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Factors influencing teachers' creative teaching: A systematic review

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Abstract

Creative teaching is an important skill needed by teachers to carry out the teaching and learning process. Teachers have the most important role in nurturing students' interest and creative thinking ability by implementing creative teaching. However, there are still insufficient studies that systematically review the existing literature related to what factors could affect teachers' creative teaching. This highlights the value of this study that is aimed to conduct a systematic literature review on the factors influencing teachers' creative teaching. This study selected articles using two leading databases, namely Scopus and Web of Science. To ensure that this study was conducted systematically, guidelines by Preferred Reporting Items for Systematic review and Meta-Analyses were used. This study found that three groups of factors influence teachers' creative teaching, namely demographic factor, individual factor and organisational factor. There are two factors that have the highest frequency and dominant, namely self-efficacy and environment support.

Keywords: Creative teaching, demographic factor, individual factor, organisational factors, teachers', systematic review.

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1. Introduction

Creativity is a global and important issue in education (Deng et al., 2020; Huang et al., 2019; Liu & Chang, 2017; Xiong et al., 2020). This new dimensional change is to create an attractive teaching and learning environment capable of producing excellent and creative students in 21st-century education. The current changes in 21st-century education are a major challenge to the quality of teachers' teaching. The development of technological power, namely the Industrial Revolution 4.0, also directly affects the educational process (Tanjung, 2019). The explosion of the Industrial Revolution 4.0 has seen the Internet of Things make teachers face various challenges in providing humans with digital technology. In addition, teachers are also faced with the challenge of new norms in education due to the spread of the COVID-19 pandemic. Effective and creative teaching techniques need to be adapted by teachers so that it has a significant impact on the implementation of teaching and learning of students.

The successful implementation of creativity in education is largely dependent on teachers (Bereczki & Karpati, 2018). In addition, to attract students to remain during and after the teaching process, the current educational process needs to study the creative aspect of teaching. Traditional approaches, such as chalk and talk, are no longer appropriate in the 21st century; teachers need to change by implementing creative teaching. Creative teaching is a process of building unique and meaningful knowledge in the context of learning (Beaird et al., 2018; Huang et al., 2019). In addition, creative teaching is also a necessary skill for teachers, and this teaching method can develop how touchy and skilled understudies are at learning (Chen & Yuan, 2021). Moreover, creative teaching can make learning invigorating, meaningful and more student-centred, thus helping students better develop the necessary cognitive and emotional skills.

Furthermore, nurturing creativity has been an obvious condition in schools but the school culture to implement creative teaching has not developed well. The implication is that school educational institutions that do not emphasise the creative personality of teachers as the main mission of the school are also an obstacle to the implementation of creative teaching (Huang et al., 2019). Meanwhile, many teachers believe in the importance of creative teaching which will foster students' creativity. However, teachers still do not make this creative teaching a priority to increase student interest and effective teaching and learning. In addition, the school environment has not been active in integrating creative elements into the curriculum and teaching practices of teachers (Hong et al., 2017; Huang et al., 2019). Therefore, this study aims to examine the factors influencing teachers' creative teaching and to identify the research trend of creative teaching such as year of publication, country and study design. This systematic review was conducted in accordance with the guidelines issued by Preferred Reporting Items for Systematic review and Meta-Analysis (PRISMA).

2. Methodology

2.1. The review protocol – PRISMA

This review was guided by PRISMA, developed by Page et al. (2021), aiming to complete reporting which allows readers to assess methods' appropriateness, and, therefore, the trustworthiness of the findings. In addition, presenting and summarising characteristics of studies contributing to a synthesis allows policymakers to evaluate the applicability of the finding to their settings. According to Sierra-correa et al. (2015), PRISMA also offers three unique advantages which are as follows: 1) defining clear research questions that permit systematics research; 2) it identifies the inclusion and exclusion criteria; and 3) it attempts to examine the large database of scientific literature in a defined time. The PRISMA statement allows for a rigorous search of terms related to creative teaching. This guideline consists of four processes: identification, screening, eligibility and included, as shown in Figure 1.

2.2. Systematic searching strategies

To find the relevant papers, there are four systematic techniques (identification, screening, eligibility and included) that are used in this phase. The authors were able to completely discover and

synthesise the research using these techniques, resulting in a well-organised and transparent systematic literature review.

