# SPIRIT Model: Conceptual Development of 21st Century Teacher Competencies Based on Systematic Literature Review

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| **Abstract** | This study aims to identify and synthesize the dimensions of 21st-century teacher competencies through the Systematic Literature Review (SLR) approach based on the PRISMA protocol. The main focus of this study is to formulate a new conceptual framework that is more holistic and responsive to the demands of today's education. This study uses the Systematic Literature Review (SLR) approach, which is compiled based on the PRISMA. However, the results of the thematic readings also reveal the emergence of repeated implicit patterns regarding the importance of environmental sustainability, teacher welfare, learning innovation, and inclusive education. Based on the reflection on these findings, a new conceptual model was formulated called SPIRIT, an acronym for Sustainable, Professional, Innovative, Resilient, and Inclusive Teachers. The SPIRIT model offers a more integrative framework of teacher competencies, covering academic, social, emotional, and contextual dimensions. These findings not only broaden the understanding of the competence of today's teachers but also provide conceptual contributions that can be used in developing education policies, teacher education curricula, and ongoing professional training. |

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## 1. INTRODUCTION

The transformation of 21st-century education has brought new demands on teacher competence beyond traditional pedagogic knowledge. The rapid development of technology, the integration of sustainability and inclusivity principles into the curriculum, and the ever-evolving complexity of learners' needs encourage teachers to develop a broader and adaptive set of competencies. Along with these changes, the scientific literature emphasizes the importance of reconceptualizing teacher competencies through a systematic and multidimensional approach. Recent studies show that 21st-century teacher competencies include not only pedagogic and content mastery, but also digital literacy, innovation, transdisciplinary thinking, and professional resilience (González-Medina et al., 2025; Revuelta-Domínguez et al., 2022).

One of the most important components of this change is digital competence, namely the ability of teachers to use technology effectively, ethically, and creatively in the context of learning. Studies have shown that digital literacy makes a significant contribution to improving student engagement and

achievement, especially in online and blended learning environments (Darwis et al., 2021). However, there are still many teachers who experience obstacles in integrating technology meaningfully, due to a lack of adequate training and institutional support (Alzakwani et al., 2025; Revuelta-Domínguez et al., 2022). Therefore, teacher education programs must provide specific, context-oriented interventions to equip teachers with relevant and up-to-date technological skills.

At the same time, innovative pedagogic approaches are also crucial in creating learner-centered learning. Teachers are required to abandon conventional lecture methods and adopt interactive learning strategies such as gamification, problem-based learning, augmented reality, and flipped classroom learning (Luan, 2023). To support this change, continuous professional development is essential. Recent studies emphasize the need for teacher training programs that are structured and aligned with educational reform and technological developments (Marey et al., 2022; Naidoo & Singh-Pillay, 2020).

Equally important is transdisciplinary competence, which involves integrating cross-disciplinary themes such as diversity, sustainability, and global citizenship into teaching practice. Teachers are required to have the ability to deal with cultural complexities, conduct educational research, and respond flexibly to real-world issues in the classroom (Smestad & Gillespie, 2020). This shift reflects the broader goal of education, which is to prepare students for academic success while also being able to participate actively in an interconnected and ecologically vulnerable global society. In addition, evaluative and analytical competencies are also a major concern, especially in the context of formative assessments. Teachers must be able to design meaningful assessment tools, analyze learning outcome data, and provide constructive feedback that supports students' individual development (Darwis & Indra, 2023). These skills are essential in building students' metacognitive awareness and reflective learning habits.

The themes in the literature also emphasize the importance of upskilling and reskilling for teachers. With rapid technological changes and learning approaches, teachers need access to ongoing training, both in the context of pre-service and during the service period (Almazroa & Alotaibi, 2023). The training includes a cross-disciplinary pedagogic approach, digital-based evaluation tools, and an ethical understanding of the use of technology in education. Similarly, pre-service teacher training needs to be geared towards the integration of frameworks such as TPACK and experiential learning approaches (Miguel-Revilla et al., 2020).

Through a systematic literature review, this research builds a conceptual foundation to formulate a teacher competency model that is more integrated and relevant to today's challenges. The implication is the need for a holistic approach in preparing future teachers. This approach includes not only technical and instructional aspects, but also develops emotional resilience, adaptability to change, and a commitment to lifelong learning (Bernhardt, 2015). This reinterpretation of teacher competencies is in line with the vision of education as a driving force for social transformation in the digital and post-pandemic era.

