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Fostering Creativity in Primary Education: A Literature Review of Creative Pedagogy Strategies, Facilitators, and Barriers

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ABSTRACT

Creativity is increasingly recognized as a core 21st-century competency in global education reforms, particularly in primary education where early creative development is critical. Lin's Creative Pedagogy framework—integrating creative teaching, teaching for creativity, and creative learning—offers a holistic approach. However, most existing research examines these components in isolation, and systematic reviews focusing on primary education and recent developments remain limited. This study conducted a systematic literature review to explore strategies, facilitators, and barriers related to creative pedagogy in primary education from 2014 to 2024. Following PRISMA guidelines, 25 peer-reviewed empirical studies were selected from Scopus, Taylor & Francis, and Google Scholar databases. The analysis identified a range of student-centered pedagogical strategies, including problem-based, project-based, experiential, game-based, art-based, and STEM-based approaches. These methods were found to enhance student engagement, critical thinking, and creativity. Key facilitators of creative pedagogy included supportive school environments, ongoing professional development, and teachers' self-efficacy. Conversely, common barriers included cultural expectations, high-stakes assessment systems, time constraints, and inflexible classroom structures. This review offers a contemporary synthesis of creative pedagogy in primary education, highlighting both progress and persistent challenges. By mapping recent trends and implementation factors, the study contributes to a deeper understanding of how creativity can be more effectively integrated into early education. The findings offer practical insights for educators, policymakers, and researchers aiming to foster creativity-driven learning environments in primary schools.

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1. INTRODUCTION

One of the essential skills for the 21st century is creativity (World Economic Forum, 2020). Creativity is viewed as a key factor for enhancing competitiveness, and many countries emphasize its importance amid the current global competition (Han & Abdrahim, 2023). The development of creativity has become a primary concern in education worldwide, particularly for younger generations (Huang et al., 2019).

Creativity is increasingly crucial in education to create engaging teaching and learning environments and to produce students who are excellent, creative, productive, and competitive in 21st-century education (Pazin et al., 2022; Hasmiati et al., 2024).

Creativity is a skill that needs to be nurtured from an early age, particularly during elementary school, as children at this stage are in a crucial developmental period and can quickly acquire certain skills. Creativity should be fostered early to cultivate scientific and innovative talents, strengthening the nation and promoting creative, innovative, and critical thinking (Xue & Xian, 2023). This aligns with Fitriyani et al. (2021), who argue that the elementary school curriculum aims to facilitate creative thinking in students so that they develop competencies such as teamwork, self-recognition, improved performance, effective communication, and problem-solving skills. Therefore, Cremin and Barnes (2018) assert that elementary school teachers are responsible for encouraging the development of children's creativity with the hope that children can think creatively, make connections, and solve problems. This highlights that the development of children's creativity should not be overlooked.

The success of developing creativity in education heavily depends on the role of teachers and their creative approaches to teaching (Huang et al., 2019; Pazin et al., 2022). Traditional teaching methods, such as lecture-based instruction, are no longer suitable for the needs of the 21st century and cannot achieve effective teaching. Therefore, teachers need to develop more creative teaching methods, such as integrating technology into their instruction (Han & Abdrahim, 2023). While many teachers recognize the importance of creative teaching through various methods, many struggle and lose sight of the goal of fostering creativity in students (Maor et al., 2024). Teaching for creativity is seen as a core method for developing students' creative capacity (Lin, 2014). The NACCCE (1999) report differentiates between creative teaching and teaching for creativity, defining creative teaching as using imaginative approaches to make learning more engaging and effective, while teaching for creativity aims to identify and nurture young people's creative abilities (Jeffrey & Craft, 2004).

Research by Cremin and Chappell (2021) highlights the importance of understanding the relationship between teaching for creativity and creative teaching, suggesting that these should not be viewed as separate entities. Although the two elements have different focuses, they are interconnected and should not be separated dichotomously (Lin, 2014; Jeffrey & Craft, 2004). Moreover, Lin (2011) argues that discussions on creative teaching and teaching for creativity often overlook children's natural curiosity and desire to explore, which drives their creative learning. Traits like experimentation, playfulness, and imagination as key to this process (Selkrig & Keamy, 2017). Jeffrey and Craft (2006) describe creative learning as the balance between teaching creatively and fostering creativity in students.

The diverse views and definitions of creativity in education reflect different research approaches to creativity (Maor et al., 2024). In previous studies, the definitions of creative teaching and teaching for creativity have often been inconsistent because these definitions vary depending on the research context (Setiamurti & Kurniawati, 2024). For example, Huang et al. (2019) and Shi et al. (2023) define creative teaching as teaching behaviors aimed at developing students' creative thinking and behavior. Inconsistencies in the literature create research gaps that can hinder the development of a solid theoretical framework (Setiamurti & Kurniawati, 2024).