2.2.1. Identification

The initial phases in the systematic reviews cover the identification process as reported in the PRISMA guidelines. Two important terms emerged from the research questions: factor and creative teaching. To supplement these terms, the author looked for synonyms. Using an Internet thesaurus, such as thesaurus.com, and referring to the keywords used in previous studies, as well as requesting experts' opinions, relevant terms and variations were employed. Several terms, such as factor and creative teaching, were checked as a result of this approach. Search functions such as field code functions, phrase searching, wildcards, truncation, and the Boolean operator were utilised to process the combinations of these terms (Table 1).

Two leading databases, namely Scopus and Web of Science, are used in this study. These two databases are the most comprehensive sources of publication metadata and impact indicators. Therefore, they serve as the major tools for a variety of tasks: from journal and literature selection or personal career tracking to large-scale bibliometric analyses and research evaluation practices in all possible levels (Pranckute, 2021). From the selected databases, a total of 1,743 possible articles were identified, namely 1,096 from the Scopus database and 647 from the Web of Science database.

Table 1. The search string used for the systematic review process

Databases	Keywords used
Scopus	TITLE-ABS-KEY (['factor*' OR 'influence*' OR 'relation*' OR 'element*' OR 'effect*' OR 'affect'] AND ['creative teaching' OR 'teaching creative*' OR 'creative practice' OR 'creative pedagogy'])
Web of Science	TS = (['factor*' OR 'influence*' OR 'relation*' OR 'element*' OR 'effect*' OR 'affect'] AND ['creative teaching' OR 'teaching creative*' OR 'creative practice' OR 'creative pedagogy'])

2.2.2. Screening

The screening process occurs after identifying articles. Then, articles were either included or excluded from the study based on a specific set of criteria (Table 2). The first step, in this stage, was excluding journals (systematic review), book series, book, chapter in a book and conference proceedings. Then, this review restricted the screening process to only articles published between 2017 and 2021, taking into account the concept of 'research field maturity' as emphasised by Kraus et al. (2020). This timeline was chosen given that the number of published studies was adequate to carry out a representative review.

As a result, the author decided to review empirical research papers written solely in English. This process excluded 1,187 articles as they did not fit the inclusion criteria. As a result, 556 articles were found to be appropriate for further screening and after being screened 248 duplicate articles were removed. Based on the inclusion and exclusion criteria, there were 308 remaining articles for assessment in the resulting stage.

Table 2. The inclusion and exclusion criteria

Criterion	Eligibility	Exclusion
Literature type	Journal (Research articles)	Journals (systematic review), book series, book, chapter in book and conference proceeding
Language	English	Non-English
Timeline	Between 2017 and 2021	Before 2017

2.2.3. Eligibility

The third phase is the eligibility process after the screening process. To ensure all remaining articles were in accordance with the measures, the author physically observed the recovered articles manually. This was accomplished by reading the titles, abstracts or the entire articles. From this process, 275 articles were excluded in this stage because they did not focus on the factor influencing teachers' creative teaching, did not focus on education and were published in the form of a section in a book. Finally, 33 articles were potentially included in a systematic literature review.

2.2.4. Included

The articles for this systematic review spun around teachers' creative teaching. The studies included are shown in Table 3. Regarding the table above, 33 articles were chosen from the Scopus and WoS databases. These databases were chosen because of the nature and quality of articles, especially in the education field. The aims of the studies were all related in teachers' creative teaching.