The change in the educational paradigm in the 21st century requires a redefinition of teacher competence. The complexity of the role of teachers in the context of globalization, the development of digital technology, the diversity of students, and the dynamics of education policies raises questions about how teachers' competencies should be developed conceptually. Although a lot of research has been done, there is still a need for a more thorough and systematic understanding of the direction and scope of teacher competencies today. This research aims to explore and formulate the conceptual development of teacher competencies in the 21st century based on the results of a systematic review of the scientific literature.

## 2. METHODS

This study uses the Systematic Literature Review (SLR) approach, which is compiled based on the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. This approach was chosen because it provides a systematic, transparent, and structured review of scientific literature relevant to teacher competency development. This SLR aims to identify trends, thematic patterns, and gaps in the literature regarding 21st-century teacher competence, which form the basis for formulating new conceptual models.
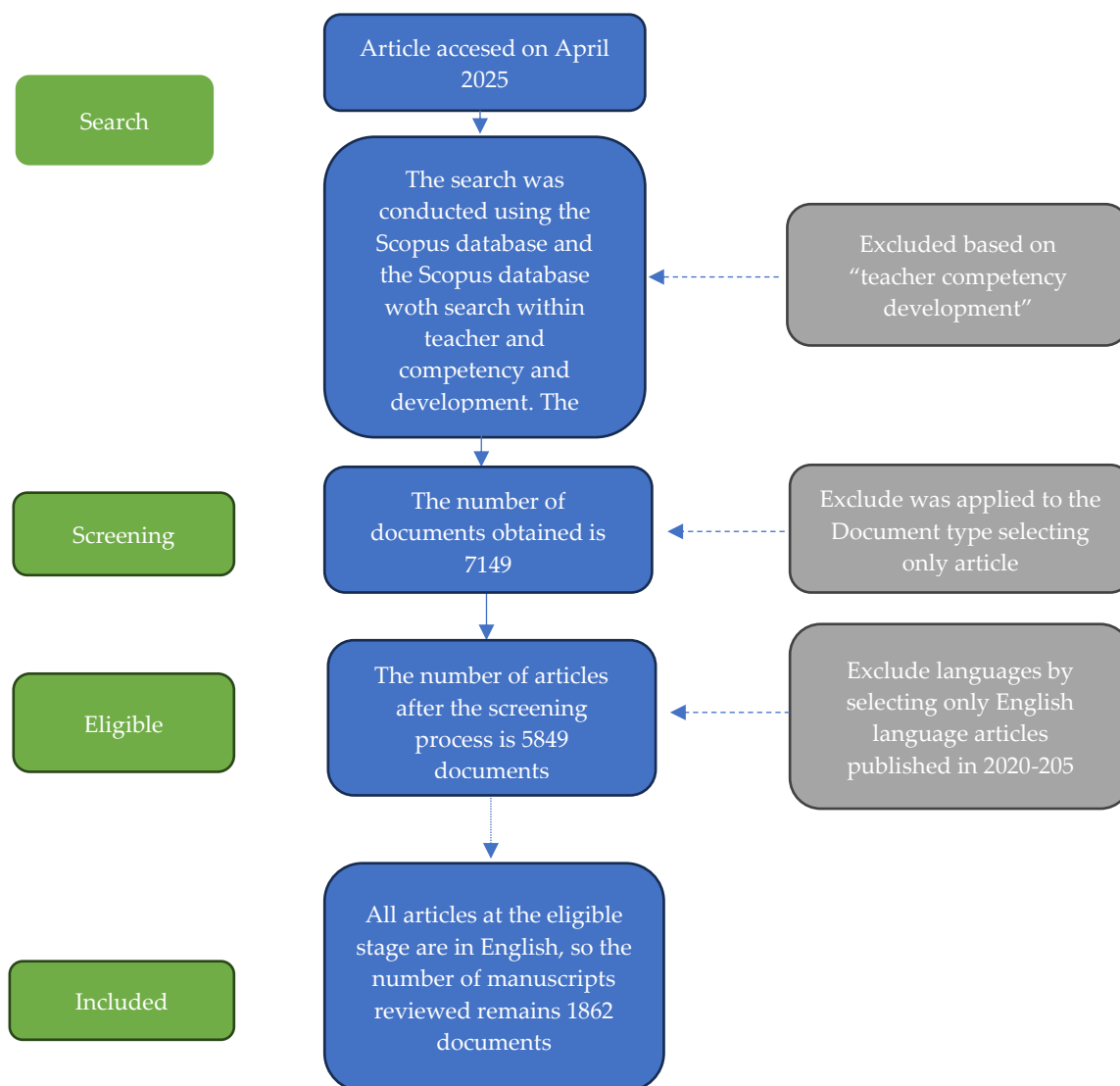