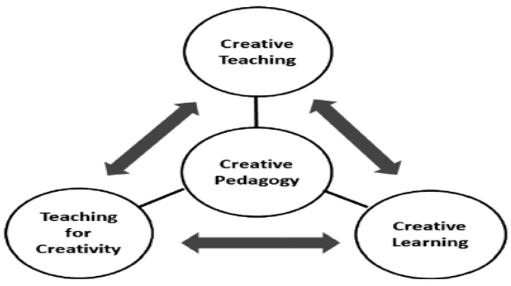

Figure 1. The three elements of creative pedagogy framework (Lin, 2011)

To link creativity research, Lin (2011) proposed the triangle model called "Creative Pedagogy". The framework of creative pedagogy consists of three interrelated elements: creative teaching, teaching for creativity, and creative learning. Creative teaching involves using imaginative and dynamic approaches

to make learning engaging, while teaching for creativity focuses on nurturing students' creative abilities and autonomy. Both practices contribute to a supportive learning environment where teachers inspire students through enthusiasm and innovation, and students develop creativity through inquiry, problem-solving, and exploration. Creative learning emphasizes autonomy, playfulness, collaboration, and a resourceful context, ensuring that both teachers' and learners' creative efforts interact dynamically. This integrated approach fosters a more effective and engaging educational experience. (Lin, 2014; Lin, 2011).

This theoretical framework is important in education research (Cremin & Chappell, 2021), particularly in elementary education, to better understand how teachers and schools create learning environments and creative teaching strategies that support children's creativity and prepare them to become more active, creative, and innovative learners in the future (Craft et al., 2014).

Previous research has distinguished between creative teaching and teaching for creativity (Brauer et al., 2024). Systematic research on creativity has often separated these two concepts, as seen in literature. For example, Pazin et al. (2022) studied factors influencing creative teaching, while Normawati and Kurniawati (2023) as well as Setiamurti and Kurniawati (2024) explored teaching for creativity in higher education. However, systematic research on creative pedagogy at the elementary school level remains limited, with research by Cremin and Chappell (2021) being one of the few to investigate the characteristics and impacts of creative pedagogy on students, focusing on literature from 1990 to 2018. Moreover, there has been little systematic research on creative pedagogy in elementary education. Thus, it is worthwhile to further investigate trends in modern creative pedagogy over the past decade at the elementary school level. This review aims to provide evidence on the significance of creative pedagogy at the primary school level. Accordingly, the researchers propose three research questions:

1. What are the trends in creative pedagogy strategies implemented by primary school teachers?
2. What factors influence and hinder the success of creative pedagogy at the primary school level?

2. METHODS

This study systematically reviewed literature on creative pedagogy in elementary schools, guided by the PRISMA checklist (Page et al., 2021). Using Scopus, Taylor & Francis, and Google Scholar (for Indonesian-language articles). The review analyzed publications from January 1, 2014, to October 10, 2024, to capture contemporary trends in creative pedagogy over the past decade.

Table 1. Inclusion and Exclusion Criteria.

Inclusion Criteria	Exclusion Criteria
Published between January 1, 2014, and October 10, 2024	Published before January 1, 2014, or after October 10, 2024
Written in English or Indonesian	Not written in English or Indonesian
Primary research articles	Systematic literature reviews or meta-analyses
Articles from databases indexed by Scopus, Taylor and Francis, and Google Scholar indexed by SINTA	Proceedings, dissertations, theses, book chapters, evaluative literature, magazine articles, or articles not indexed by SINTA, Scopus, or Taylor and Francis
Topics related to creative pedagogy	Not related to creative pedagogy
Research conducted at the primary school level	Research not conducted at the primary school level

The first step of the research involved identifying relevant search terms for the topic of creative pedagogy at the elementary school level (Table 2). The next step involved an initial screening based on titles and abstracts, followed by an in-depth analysis of the full articles. The flowchart in Figure 2 illustrates the article selection process. From 3,027 articles retrieved from various databases, the researchers screened them based on inclusion and exclusion criteria, resulting in 106 articles. Subsequently, a manual stepwise screening process based on the articles' titles, abstracts, and full content was conducted, leaving 28 articles for further analysis. After reviewing the entire article, the total number of articles analyzed for drawing conclusions is 25 (Table 3).

Table 2. The search string used for the systematic review process

Search String
(TITLE-ABS-KEY ("creative pedagogy" OR "pedagogy for creativity" OR "creative teaching" OR "creativity in the classroom") AND TITLE-ABS-KEY ("Primary school" OR "primary teacher" OR elementary) AND NOT TITLE-ABS-KEY ("pre-service teacher" OR "k-12" OR "kindergarten" OR "corporate training" OR "middle school" OR "high school" OR "Higher education"))