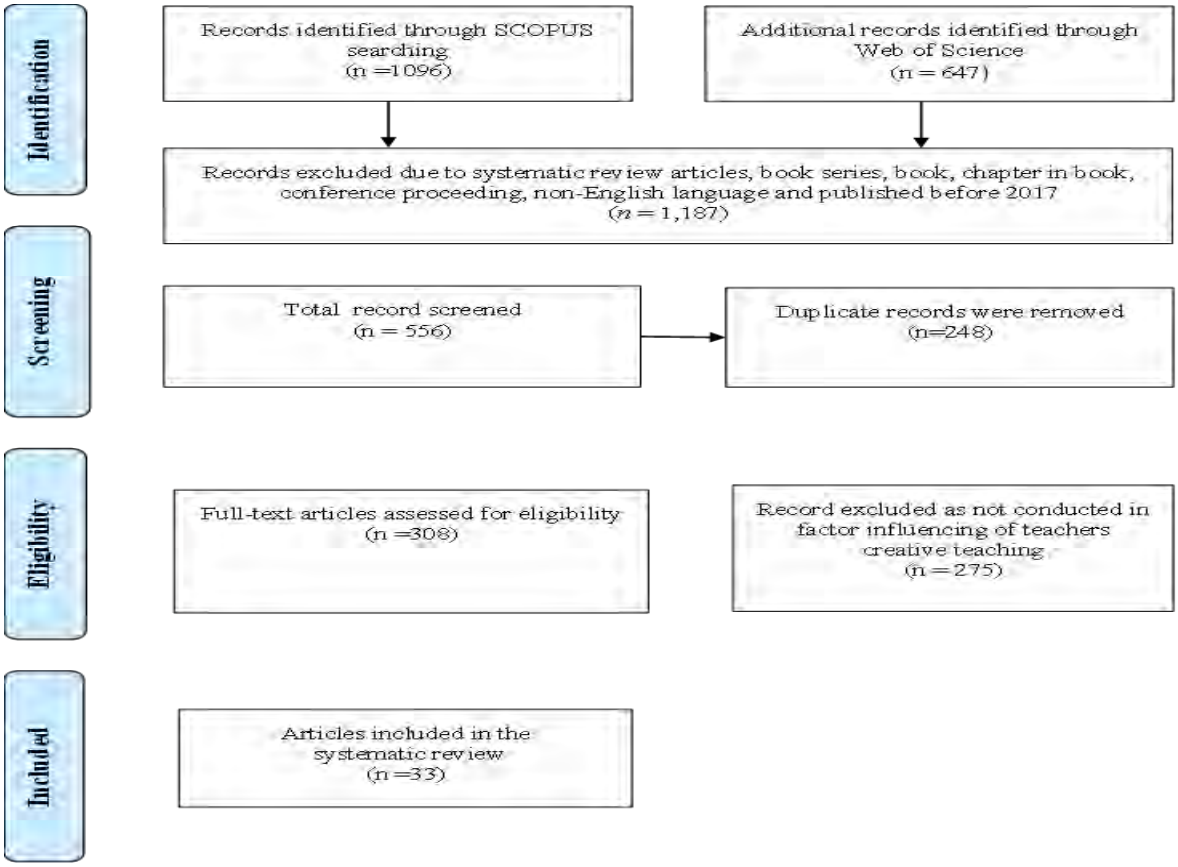

Figure 1. PRISMA systematic review adapted from Page et al. (2021)

3. Results

3.1. Background of the selected studies

From 33 articles, a total of 14 studies focused on China (Chang et al., 2021; Chen & Yuan, 2021; Cheung & Mok, 2018; Chung & Chen, 2018; Deng et al., 2020; Huang et al., 2019; Jin et al., 2021; Ke et al., 2020; Li & Li, 2019; Liu et al., 2020a, 2020b; Liu & Wang, 2019; Niu et al., 2017; Wang & Kokotsaki, 2018; Xiong et al., 2020), 3 on Turkey (Atabek, 2020; Akyildiz & Celik, 2020; Kandemir et al., 2019), 2 on Saudi Arabia (Azeem et al., 2019; Mahmoud Alali, 2020), 2 on Europe (NemerAitski & Heinla, 2020; Sliogeriene & Valunaite-Oleskeviciene, 2017), 2 on Indonesian (Dwiningrum et al., 2020; Fitriah, 2018) and 2 on the United States (Anderson et al., 2021; Robinson et al., 2018). In the meanwhile, each research study focused on Korea. (So & Hu, 2019), Israel (Amzaleg & Masry-Herzallah, 2021), Australia (Harris & de Bruin, 2018), New York (Cayirdag, 2017), Malaysia (Abdullah et al., 2021), Spain (Barajas & Frossard, 2018) and England (Hetherington et al., 2020). Figure 3 are shown countries in which the selected studies were conducted.