**Figure 1.** PRISMA Process

The data source in this study was obtained from the Scopus scientific database using the Scopus Premium application. The first stage is a search; the data search will be carried out on April 1, 2025. The main keyword used in the search process is teacher competency development. Search is done in the title section. At this stage, 8,357 documents were obtained. Then the excluded process is continued by only choosing "teacher competency development". At this stage, 7,149 documents appeared.

The article screening process is carried out by selecting the type of document, namely the article. At this stage, there are 5,849 documents left. Furthermore, at the eligibility stage, select only manuscripts that are in English and published in the range of 2020-2025. At this stage, there are 1.862 documents left.

The data obtained was analyzed through two main approaches. First, a bibliometric analysis was conducted using VOSviewer software to map the co-occurrence of keywords often appearing in 1,862 selected articles. Second, a reflective thematic analysis of the emerging themes is carried out, including themes often mentioned implicitly in the literature.

## 3. FINDINGS AND DISCUSSIONS

After screening according to the PRISMA guidelines, 1,862 articles were selected for further analysis using the VOSviewer software. This analysis mapped thematic linkages by visualizing co-occurrence keywords based on article titles and abstracts. The results resulted in a bibliometric map divided into several color clusters that reflected groups of related research topics.

In general, there are several key keywords with high frequency and central positions in the visualization map, including "teaching," "professional development," "education," "curriculum," "teacher," and "students." The size and thickness of the nodes indicate the strength of the keywords' interconnectedness in the network, while different colors mark different clusters. Keywords such as professional development and curriculum are at the central node, indicating their important role as a connecting theme between subfields.
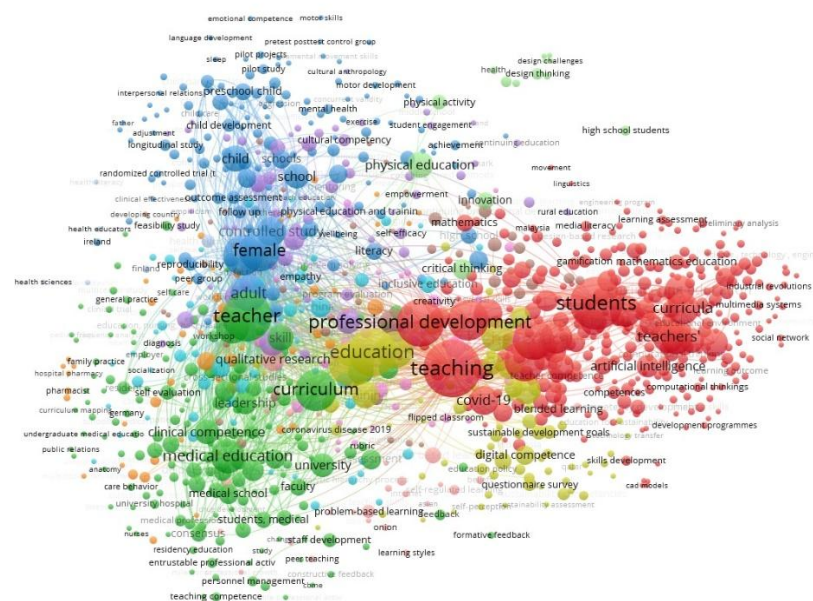


**Figure 2.** VOSviewer Bibliometric Analysis Output

The red cluster is dominated by keywords such as students, teaching, teachers, curriculum, artificial intelligence, and digital competence. This cluster describes the technological orientation in developing teacher competencies influenced by digital education trends and AI integration. The green cluster displays terms such as teacher, qualitative research, leadership, and general practice, which reflect pedagogic approaches, leadership, and learning strategies. Meanwhile, the blue cluster is more connected to studies in the health or medical fields, with keywords such as controlled study, child, preschool, female, and outcome assessment, which show the contribution of cross-disciplinary studies.

In addition, contextual keywords such as COVID-19, blended learning, flipped classroom, and self-evaluation appeared, indicating the literature's response to global education disruption and the importance of innovation in teacher competency development. Other prominent themes are critical thinking, inclusivity, and digital literacy, which reinforce the trend of shifting the focus of education

from conventional approaches to 21st-century competencies.