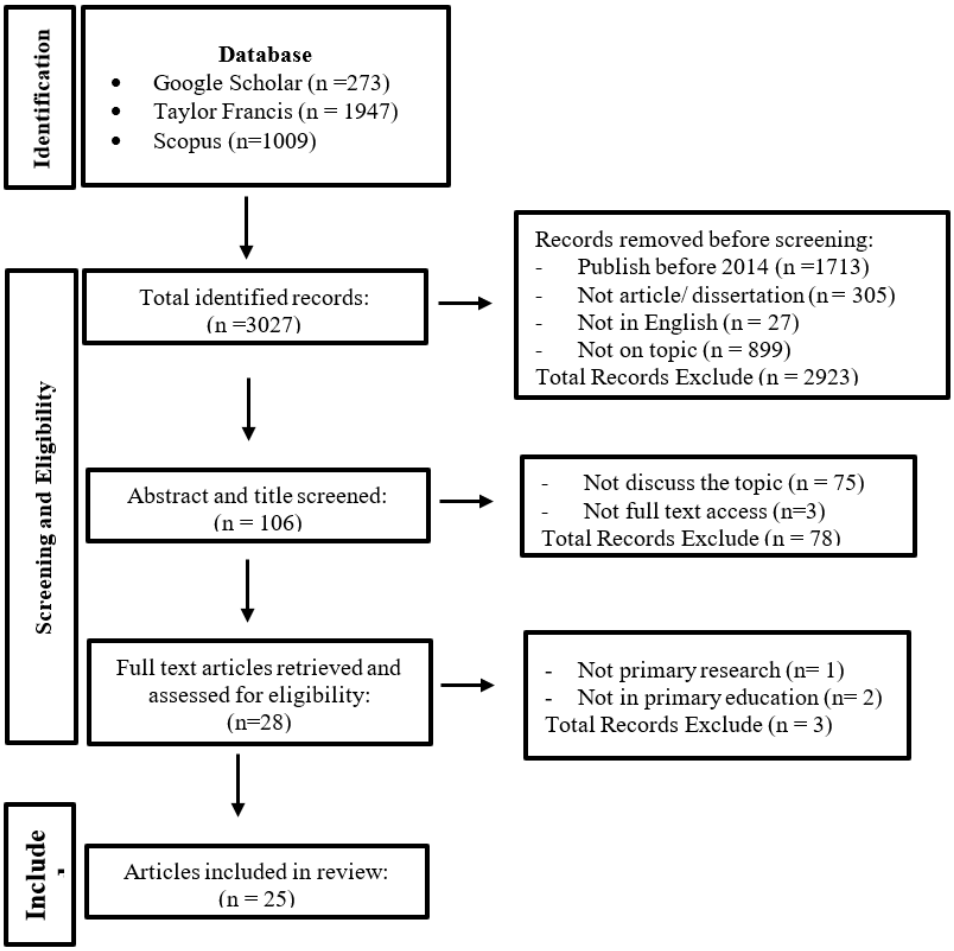

Figure 2. Flow diagram of the literature selection process with PRISMA

To synthesize the qualitative findings related to creative pedagogy strategies, facilitators, and barriers, a thematic analysis was conducted following the identification of relevant articles. An inductive approach was employed, allowing themes to emerge organically from the data. Initial coding was performed on the full texts of the included studies, focusing on recurring concepts and patterns relevant to the research questions. To structure these findings, the categories were organized using the thematic frameworks of constructivist learning and teaching theory (Zajda, 2023) and the ecological systems framework (Bronfenbrenner, 1979). Based on these frameworks, six categories of strategies and three categories related to facilitators and barriers were identified. These categories, including strategies, facilitators, and barriers, were further divided into subcategories, such as categorizing facilitators into macrosystem, microsystem, and personal context. Due to some studies being classified into multiple categories, particularly within the strategy section, the total number of studies across categories does not align with the overall number of included studies. For studies with multiple focal points, categories were assigned separately for each focus of investigation. For instance, a study reporting that 'teachers' self-efficacy has a significant positive relationship with creative pedagogy' was classified under the personal context within the facilitator category. Codes were then grouped into broader categories and refined through iterative discussions among the authors.

3. FINDINGS AND DISCUSSION

To collect and standardize data from the 25 articles analyzed, the authors created a data extraction form that contained the following information: author(s), year of publication, country, methodology, research design, participant characteristics, and key findings related to research questions.

Table 3. The Results of Full Text Article Extraction and Analysis

Research title and authors	Country	Research Method	Key findings in relation to research question
A third space for dialogues on creative pedagogy: Where hybridity becomes possible (Lin, 2014)	Taiwan	Qualitative	Despite challenges such as differing perspectives and resistance to traditional methods, the implementation of drama-based creative pedagogy effectively enhanced student creativity and fostered productive dialogue.
Creative pedagogies : examining the pedagogies fostering possibility thinking in primary classrooms , using learning resources associated with museum visits (Gregoriou, 2024)	UK	Qualitative	Interactive museum visits fostered possibility thinking in children and inspired teachers to adopt creative strategies like narrative improvisation, further enhancing students' creative thinking.
Primary Teachers' beliefs about Scientific Creativity in the Classroom Context (Liu & Lin, 2014)	Taiwan	Qualitative	Scientific creativity is nurtured through strategies like inquiry-based learning, real-world problem-solving, e-learning, hands-on activities, outdoor learning, science games, journal writing, and art integration.
Infusing creative pedagogy into an English as a foreign language classroom: Learning performance, creativity, and motivation (Liao et al., 2018)	Taiwan	Quantitative	Implementing creative pedagogy with brainstorming activities like digital games, drawing, discussions, and writing enhances students' English performance, creativity, and motivation.
Nurturing curiosity and creativity in primary school classrooms (Scott-Barrett et al., 2023)	Multi-national research (involving nine countries)	Qualitative	Teachers can foster students' curiosity and creativity through constructive feedback, a psychologically safe environment, and creative teaching practices that support student autonomy without requiring additional or expensive resources.
Language Revitalization and the Classroom: Video Workshops at an Elementary School in Miyakojima (Fujita-Round, 2023)	Japan	Qualitative	The use of creative pedagogy, such as arts-based video workshop programs, has been shown to successfully revive interest in and the language revitalization, particularly among younger generations.
Collective creativity and wellbeing dispositions: Children's perceptions of learning through drama (Stephenson, 2023)	UK	Qualitative	Creative pedagogy through drama worldbuilding, which supports the development of creativity and purposeful action in students, has proven effective in enhancing creativity, critical thinking, and student well-being.