In terms of publication year, 3 papers were released in 2017 (Cayirdag, 2017; Niu et al., 2017; Sliogeriene & Valunaite-Oleskeviciene, 2017), 7 studies were published in 2018 (Barajas & Frossard, 2018; Cheung & Mok, 2018; Chung & Chen, 2018; Fitriah, 2018; Harris & de Bruin, 2018; Robinson et al., 2018; Wang & Kokotsaki, 2018), 6 studies were published in 2019 (Azeem et al., 2019; Huang et al., 2019; Kandemir et al., 2019; Li & Li, 2019; Liu & Wang, 2019; So & Hu, 2019), 11 studies were published in 2020 (Akyildiz & Celik, 2020; Atabek, 2020; Deng et al., 2020; Dwiningrum et al., 2020; Ke et al., 2020; Liu et al., 2020a, 2020b; Mahmoud Alali, 2020; NemerAitski & Heinla, 2020; Xiong et al., 2020) and 5 studies were published in 2021 (Abdullah et al., 2021; Amzaleg & Masry-Herzallah, 2021; Anderson et al., 2021; Chang et al., 2021; Chen & Yuan, 2021; Jin et al., 2021). The year 2020 was the most frequent year of publication. The year of publication are shown in Figure 3.

There were 24 researches that focused on quantitative analysis (Amzaleg & Masry-Herzallah, 2021; Anderson et al., 2021; Atabek, 2020; Azeem et al., 2019; Cayirdag, 2017; Chang et al., 2021; Chen & Yuan, 2021; Cheung & Mok, 2018; Chung & Chen, 2018; Deng et al., 2020; Dwiningrum et al., 2020; Hetherington et al., 2020; Huang et al., 2019; Jin et al., 2021; Kandemir et al., 2019; Ke et al., 2020; Li & Li, 2019; Liu et al., 2020a, 2020b; Liu & Wang, 2019; Mahmoud Alali, 2020; NemerAitski & Heinla, 2020; Niu et al., 2017; Xiong et al., 2020). In addition, there were five studies in the form of qualitative analysis (Akyildiz & Celik, 2020; Barajas & Frossard, 2018; Robinson et al., 2018; Sliogeriene & Valunaite-Oleskeviciene, 2017; So & Hu, 2019), while four studies used mixed-method approach to ensure that the information obtained was reasonable and useful.