This mapping confirms that teacher competency development is not an isolated theme. Still, it is a node of various strategic educational issues, such as technology, curriculum, teaching methods, and student dynamics. The results of this visualization also provide a direction for future research to explore areas that are still rarely explored or need further deepening.

In the context of sustainability, several studies highlight the importance of attitudes and awareness of environmental conservation in teacher education. Real-world action experiences and other supporting competencies strongly influence positive attitudes towards sustainability. The study emphasizes that instilling awareness of sustainable development in teacher education is a long-term strategy to create an environmentally responsible generation.

Another aspect that emerged strongly was the digital transformation in teacher education, which was emphasized as an urgent need to prepare teachers for the 21st century. Studies show that TPACK-based training and online learning, such as PPG, have a significant impact on improving teacher competence, especially in the field of pedagogy and content mastery. However, challenges still exist regarding technological limitations, barriers to digital curriculum integration, and low participation in online-based training that is not designed sustainably.

Developing teacher competencies in the context of 21st-century education demands an approach that is comprehensive, integrative, and contextual. Based on the results of the literature synthesis in this study, a conceptual model was formulated that reflects the five main dimensions of teacher competence that are interrelated and mutually reinforcing. These four dimensions reflect the complexity of today's teachers' roles as educators, facilitators, innovators, and learning leaders. The following description describes in detail each dimension in the model.

**Mapping Teacher Competency Development**

*Pedagogical and professional*

Pedagogic and professional competence is the main basis that must be possessed by every teacher, including mastery of the content of the subject matter, effective learning strategies, and the ability to design and evaluate the learning process according to the needs of students. This dimension also includes the professionalism of teachers in carrying out ethics, reflection, and self-development in a sustainable manner.

Pedagogic competence is a basic skill that teachers must have to plan, implement, and evaluate the learning process. These competencies include understanding teaching methods, classroom management, lesson planning, and the ability to build student engagement (Bancotovska, 2015; Wicaksono & Waluya, 2024).

The integration of local cultural values through an ethnoconstructivist approach has also been proven to be able to improve pedagogic competence, especially in the context of multicultural societies (Syahrial et al., 2019). Furthermore, the use of information and communication technology (ICT) can strengthen teachers' pedagogic skills through the creation of a more dynamic, interactive, and contextual learning environment (Rukajat et al., 2024).

Professional competence is related to mastery of learning materials, the ability to design strategies, conduct evaluations, and conduct educational research. Professional teachers are required to be able to master their scientific fields, adjust methods to student needs, and assess learning outcomes objectively (Wicaksono & Waluya, 2024; Yang, 2020).

The development of professional competencies cannot be separated from continuous education and training. Continuous professional development activities allow teachers to continue to update their knowledge and skills to keep pace with the development of science and technology (Retelsdorf &

Suedkamp, 2012). In addition, the quality of the education system and the working conditions of teachers also determine success in developing professional competencies (Bancotovska, 2015).

Teacher competency development should be carried out through an integrated approach involving the government, universities, and schools. This collaboration is important so that teachers get support from the pre-service stage to the in-office through reflective practice and continuous training (Yang, 2020). The integration of modern technology with an effective school management strategy can also improve both pedagogic and professional competence of teachers (Rukajat et al., 2024).

### Digital and Technology Competencies

Integrating digital technology in education requires teachers to have adequate digital and technological competence. These competencies are related to the mastery of technical skills and include pedagogical and epistemological changes in learning practices. In modern education, digital competence is a multidimensional construction that includes technical skills, pedagogical innovation, critical digital literacy, and attitudes to continue learning and adapting to technological developments.

TPACK (Technological Pedagogical Content Knowledge) and SAMR (Substitution, Augmentation, Modification, Redefinition) are widely used frameworks. TPACK emphasizes the integration between technological knowledge, pedagogy, and content, while SAMR provides a practical classification of the level of use of technology, from simple substitution to learning transformation (Bećirović, 2023).