Research title and authors	Country	Research Method	Key findings in relation to research question

Objects of curiosity: How old master paintings have been used in the primary classroom to provide pupils with cognitive challenge and creative agency (Janes, 2021)	UK	Qualitative	Creative pedagogy, such as using artworks to evoke curiosity and personal experiences, fosters collaborative exploration and critical thinking, leading to more effective learning.
Primary school science teachers' creativity and practice in Malaysia (Abdullah et al., 2021)	Malaysia	Mixed-method	Curriculum constraints, time pressure, and a focus on technical skills hinder creative pedagogy in primary science. Experience-based approaches effective to enhance creativity at the primary level.
Primary school teachers' conceptions of creativity in teaching English as a foreign language in China (Wang & Kokotsaki, 2018)	China	Qualitative	Creative teaching approaches used by EFL teachers include integrating art forms, role play, storytelling, and play activities, alongside supportive learning environments, which are crucial in fostering student creativity.
Teaching creatively and teaching for creativity–theory, teachers' attitudes, and creativity-based practices (Maor et al., 2024)	Israel	Qualitative	Despite teachers' support for creativity, implementation remains challenging. Strategies include brainstorming, arts, videos, games, model-building, and presentations.
Do multicultural exposure and interaction affect creative teaching by building self-belief? A mixed methods study (Lacaste et al., 2024)	Philippine	Mixed method	Teachers with richer multicultural experiences, along with strong creative self-efficacy, influence their creative and innovative teaching practices, thereby enhancing student creativity
I am not a format: Teachers experiences with fostering creativity in the era of accountability (Olivant, 2015)	USA	Qualitative	Teachers see creativity as an important part of teaching, but high-stakes testing limits their autonomy and narrows the curriculum, thereby hindering students' creativity development.
The Relationship between Teacher's Self-Efficacy and Creative Teaching of Primary Mathematics Teachers (Hayati et al., 2023)	Malaysia	Quantitative	Teachers with strong self-efficacy set ambitious goals and adopt creative pedagogy, enhancing student performance and creative thinking.
The influence of social capital on primary school teachers' creative teaching behavior: Mediating effects of knowledge sharing and creative teaching self-efficacy (Shi et al., 2023)	China	Quantitative	Social capital has a positive impact on elementary teachers' creative teaching behaviors. It also reveals that social capital influences these behaviors through two separate mechanisms: knowledge sharing and creative teaching self-efficacy

Research title and authors	**Country**	**Research Method**	**Key findings in relation to research question**
Creative primary schools: developing and maintaining pedagogy for creativity (Craft et al., 2014)	England	Qualitative	To foster meaningful and memorable learning, schools prioritized creativity through arts integration, flexible scheduling, project- and problem-based learning, and immersive, real-world experiences.
Creativity as a twenty-first-century competence: an	UK	Qualitative	While teachers value creativity in education, they face challenges fostering it and distinguishing between teaching creatively and teaching for

exploratory study of provision and reality (Davies et al., 2018)			creativity. National curriculum constraints, time pressure, and performance demands further hinder implementation.
Creative pedagogy: a case for teachers' creative learning being at the centre (Selkrig & Keamy, 2017)	Australia	Qualitative	The development of creative learning for teachers is crucial for the success of creative pedagogy. School support becomes urgent to provide spaces that allow teachers to develop their own creativity before teachers encourage students' creativity.
Becoming creative practitioners: elementary teachers tackle artful approaches to writing instruction (Simpson Steele, 2016)	USA	Qualitative	Teachers use open-ended questions and student autonomy to foster creativity in creative writing. Despite challenges in providing feedback, they stay committed due to strong student engagement.
Museum-Based Learning for Creativity : Indonesian and Malaysian Teachers (Ambarwati et al., 2019)	Indonesia	Mixed method	Museum-based learning is a promising creative pedagogy strategy that fosters creativity by offering immersive, interactive experiences beyond the classroom, igniting students' imaginations and generating new ideas.
Perceptions of teachers regarding the perceived implementation of creative pedagogy in "making" activities (Jin et al., 2021)	China	Quantitative	Teachers' intentions to use creative pedagogy are positively influenced by their attitudes, subjective norms, pedagogical beliefs, personal innovativeness, and peer influence. "Making Activities" that involve innovative creation and technology can effectively foster student creativity.
Examining Teachers' Perspectives of School-Based Opportunities and Support for Student Creativity with the ICI Index (Brandon et al., 2024)	USA	Mixed method	Teachers foster student creativity through diverse practices, including project-based learning, social studies simulations, arts, STEM integration, service projects, competitions, interest-based assignments, and exhibitions.