Figure 2. Countries in which the selected studies were conducted

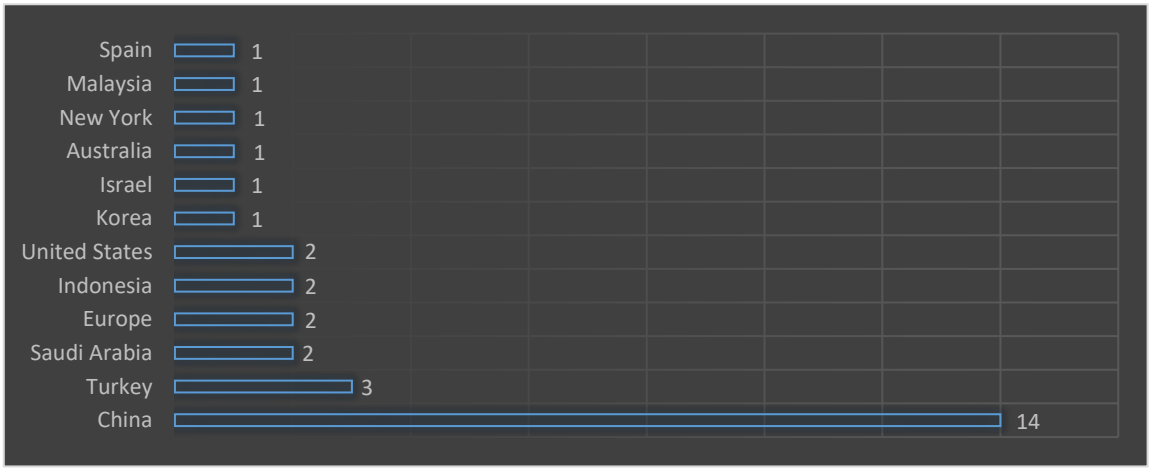

Figure 3. Year of publication

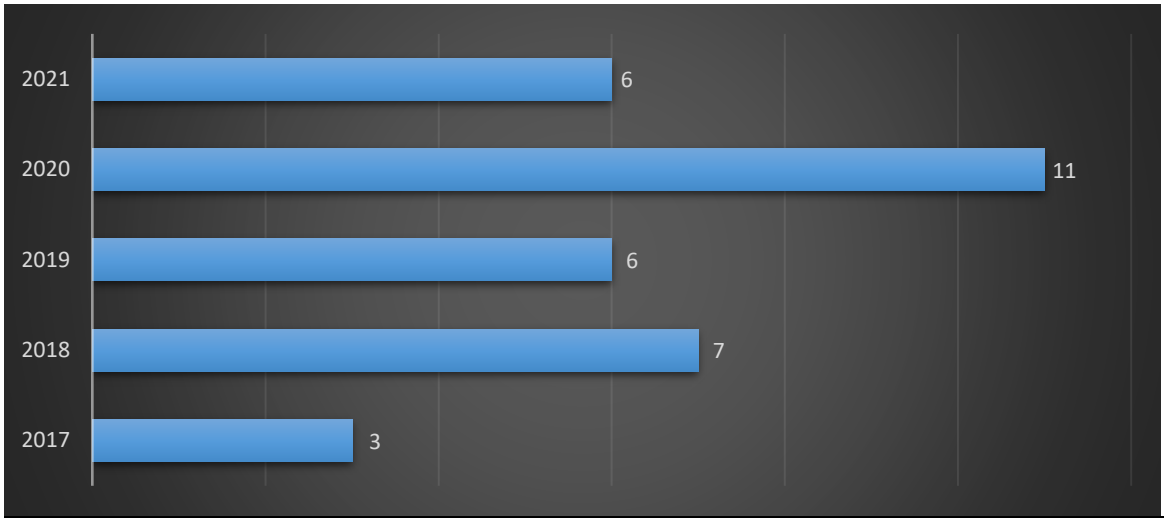

Table 3. The summary of the findings

No.	Authors (Years)	Main study design	Country	Level	Demographic factor	Individual factor	Organisational factor
1	Chang et al. (2021)	QN	China	Junior & High School	√		√
2	Anderson et al. (2021)	QN	US	Junior School		√	√
3	Chen and Yuan (2021)	QN	China	Elementary School		√	√
4	Jin et al. (2021)	QN	China	Elementary & Secondary School		√	√
5	Amzaleg and Masry-Herzallah (2021)	QN	Israel	Elementary & Secondary School			√
6	Deng et al. (2020)	QN	China	Higher Education		√	√
7	Akyildiz and Celik (2020)	QL	Turkey	Secondary School		√	√
8	Mahmoud Alali (2020)	QN	Saudi Arabia	University	√	√	
9	Liu et al. (2020a)	QN	China	University	√	√	
10	Dwiningrum et al. (2020)	QN	Indonesia	Secondary School			
11	Atabek (2020)	QN	Turkey	Preschool		√	
12	Xiong et al. (2020)	QN	China	Middle School	√	√	
13	NemerAitski and Heinla (2020)	QN	Estonia	University	√	√	
14	Ke et al. (2020)	QN	China	Elementary & Secondary School		√	√

15	So and Hu (2019)	QL	Korea	Middle School		√	
16	Kandemir et al. (2019)	QN	Turkey	Not Specified		√	
17	Liu et al. (2020a)	QN	China	University		√	
18	Huang et al. (2019)	QN	China	Primary School	√	√	√
19	Wang and Kokotsaki (2018)	MM	China	Primary School			
20	Chung and Chen (2018)	QN	China	Primary School	√	√	√
21	Cheung and Mok (2018)	QN	China	Preschool	√	√	
22	Harris and de Bruin (2018)	MM	Australia	Secondary school			√
23	Fitriah (2018)	MM	Indonesia	University		√	
24	Robinson et al. (2018)	QL	US	Higher Education		√	√
25	Barajas and Frossard (2018)	QL	Spain			√	
26	Cayirdag (2017)	QN	New York	Primary School		√	
27	Niu et al. (2017)	QN				√	
28	Li and Li (2019)	QN	China	Preschool	√		
29	Hetherington et al. (2020)	QN	England	Primary & Secondary School		√	
30	Abdullah et al. (2021)	MM	Malaysia	Primary School	√	√	√
31	Azeem et al. (2019)	QN	Saudi Arabia	Higher Education		√	√
32	Sliogeriene and Valunaite-Oleskeviciene (2017)	QL	Europe	University		√	√
33	Liu and Wang (2019)	QN	China	University		√	√

QN = Quantitative; QL = Qualitative; MM = Mix method.