Other, more advanced frameworks, such as DigCompEdu and ICT-CFT, expand the scope of teachers' digital competencies. This framework highlights dimensions beyond classroom practice, such as professional collaboration, digital ethics, and teachers' ability to empower students to be able to participate actively in the digital society actively (Hurtado-Mazeyra et al., 2022; McGarr, 2024). Other, more advanced frameworks, such as DigCompEdu and ICT-CFT, expand the scope of teachers' digital competencies. This framework highlights dimensions beyond classroom practice, such as professional collaboration, digital ethics, and teachers' ability to empower students to be able to participate actively in the digital society actively (Tondeur et al., 2023). Second, student empowerment, which emphasizes providing students with digital literacy, critical thinking skills, and responsibility in the use of technology. Third, digital literacy, which is the ability of teachers to navigate, evaluate, and create digital resources (Solís de Ovando Calderón & Jara Jara, 2019). Fourth, professional development, which requires teachers to continuously improve their competencies to be relevant to the latest technological developments (Tondeur et al., 2023).

Fourth, professional development, which requires teachers to continuously improve their competencies to be relevant to the latest technological developments (Temirkhanova et al., 2024). The integration of digital media has also been proven to increase students' motivation and positive attitudes towards learning, resulting in more dynamic classroom interactions (Álvarez et al., 2023). Thus, teachers' digital competence contributes directly to improving the quality of learning and student learning outcomes.

### Social and Environmental Competence

Teachers are not only responsible for the academic success of students, but also for the formation of character and social awareness. These competencies include instilling environmental sustainability values, understanding the local socio-cultural context, and creating an inclusive learning environment that respects diversity.

Social competence refers to the ability of teachers to build positive relationships with students, manage classroom dynamics, and create a supportive learning atmosphere. These competencies directly impact students' emotional well-being, academic success, and personal development (Chernicoff & Labra, 2024; Dubovyk et al., 2022). In addition, social competence also includes the ability of teachers to interact with peers and the school community, thus creating a collaborative culture (Sánchez-Cardona,

2021).

Social competence is initially formed through family interactions and then developed through formal education, especially teacher education programs (Dubovicki & Nemet, 2015). Instruments such as inCLASS Pre-K can be used to assess teachers' interactions with students and peers, as well as highlight the importance of cultural and environmental contexts in developing social competence (Slot & Bleses, 2018).

Both pre-service and in-office teacher education programs are important in improving social competence. Studies show that teachers consider these competencies to be very important, even though some of the strategies taught are more easily accepted theoretically than applied practically (Kim & Han, 2015). Teachers' self-assessments also show that teaching experience and gender can affect perceptions of social competence.

Environmental competence refers to the ability of teachers to create and maintain a safe, conducive, and inclusive learning environment. This includes classroom management, physical arrangement of learning spaces, and management of social interactions between students.

School environmental factors, such as ethnic diversity and school location (urban or non-urban), affect the achievement of social and environmental competency goals. Teachers working in schools with higher diversity or urban contexts often face greater challenges in creating an inclusive learning environment (Zwaans et al., 2008). Based on ecological models, students' social competencies are also influenced by a variety of factors, including family, peers, and society (Shean et al., 2005).

### Well-being and Resilience

This dimension emphasizes the importance of emotional balance and psychological stability in teaching. Prosperous and resilient teachers are better able to manage work pressure, maintain motivation, and maintain optimal performance in the long term. Therefore, strengthening mental well-being and coping strategies is crucial to teacher competence.

The issue of teacher competence is no longer solely related to pedagogical and professional abilities, but also includes psychosocial dimensions such as well-being and resilience. Several recent studies show that resilience is positively related to teacher well-being. Physical, emotional, psychological, and social resilience protect against work stress and mental health problems. Teachers with high levels of resilience tend to have better job satisfaction despite being in a challenging work environment (Lu & Chen, 2025; Sánchez-Cardona, 2021; Villalobos Vergara et al., 2024).

Social-emotional competence has also been shown to affect teacher welfare significantly. Skills such as self-awareness, emotion regulation, empathy, and collaboration increase resilience and strengthen emotional well-being (Poulou et al., 2024). These findings indicate that teachers who can manage emotions and build positive relationships are better prepared to manage work pressure and maintain their well-being.

Personal factors (e.g., self-efficacy and motivation) and contextual factors (social support from family and school) also play an important role. Social support is a mediator that connects resilience with well-being (Huang et al., 2024; Wang et al., 2025). In other words, even though teachers have resilience, a supportive environment remains the main determinant in maintaining their psychological well-being.

In the context of professional development, training focused on improving social-emotional competence and resilience is highly recommended. This kind of program has proven to be effective in helping teachers manage professional challenges while maintaining well-being (Krummenacher et al., 2024). Thus, teacher competency development should emphasize the technical aspects of learning and focus on emotional skills and resilience strategies.