Research title and authors	**Country**	**Research Method**	**Key findings in relation to research question**
The creative environment: teachers' perceptions, self-efficacy, and teaching experience for fostering children's creativity (Al-Dababneh et al., 2019)	Jordania	Quantitative	Teacher positive perceptions and attitudes toward creativity, along with teachers' self efficacy, are important predictors of effective teaching creativity, particularly in a supportive school climate that is free from obstacles.
Pengembangan Kreativitas Guru dalam Pembelajaran Kreatif pada Mata Pelajaran IPS di Sekolah Dasar (Fitriyani et al., 2021)	Indonesia	Qualitative	Teachers demonstrate creative pedagogy in social science through imaginative concepts, varied methods, and direct assessments. They use strategies like brainstorming and problem-solving, while also combining approaches.
Fostering students' creativity through lapbooking: A case study in an indonesian primary school context (Halimah et al., 2020)	Indonesia	Qualitative	Implementing project-based learning with lapbook-based portfolios fosters a creative learning environment, enabling students to explore resources and express creativity through artistic documentation.

3.1 Characteristics of the reviewed studies

The article focuses on strategies, supporting factors, and barriers to creative pedagogy in primary schools, guided by (Lin's, 2011) framework, which integrates creative teaching, teaching for creativity, and creative learning. The findings, summarized in Table 3, prioritize contributions to the research question rather than standalone study results. Articles utilizing similar concepts, though using alternative terminology like "creative teaching," are included. Research in this area has grown significantly from 2014 to 2024, indicating its potential for further exploration. Most studies employ qualitative methods (60%), such as interviews and observations, addressing strategies for creative pedagogy. Mixed-method and quantitative studies focus on factors and barriers to implementation, reflecting the predominance of qualitative approaches in this field (Cremin & Chappell, 2021).

Geographically, the UK leads with five studies, followed by China, the USA, Indonesia, and Taiwan. Most research targets single countries, with limited transnational studies, highlighting the need for a global framework (Han & Abdrahim, 2023). Participants are predominantly teachers (76%), emphasizing their role in fostering student creativity through creative teaching. Few studies include students or specify teachers' roles, indicating a gap in broader participant representation. These findings align with trends in creative pedagogy research, which tends to prioritize teacher involvement who have resposibility to foster students' creativity through creative teaching in elementary education.

3.2 Creative Pedagogy in Primary Education Context

Creative pedagogy should be implemented in primary schools as it supports children's cognitive development through hands-on, concrete learning strategies, particularly for those in Piaget's concrete operational stage (ages 7–12) (Abdullah et al., 2021). Beyond serving as a method for delivering content knowledge, it fosters a positive attitude toward learning (Abdullah et al., 2021), enhances students' understanding, motivation, and engagement (Fujita-Round, 2023), and promotes meaningful activities that facilitate deep cognitive processing (Liao et al., 2018).

Lin (2014) highlights a mismatch between teachers' and students' perceptions of creative pedagogy. Students generally view it positively, finding it enjoyable, engaging, and beneficial for creativity. They appreciate the freedom to explore, role-play, and collaborate, considering these aspects more stimulating than traditional methods. In contrast, teachers remain skeptical. While they recognize creative strategies' potential to foster student creativity, many hesitate to fully adopt them. Concerns include an overemphasis on individual freedom at the expense of moral values, academic achievement, and social responsibility. Teachers also worry that a flexible classroom environment may weaken structure and discipline. Some perceive creative activities as mere "play" rather than genuine learning and feel the need to maintain authority to keep students focused. As a result, they often see creative pedagogy as conflicting with formal education's structured, results-driven nature. Similarly, research by Maor et al. (2024), Davies et al. (2018), Abdullah et al. (2021), and Olivant (2015) reveals a gap between teachers' beliefs about creativity and its classroom implementation. While most support integrating creativity into teaching, they face significant challenges. Addressing these gaps, this article analyzes strategies from 25 selected studies, identifying facilitators and obstacles to effective creative pedagogy implementation.

3.3 Creative Pedagogy Strategies

Analyzed articles reveal that pedagogical strategies generally involve student-centered and innovative teaching and learning activities, aligning with Lin's (2011) concept of creative pedagogy, which emphasizes the interplay between innovative teaching and effective strategies that facilitate student creative engagement and comprehensive creativity development. Lin (2011) identifies seven interrelated features of creative pedagogical practice: idea generation and exploration, autonomy and agency, playfulness, problem-solving, risk-taking, co-construction and collaboration, and teacher creativity. The characteristics of creative pedagogy closely align with constructivist learning theory, which emphasizes learner-centered approaches over traditional teacher-centered methods (Bakan & Bakan, 2018).

Constructivism positions learners as active participants in constructing knowledge, assuming responsibility for their learning, and engaging in meaning-making rather than passive memorization. This perspective parallels creative learning within creative pedagogy, which fosters active student involvement. Constructivist teaching promotes critical and creative thinking, nurturing intrinsically motivated and autonomous learners. It views students as intellectual and creative individuals (Zajda, 2023), aligning with the concept of teaching for creativity in creative pedagogy. Additionally, constructivist teaching strategies are inherently creative (Zajda, 2023), reinforcing their connection to creative teaching. In summary, constructivist learning and teaching principles are congruent with creative pedagogy, providing a strong theoretical foundation. Consequently, the teaching strategies observed in the 25 analyzed studies are categorized based on the constructivist framework.

