital characteristics that were strengthened post-pandemic, having an impact on both the generativity and work engagement of teachers.

This is associated with the high demands that have arisen in response to emerging technologies such as virtual education, hybrid educational modalities, or artificial intelligence. In other words, adaptation to these tools has led to higher levels of stress, exhaustion, and emotional fatigue, particularly in educational establishments located in vulnerable and rural contexts. The findings of this review indicate that generativity can function as a protective buffer against these demands, but only when organizational conditions (autonomy, collaboration, recognition) are present. This finding represents a concrete contribution to the understanding of teacher well-being in digitally saturated environments. However, digital transformation can not only be observed from the instrumental point of view, but also from the integrality of the educational aspects, visualizing a challenge that invites educational institutions to continuous teacher training, but not only from the use of new technologies, but also that they train for the articulation between the digital context and teaching generativity. In this way, teachers can democratize technologies and knowledge, adapting pedagogical practices to the context and needs of students, thereby fostering the development of a generative educational community.

We suggest several actionable levers for schools and policymakers. First, leadership should institutionalize generative professional development by combining mentoring, peer observation, and design-based cycles that connect teachers' prior knowledge with context-responsive innovations (urban/rural). Second, professional learning ought to integrate digital pedagogical competencies with well-being components (stress management, purpose at work) and be recognized in appraisal and career frameworks to reinforce engagement. Third, at the school level, allocating protected time for collaborative planning, creating knowledge-sharing routines (micro-workshops, lesson study), and establishing mentoring roles for highly generative teachers can translate individual dispositions into collective practices. Fourth, policymakers must address the structural inequalities (digital access, technical support, curricular flexibility) that this review identifies as barriers to generative practice in vulnerable and rural contexts. Finally, teacher education programs should cultivate generative dispositions alongside technical competencies, helping future teachers develop the sense of purpose, legacy, and commitment that this review has shown to be central to sustained professional engagement.

## 6. Limitations and Future Research

Among the methodological limitations of this review are: a) the heterogeneity of designs and concepts used by primary studies; b) the scarce empirical operationalization of the generativity- engagement relationship with work; c) the over-representation of Anglo-Saxon or European contexts, (d) the lack of longitudinal studies that allow





observing the generative development of individuals throughout the life cycle; and e) the potential narrowness of the search strategy, which focused on specific terms ("generativity," "teacher generativity") and may have excluded studies addressing related concepts such as legacy, mentoring, or intergenerational guidance using alternative terminology. Additionally, since no meta-analysis was conducted, the results are based on a narrative synthesis. Although this approach is adequate given the diversity of methods, it limits the quantitative estimation of the effect among the variables of interest.

It is necessary to clarify the nature of the evidence regarding the relationship between generativity and teacher well-being. Among the studies analyzed, only one provides indirect empirical support by demonstrating that emotional intelligence predicts generativity and that both variables are associated with self-efficacy. However, we acknowledge that the remaining studies considered do not directly address these outcomes, which delimits the scope of our conclusions and underscores the need for research that explicitly examines these relationships.

Regarding the study's projections, the development of integrated instruments to jointly measure generativity and teacher engagement in diverse educational contexts, as well as promoting longitudinal and comparative studies in both rural and urban areas, is relevant. In addition, the in-depth study of the mediating or moderating roles of variables such as institutional support, teachers' digital competence, and the meaning of life becomes relevant in the analysis of the potentially generative behaviors manifested by teachers and their socio-pedagogical implications on work engagement. In this sense, the multidisciplinary study of the effects of generative professional development programs on mental health, job satisfaction, and teacher retention acquires theoretical and methodological value.

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### Author Contribution Statement

Eduardo Sandoval-Obando: Conceptualization, Methodology, Investigation, Writing – Original Draft, Supervision, Project administration. Gerardo Fuentes-Vilugrón: Methodology, Formal analysis, Data Curation, Writing – Review & Editing, Visualization. Carlos Arriagada-Hernández: Investigation, Writing – Review & Editing. Felipe Caamaño-Navarrete: Investigation, Resources, Writing – Review & Editing. Marcos Villalta Paucar: Investigation, Data Curation, Writing – Review & Editing. Luis Mario Castellanos-Alvarenga: Investigation, Writing – Review & Editing. Viviana Zapata Zapata: Investigation, Writing –



Review & Editing. Pablo Del Val Martín: Methodology, Writing – Review & Editing. All authors have read and agreed to the published version of the manuscript.

### Does this article screen for similarity?

Yes

### Conflict of Interest

The authors have no conflicts of interest to declare. There is also no financial interest to report. The author certifies that the submission is original work and is not under review at any other publication.

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### Cite this Article

Eduardo Sandoval-Obando, Gerardo Fuentes-Vilugrón, Carlos Arriagada-Hernández, Felipe Caamaño-Navarrete, Marcos Villalta Paucar, Luis Mario Castellanos-Alvarenga, Viviana Zapata Zapata, Pablo Del Val Martín, Generativity and Teacher Engagement in the Digital Society: A Systematic Review of Psychosocial and Institutional Dimensions, Asian Journal of Interdisciplinary Research, 9(2), (2026) 157-177. <https://doi.org/10.54392/ajir2629>