Especially for special education teachers, the challenges faced are more complex. Research shows

that their resilience is strongly linked to the quality of their work life and is influenced by psychological, social, and political needs (Abdullahi, 2019; Xu & Xue, 2023). This confirms that more comprehensive support needs to be given to this group of teachers so that they can maintain their well-being and work motivation.
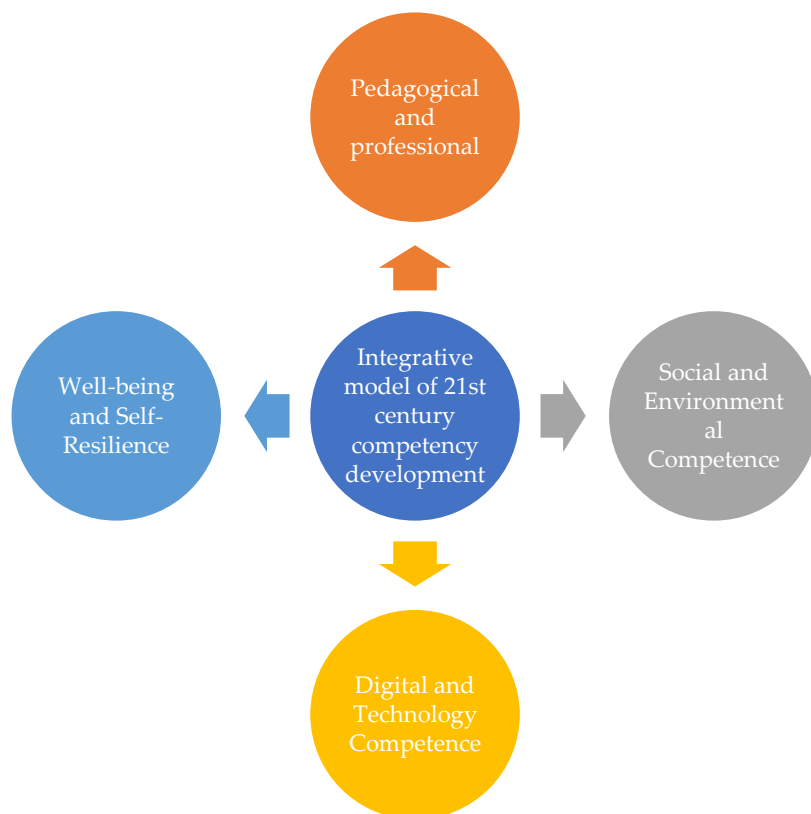


**Figure 3.** Integrative Model of 21st Century Competency Development

A literature review on the development of teacher competencies in the 21st century found that various models today generally focus on pedagogical, professional, and digital aspects. The TPACK model, for example, is very popular because it integrates technology with pedagogic knowledge and content. Likewise, UNESCO's competency framework and the OECD Learning Compass 2030 have raised the importance of global skills, such as critical thinking, collaboration, and technological literacy. However, the results *of the Systematic Literature Review* of the 1.862 articles in the study show that several important elements often appear implicitly in these studies, but have not been explicitly accommodated in previous models.

One of the important findings is the emergence of attention to environmental sustainability, teacher welfare, and the role of teachers as drivers of institutional change. These studies did not always use uniform terminology. Still, the thematic pattern was consistent: teachers must not only master technology and pedagogy, but also be able to cope with work pressures, contribute to environmental awareness, and play a leadership role in school change. Although these findings are not necessarily classified as a major competency in the literature, this recurring pattern suggests the presence of unmet conceptual needs. The model formulated is SPIRIT.

The SPIRIT model has five dimensions: *Sustainable, Professional, Innovative, Resilient,* and *Inclusive Teachers*. These five dimensions reflect the complexity of the role of today's teachers, who are not only required to master academic and technological aspects but must also be able to contribute to sustainability issues, maintain self-welfare, and create inclusive and socially relevant learning. The model was developed in response to conceptual gaps identified during the Systematic Literature Review process, where important competencies such as emotional resilience, transformational

leadership, and environmental sustainability often appear implicitly but are not part of the main competency framework.