Table 4. Comparative Table of Creative Pedagogy Strategies in Primary Education

Strategies	Country	Key Features and Application	Supporting studies
Problem-Based Learning (PBL)	Taiwan, Multi-national, Israel, USA, England, Indonesia	Encourages students to identify real-world issues, fosters problem-solving skills and scientific creativity. Common activities: discussion, brainstorming, problem-solving exercises, constructive teacher feedback.	Liao et al. (2018); Scott-Barrett et al. (2023); Liu & Lin (2014); Maor et al. (2024); Craft et al. (2014); Fitriyani et al. (2021); Simpson Steele (2016)
Project-Based Learning (PBL)	Taiwan, Israel, USA, China, Indonesia	Encourages multidisciplinary learning and creativity. Common activities: hands-on projects, model-building, presentations, robotic engineering projects, building vehicles project, making activities, integrated study topics, lapbook-based portfolios, students fair and exhibition.	Liu & Lin (2014); Maor et al. (2024); Brandon et al. (2024); Craft et al. (2014); Jin et al. (2021); Halimah et al. (2020)
Strategies	**Country**	**Key Features and Application**	**Supporting studies**
Experiential Learning	Malaysia, China, UK, Taiwan, England, USA	Learning through firsthand experiences: role-play, drama techniques, drama worldbuilding, museum visits, inquiry-based learning, outdoor activities, simulations, real-life contexts such as students life skill.	Abdullah et al. (2021); Ambarwati et al., (2019); Wang & Kokotsaki (2018); Gregoriou (2024); Stephenson (2023); Liu & Lin (2014); Liao et al. (2018); Craft et al. (2014); Brandon et al. (2024)
Game-Based Learning	Taiwan, Israel	Use of digital and non-digital games to enhance engagement, critical thinking, and learning motivation. Gamified classrooms promote active participation.	Liu & Lin (2014); Liao et al. (2018); Maor et al. (2024)
Art-Based Learning	Japan, China, Taiwan, USA, UK	Integrating various art forms to deepen engagement and foster creativity. Activities include arts-based video programs, artworks-paintings, storytelling, poetry, visual arts, dance, and music, narrative improvisation, and creative writing.	Fujita-Round (2023); Janes (2021); Wang & Kokotsaki (2018); Liu & Lin (2014); Brandon et al. (2024); Gregoriou (2024); Simpson Steele (2016)
STEM-Based Learning	Taiwan, Japan, Israel, USA	Integrates digital technology and STEM disciplines to enhance creative learning. Applications include e-learning, digital games, arts-based video, video presentations, STEM fairs, and engineering	Liu & Lin (2014); Liao et al. (2018); Fujita-Round (2023); Maor et al. (2024); Brandon et al. (2024)

	projects. Often combined with other strategies.

The analyzed research highlights several key creative pedagogy strategies that foster student creativity and engagement in primary education. These strategies, aligning with constructivist learning principles, emphasize active participation and the development of higher-order thinking skills. Several key approaches have been identified in literature, each offering unique contributions to creative pedagogy. One widely recognized approach is Problem Based Learning (PBL). Creativity in the scientific context encompasses the ability to identify unresolved problems, formulate innovative solutions, and possess a strong motivation for further research (Liu & Lin, 2014). This aligns with problem-based learning (PBL), which encourages students to identify and address real-world issues, thereby fostering problem-solving skills and scientific creativity. Additionally, the utilization of constructive feedback from teachers is also an integral component of problem-based learning and has been shown to effectively foster student creativity and curiosity (Simpson Steele, 2016; Scott-Barrett et al., 2023). Another method, Project-based learning (PjBL) is a creative pedagogy strategy that fosters creativity by engaging students in multidisciplinary projects. This approach helps students develop critical thinking, problem-solving, and creativity (Halimah et al., 2020). Similarly, Experiential learning. Kolb and Kolb (2005) stated that learning occurs through experience. They developed the "Experiential Learning Theory" (ELT), which integrates three experience-based learning models from Lewin, Dewey, and Piaget. Its main characteristics are that learning focuses on the process, not the outcome; learning involves the interaction between individuals and the environment; and learning creates knowledge. This approach assumes that learning is most effective when students engage in firsthand experiences and then reflect on those experiences. Research by Abdullah et al. (2021) indicates that experience-based approaches can offer effective solutions to enhance creativity at the primary level.