3.2. The developed theme

The thematic analysis was a review on 33 selected articles in 3 themes. The findings of the review are divided into different groups based on common traits and similarities between components. Since the review is more suitable to the setting of the context of teachers and education, the categories suggested by Thurlings et al. (2015) were employed. These are demographic, individual and organisational factors (Table 4). Individual factors were the most frequently studied factors with a total 11 factors, followed by organisational factor with a total of 7 factors. The lowest factor is demographic factors which is five factors.

3.2.1. Demographic factor

Table 4 shows the factors included in the demographic category. The analysis found that as many as 10 studies have demographic factors on teachers' creative teaching. In total, 5 factors were discovered from 10 research, including gender (4 studies), age (3 studies), teaching experience (3 studies), educational background (2 studies) and school location (2 studies). In addition, gender showed the most frequent of the study. This is because the gender factor has an important impact on teachers' teaching (Karimnia & Mohammdi, 2019). Three of these studies were conducted in a similar area in China (Chang et al., 2021; Li & Li, 2019; Liu et al., 2020a). The finding of the study from Mahmoud Alali (2020) and Chang et al. (2021) showed that male teachers had higher creative teaching than female teachers. However, the finding of the studies by Li and Li (2019) and Amzaleg and Masry-Herzallah (2021) recorded that female teachers tend to implement creative teaching.

Therefore, age (Li & Li, 2019; Liu et al., 2020a; NemerAitski & Heinla, 2020) and teaching experience (Jin et al., 2021; Li & Li, 2019; NemerAitski & Heinla, 2020) were also revealed to have a significant relationship to teachers' creative teaching. Berliner (1994) states there are five stages identified as phases of teacher experience. The teacher experience phase consists of novice teachers (no experience), beginner teachers (little experience), competent teachers (3–4 years of experience), skilled teachers (5 years of experience) and expert teachers (5–7 years of experience). According Li and Li (2019), newly qualified teachers with teaching experience of 0–3 implies they accomplish than the other groups in their view of adopting creative teaching. Another finding by Chung and Chen (2018) revealed that teachers who had taught for 16 years or more years scored significantly better on creative teaching.

Furthermore, 2 out of 10 studies found that creative teaching is influenced by educational level. Xiong et al. (2020) showed that teachers who have a master's degree or above are significantly better than those with bachelor's degree or below. Another finding influencing creative teaching is school location. Location and environment play an important role in ensuring effective teaching and learning process. Abdullah et al. (2021) found that teachers who were in urban areas had a view of creative teaching practices than those who worked at schools in rural areas. Hence, according to Huang et al. (2019), urban teachers were more sensitive to student expectations and were inclined to adapt their behaviour or introduce experiments to cater to student needs.

Table 4. Teachers' creative teaching related to demographic factors

Authors **Factors**	**Chang et al. (2021)**	**Amzaleg and Masry-Herzallah**	**Alali (2020)**	**Liu et al. (2020)**	**Xiong et al. (2020)**	**NemerAitski andHeinla (2020)**	**Huang et al. (2018)**	**Chung and Chen (2018)**	**Li and Li (2019)**	**Abdullah et al. (2021)**	Total
Gender	*	*	*						*		4
Age				*		*			*		3
Teaching experience						*		*	*		3
Educational background				*	*						2

School location	*	*	2

3.2.2. Individual factor

Table 5 shows a summary of prior research findings related to individual factors influencing teachers' creative teaching. There are 14 factors that have been successfully identified from 33 previous studies. These individual factors are also known as internal factors that influence teachers' creative teaching (Chen & Yuan, 2021). Based on the analysis, the self-efficacy factor showed a factor that is often used, in 9 out of 26 studies. This extensive research from an international context highlights the strong role of self-efficacy in implementing active teaching in the classroom. The findings of the study indicate that self-efficacy has a significant positive effect on creative teaching (Cayirdag, 2017; Chung & Chen, 2018; Huang et al., 2019; Liu et al., 2020a; Liu & Wang, 2019; Xiong et al., 2020). In addition, Atabek (2020) stated that self-efficacy can improve through education.