**Tabel 1.** SPIRIT Model

| Component | Description | Source of Findings |
| --- | --- | --- |
| **Sustainable** | Teachers have awareness and concrete actions towards sustainable education and environmental conservation. | Environmental, sustainability, locality attitudes (e.g., conservation & SDGs) |
| **Professional** | Mastery of pedagogy, content, ethics, and reflective skills. Including sustainable development through PPG, training, and mentoring. | VOSviewer main clusters: "teaching", "professional development" |
| **Innovative** | Ability to apply creative learning methods: flipped classroom, blended learning, STEAM, and AI. | AI competence studies, blended learning, and technology integration |
| **Resilient** | Personal and institutional resilience: stress management, burnout, and coping with system changes (e.g., COVID-19). | Burnout study, school change management |
| **Inclusive** | Teachers' ability to design inclusive, adaptive, and local wisdom-based learning and awareness of cultural and social diversity. | Studies on local integration, character education, and equality |

The SPIRIT model is important because it offers a more complete conceptual framework responsive to the complexity of 21st-century educational challenges, compared to pre-existing teacher competency models. Most previous models, such as TPACK or the UNESCO framework, have emphasized integrating pedagogy, content, technology, global inclusion, and literacy. However, the results *of the Systematic Literature Review* in this study show that several important dimensions consistently appear implicitly in various studies, but have not been used as core elements in the framework of formal competencies, including: environmental sustainability, personal resilience, and the transformational role of teachers.

In practice, teachers are not only required to master content and technology, but also face psychological burdens, bureaucratic pressure, and changing social expectations. Therefore, mental well-being, socio-environmental awareness, and innovative ability to lead change are crucial, but often overlooked, competencies. The SPIRIT model addresses this gap by integrating five key dimensions: *Sustainable, Professional, Innovative, Resilient, and Inclusive Teachers* that together form the profile of the ideal teacher who is not only academically competent, but also emotionally resilient, technologically adaptive, socially inclusive, and positive change-oriented.

This model is also important because of its contextuality, especially for developing countries such as Indonesia, which face a dual challenge: technological gaps, disparities in the quality of education, and socio-cultural diversity. SPIRIT provides a relevant and flexible framework to prepare the teacher education curriculum, professional training design, and as an indicator in teacher competency evaluation based on real needs.
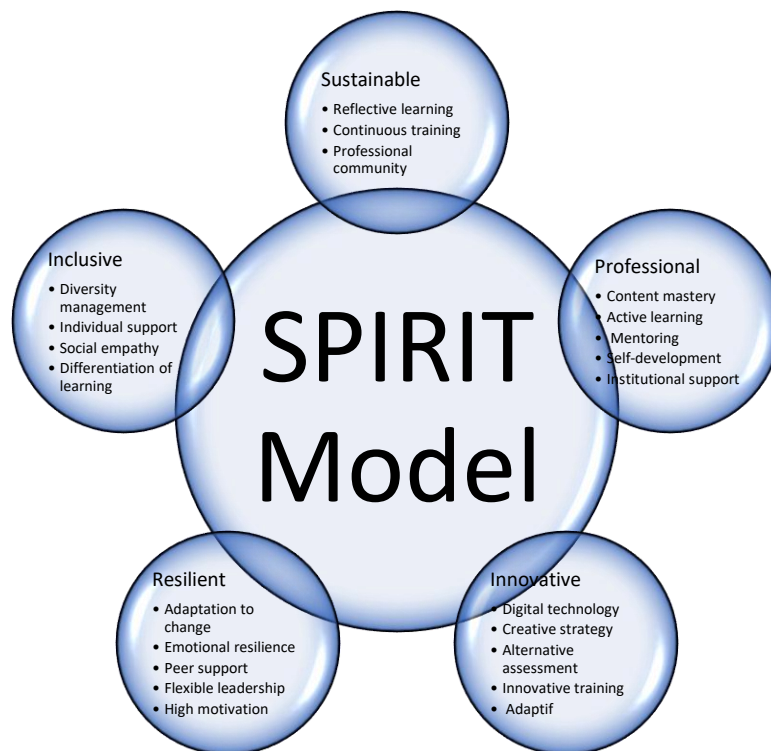
**Figure 4.** SPIRIT Model

The challenges of 21st-century education require teachers to have competencies beyond mastery of teaching materials. Today's teachers must be lifelong learners, agents of change, and adaptive and inclusive learning leaders. Based on a synthesis of various recent studies, this article develops a conceptual model of teacher competence in the 21st century that includes five main dimensions, namely Sustainable, Professional, Innovative, Resilient, and Inclusive

**SPIRIT Model**

*Sustainable Teachers: Building Long-Term Impact*

Continuous competency emphasizes the importance of holistic and transformational learning. Teachers need to engage in collaborative learning processes that support social and environmental development simultaneously (Brandisauskiene et al., 2020). In this context, teacher professional development is not sufficiently short-term, but must be designed in an ongoing manner through systematic and reflective training (Murphy et al., 2020). The existence of Professional Learning Communities (PLCs) is an important catalyst in fostering ecological awareness, social responsibility, and sustainable learning quality improvement (Zorde & Lapidot-Lefler, 2025).