Beyond these approaches, other creative pedagogy strategies integrate different disciplines and tools. Game-based learning involves using games to teach specific skills or knowledge. It aims to create engaging learning experiences where learners solve problems and achieve goals, fostering a sense of accomplishment, developing critical thinking skills, promote active student participation, fostering creative thinking and improving learning motivation (Krath et al., 2021). Games-based learning enhances education by incorporating both digital and non-digital games. Meanwhile, Art-based learning is a method where students explore and understand a different subject by integrating art processes—like visual arts, music, and theater—engaging with artworks, creating their own art, or performing artistic pieces. This method emphasizes creativity, emotional engagement, personal expression, and reflective thinking, supporting deep learning and self-realization (Akker, 2014). Lastly, STEM based learning. One of the creative pedagogy strategies is an imaginative and innovative learning process that involves STEM content, especially digital technology in classroom teaching, to develop students' creativity (Hasmiati et al., 2024). Technology-based creative pedagogy includes four elements: (1) creative teaching, (2) creative learning, (3) activities that develop students' creativity, and (4) the integration of digital technology to support creative teaching and learning activities (Maulidah et al., 2023). The use of technology is now widespread in learning processes. Furthermore, the use of STEM-based learning can be integrated with other teaching strategies such as project-based, problem-based, experiential, and game-based learning.

3.4 Factors affecting creative pedagogy in primary education

Teachers see creativity as essential to their professional autonomy and key to making learning enjoyable (Olivant, 2015). They play a vital role in fostering student creativity and shaping creative learning environments, though this role is influenced by cultural factors, professional development, and educational policies (Smare & Elfatihi, 2023). As Smare and Elfatihi (2023) and McLure et al. (2024) suggest, research on creativity should consider macro, micro, and personal contexts. An analysis of various studies indicates that the majority of creative pedagogical strategies have successfully stimulated students' creativity, driven by multiple facilitating factors. Nevertheless, certain inhibiting factors also limit teachers' ability to foster creativity and implement creative teaching practices. This

study classifies these facilitators and barriers according to Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1979), encompassing the macrosystem, microsystem, and personal context. Macrosystem factors relate to facilitators and barriers within the school system that focus on culture, educational policy documents, or teacher training programs; microsystem factors address those within the classroom environment and experiences within the classroom; and personal decisions pertain to facilitators and barriers associated with teacher agency (McLure et al., 2024; Smare & Elfatihi, 2023).

3.4.1 The Facilitators of Creative Pedagogy

Within the macrosystem, school support is crucial for facilitating creative pedagogy. First, comprehensive teacher training and professional development are essential for equipping teachers with the necessary knowledge, skills, and positive attitudes, as many still prioritize traditional methods like rote learning (Al-Dababneh et al., 2019; Anderson-Patton, 2009; Brandon et al., 2024; Hayati et al., 2023; Howell, 2008; Liu & Lin, 2014; Wang & Kokotsaki, 2018; Selkrig & Keamy, 2017). Knowledge-sharing among teachers also enhances their self-efficacy in creative teaching (Lacaste et al., 2024; Shi et al., 2023). Second, social capital, including strong interpersonal relationships among teachers and school leaders and access to resources, builds trust and encouragement, motivating creative teaching practices (Shi et al., 2023). Third, supportive school infrastructure, including the provision of technology, internet resources, specialized laboratories, and other facilities that foster creativity in teaching and learning (Al-Dababneh et al., 2019; Hayati et al., 2023; Lacaste et al., 2024). However, successful implementation does not always require expensive resources; sustainable, low-cost creative practices are possible (Scott-Barrett et al., 2023). Fourth, professional collaboration with local communities and external specialists offers fresh pedagogical perspectives, enriching creative pedagogy (Brandon et al., 2024; Craft et al., 2014; Fujita-Round, 2023).

Within the microsystem (classroom environment), technology enabling interactive and contextual learning experiences is key to successful implementation (Fitriah, 2018). Students' preference for dynamic learning, such as exploratory activities like games, also supports creative pedagogy, aligning with Piaget's developmental theory, which suggests that elementary school-aged children in the concrete operational stage are more engaged through exploration and creative pedagogy (Liao et al., 2018; Piaget, 1970).

Regarding teacher agency, self-efficacy and self-belief are frequently cited supporting factors. Teachers with high self-efficacy are more likely to set challenging goals and use creative methods (Al-Dababneh et al., 2019; Hayati et al., 2023). Similarly, strong self-belief in creative abilities encourages creative teaching (Lacaste et al., 2024; Lin, 2014; Liu & Lin, 2014; Pazin et al., 2022). Teachers' knowledge of fostering creativity also aids in guiding student creative development (Wang & Kokotsaki, 2018). While teaching experience, such as multicultural experiences, plays a role (Lacaste et al., 2024; Liu & Lin, 2014), years of experience do not directly correlate with creative teaching ability (Al-Dababneh et al., 2019).

3.4.2 The Barriers of Creative Pedagogy

Within the macrosystem, various external factors present considerable challenges to implementing creative pedagogy. Cultural context is particularly influential; creativity flourishes in supportive environments but is restricted in cultures lacking such support. Traditional educational cultures often prioritize conformity, discipline, and diligence, which can conflict with creativity-focused approaches (Lin, 2014). Furthermore, high-stakes testing and an excessive focus on standardized assessments hinder teachers' ability to incorporate creative pedagogy, reducing teacher flexibility and student opportunities for critical and innovative thought (Maor et al., 2024; Olivant, 2015; Wang & Kokotsaki, 2018). Findings from these studies underscore how rigid high-stakes testing policies undermine creativity, autonomy, and creative engagement in teaching. Teachers face challenges in implementing creative pedagogy due to rigidly structured curricula, time constraints and highly structured teaching approaches to maximize student standardized test performance, which limit their ability to foster creativity and tailor instruction to individual student needs. Aligning with these findings, dense curricula and rigid academic schedules limit opportunities for creative activities (Abdullah et al., 2021;

Liao et al., 2018). Time constraints also impede implementation; despite teachers understanding the need for student reflection and idea generation, limited instructional time often forces them to move on without allowing full development of thought (Abdullah et al., 2021; Liao et al., 2018; Olivant, 2015; Wang & Kokotsaki, 2018). The findings reveal that an excessive focus on policy compliance erodes teacher motivation and professional satisfaction, raising concerns about educator retention. Finally, teachers' numerous duties related to academic standards and administrative tasks reduce their capacity for creative teaching methods (Shi et al., 2023). Therefore, educational institutions should place greater trust in teacher professionalism by promoting creativity in curriculum and reducing policy barriers that impede creativity. To contribute to broader educational policy, it is imperative that policymakers prioritize flexibility in curriculum implementation, mitigate the dominance of high-stakes testing, particularly at the elementary level where creative pedagogy is crucial, and cultivate a policy environment that values teacher autonomy. This approach ensures that creativity and professionalism coexist harmoniously, rather than in conflict.

Within the microsystem (classroom environment), several barriers further hinder creative pedagogy. Highly structured, goal-oriented classrooms with traditional seating arrangements (e.g., rows of desks) often stifle creativity and limit collaborative learning (Abdullah et al., 2021; Wang & Kokotsaki, 2018). Similarly, large class sizes make individual attention challenging (Abdullah et al., 2021). Student resistance to creative teaching approaches can also obstruct implementation (Lin, 2014). Moreover, the perception that creativity is an innate trait possessed only by certain students leads to many students missing opportunities for creative development, shifting teacher focus on knowledge-based teaching (Al-Dababneh et al., 2019; Maor et al., 2024; Wang & Kokotsaki, 2018). These microsystem barriers highlight the significant impact of teacher perceptions, student attitudes, and classroom settings on creative pedagogy.

Concerning teacher agency, barriers to implementing creative pedagogy arise from teachers' resistance to creative pedagogical practices, stemming from comfort with traditional methods and reluctance to change (Lin, 2014; Maor et al., 2024). This resistance is also driven by a lack of theoretical knowledge and practical skills needed to foster creativity (Wang & Kokotsaki, 2018).

4. CONCLUSION

This systematic review of 25 studies on creative pedagogy in primary education highlights a growing research focus, particularly in the past decade. Primarily qualitative, these studies emphasize teachers as key facilitators of student creativity. While research spans multiple countries, most studies are single-nation, underscoring the need for transnational perspectives. Implementing creative pedagogy fosters children's creativity by aligning with constructivist learning theory through approaches like problem-based, project-based, experiential, art-based, game-based, and STEM-based learning. These strategies promote active engagement, collaboration, and multidimensional idea exploration, optimizing student creativity development. However, balancing creativity with academic and social goals remains a challenge. Factors influencing implementation range from macrosystem and microsystem influences to teacher agency. Facilitators include supportive school infrastructure, professional development, knowledge-sharing, social capital, and teacher self-efficacy. Barriers such as cultural constraints, high-stakes testing, time limitations, rigid classroom structures, large class sizes, and misconceptions about creativity persist. Teacher resistance, often due to comfort with traditional methods or lack of skills, further complicates adoption.

Addressing the challenges of integrating creative pedagogy requires targeted support, training, and policy adjustments to empower teachers and enhance student engagement, critical thinking, and learning outcomes. This study proposes three key recommendations. First, teachers should proactively implement creative pedagogy through continuous self-development, collaborative discussions, and a renewed focus on their core educational motivations. Second, school leaders should support enhanced teacher training that fosters accurate conceptions of creativity, provides necessary knowledge and skills, and cultivates positive attitudes for developing creative abilities in the classroom. Structured professional development programs can empower teachers to identify and nurture student creativity

throughout the learning process, utilizing both formative and summative assessments integrated with creative pedagogical approaches. Additionally, providing improved classroom and school facilities can further support the successful implementation of creative pedagogy. Third, policymakers should prioritize creativity within the curriculum and reduce reliance on high-stakes testing as the sole measure of student success. Instead, they should encourage the use of portfolios, projects, presentations, and continuous formative assessments to provide a more holistic view of student capabilities.

This research offers valuable insights into creative pedagogy trends and influencing factors in primary schools, guiding teachers and policy development. However, it has limitations. Excluding book chapters and grey literature may limit the study's comprehensiveness, as practical insights from theses and dissertations are overlooked. Future research should incorporate diverse sources, including non-peer-reviewed materials, to provide a more complete understanding of creative pedagogy practices. While analyzing 25 articles offers initial insights, drawing broad conclusions about the link between researchers' country of origin and pedagogy strategies is challenging due to varying educational systems, policies, and cultural values. Expanding the study's scope and sample size would help identify stronger patterns. Additionally, future research could examine creative pedagogy's broader impact on academic performance, emotional development, and teacher well-being. Investigating its implementation in different contexts, such as urban versus rural schools, could offer practical solutions to overcome setting-specific challenges.

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