*Professional Teachers: Science-Based and Leadership*

Professional teachers not only master the subject matter but also act as learning facilitators and mentors for students. This competency involves active, collaborative learning and leadership in the learning community (Rodríguez-Padín, 2025). Further, effective professional development programs should focus on in-depth content, collaboration between teachers, and strong institutional support from schools and the education system (Foster & Foster, 2023). Therefore, the professionalism of teachers cannot stand alone, but must be supported by policies and an educational ecosystem that supports (Ewen et al., 2023).

*Innovative Teachers: Integrating Creativity and Technology*

Innovation is an essential element in today's teacher competence. Innovative teachers can design

creative learning, utilize technology, and create relevant and engaging learning experiences for students (Livingston et al., 2023). Innovative practices include cross-disciplinary learning strategies, alternative evaluation, and the use of interactive and reflective learning media (Svabo et al., 2025). In addition, innovation-based professional development also needs to pay attention to the metacognitive and social-emotional aspects of teachers to be able to adapt in the context of education that continues to change (Caena & Vuorikari, 2022).

### Resilient Teachers: Surviving and Adapting in the Midst of a Crisis

Resilience is the capacity of teachers to survive, rise, and thrive in an educational situation full of pressure and uncertainty. Resilient teachers can adapt emotionally and professionally in the face of various challenges, both at the classroom and systemic levels (Gray & Purpuri, 2024). Support from the professional community is key in building teachers' confidence and emotional resilience (Zorde & Lapidot-Lefler, 2025). In addition, the school's innovative and transformative leadership style also contributes greatly to strengthening teachers' resilience in achieving sustainable education development goals (Maqbool et al., 2024).

### Inclusive Teachers: Prioritizing Justice and Equal Access

Inclusive skills require teachers to be able to design learning processes that accommodate the diversity of students, including those with special needs. Inclusive teachers can provide individual support, create a welcoming learning environment, and build relationships that respect differences (Kantor et al., 2021). Teacher training programs designed for inclusion should instill values of anticipation against discrimination and reinforce sustainable reflective practices (Ewen et al., 2023; Mihić et al., 2022). Research also shows that teachers' personalities, such as openness to experience, have a significant effect on the ability to implement inclusive learning approaches (Mihić et al., 2022).

The conceptual model developed in this study shows that the five dimensions are interrelated and form a complete framework of teacher competence. 21st-century teachers are not only required to be proficient in professionalism or innovation, but also must have environmental awareness, resilience to change, and alignment with inclusivity. By designing training programs and education policies that integrate these five dimensions, the education system will be able to produce teachers who are not only ready to face the challenges of the times, but also able to become transformation actors towards fair, adaptive, and sustainable education.

## 4. CONCLUSION

This study uses the Systematic Literature Review (SLR) approach based on the PRISMA protocol to evaluate the literature related to the development of teacher competencies in the 21st century. From the initial search of 8,357 documents, a tiered selection was carried out until 1,862 articles that met the inclusion criteria were obtained for further analysis. These articles represent a diversity of contexts, methodologies, and study focuses, providing a broad overview of the dynamics of teacher competencies in the last decade. Furthermore, a bibliometric analysis was carried out using VOSviewer to map the co-occurrence of keywords often appearing in selected literature. The visualization results show a consistent thematic cluster, with dominant keywords such as professional development, teaching, digital competence, students, and curriculum. However, beyond the main keywords, there is an implicit pattern that shows that issues such as teacher well-being (resilience), environmental awareness (sustainability), learning innovation (innovation), and inclusiveness (inclusiveness) also often appear, although they have not been developed as a formal competency dimension (inclusiveness). Based on the synthesis results, this study formulated a new conceptual model called SPIRIT, an acronym for Sustainable, Professional, Innovative, Resilient, and Inclusive Teachers. This model was not proposed from the outset but emerged reflexively from the PRISMA findings and thematic patterns visualized through VOSviewer. SPIRIT represents a more holistic 21st-century teacher competency framework,

emphasizing integration between academic, social, emotional, and contextual dimensions. This model is expected to be a conceptual alternative in developing more adaptive, humane, and transformative teachers amid rapid global change.

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