In this study, the personality types were classified as a set of dynamic traits possessed by a person that influence creative teaching. From four studies found in the personality, the category had different constructs used. But, there is a similar construct in the personality category, which is openness (Cheung & Mok, 2018; Deng et al., 2020; Sliogeriene & Valunaite-Oleskeviciene, 2017). Also, Liu et al. (2020a) reported that curiosity is a factor which influences creative teaching.

On the other hand, 4 out of 26 studies that have been reviewed found that technology is also a factor that influences creative teaching. Based on Fitriah (2018), it was found that teachers are aware of the importance of technology in implementing creative teaching. This has been proven by a study conducted by Barajas and Frossard (2018) that used technology in teaching and learning. The study shows how creative teaching emerged during the design and application of wiki-based learning. However, technology also influences whether teachers implement creative teaching or not with some teachers defining it as a constraint (Akyildiz & Celik, 2020).

There are also other studies that have been conducted showing the factors that influence teachers' creative teaching. Among these are imagination (Chen & Yuan, 2021), pedagogical beliefs (Jin et al., 2021), attitude (Abdullah et al., 2021; So & Hu, 2019), resilience (Deng et al., 2020), self-esteem (NemerAitski & Heinla, 2020), motivation (Liu et al., 2020a), creative fostering behaviour (Cayirdag, 2017; Kandemir et al., 2019), teaching style (Kandemir et al., 2019; So & Hu, 2019), knowledge (Abdullah et al., 2021; Niu et al., 2017) and work input (Xiong et al., 2020). These studies were found to have a significant impact on teachers' creative teaching.

Table 5. Previous research of teachers' creative teaching related to individual factors

Individual Factors	Number	Study
Self-efficacy	9	Cayirdag (2017); Chung and Chen (2018); Huang et al. (2019); Liu and Wang (2019); Atabek (2020), Liu et al. (2020a), Xiong et al. (2020), NemerAitski and Heinla (2020); Anderson et al. (2021)
Imagination	1	Chen and Yuan (2021)
Pedagogical beliefs	1	Jin et al. (2021)
Attitudes	2	Hetherington et al. (2020); Abdullah et al. (2021)
Personality traits	4	Sliogeriene and Valunaite-Oleskeviciene (2017); Cheung and Mok (2018); Deng et al. (2020), Liu et al. (2020a)

Resilience	1	Deng et al. (2020)
Self-esteem	1	NemerAitski and Heinla (2020)
Motivation	2	Azeem et al. (2019); Liu et al. (2020a)
Job Satisfaction	1	Ke et al. (2020)
Technology skills	3	Fitriah (2018); Barajas and Frossard (2018); Akyildiz and Celik (2020)
Creativity fostering behavior	1	Cayirdag (2017); Kandemir et al. (2019)
Teaching style	2	Kandemir et al. (2019); So and Hu (2019)
Knowledge	2	Niu et al. (2017); Abdullah et al. (2021)
Work Input	1	Xiong et al. (2020)

3.2.3. Organisational factors

Table 6 shows eight factors that can be identified as factors influencing teachers' creative teaching. These 8 factors were found from 16 previous studies. Organisational factors are also referred as external factors that exist in the organisation that can influence the teachers' creative teaching. Based on the analysis that has been conducted, 9 out of 16 previous studies used environmental factor widely. However, there are two studies that state as school support (Deng et al., 2020; Huang et al., 2019) and six studies that state environmental support (Abdullah et al., 2021; Akyildiz & Celik, 2020; Anderson et al., 2021; Harris & de Bruin, 2018; Robinson et al., 2018; Sliogeriene & Valunaite-Oleskeviciene, 2017) as influencing teachers' creative teaching. In addition, these nine studies have the same result that environmental support and school support would increase teachers' participation and performance to implement creative teaching. Other studies found that a factor that can increase the desire of teachers to implement creative teaching is school climate (Chang et al., 2021; Liu & Wang, 2019).

On the other hand, three studies found that principals' transformational leadership has a positive impact on teachers' creative teaching (Chang et al., 2021; Chen & Yuan, 2021; Harris & de Bruin, 2018). Therefore, other factors that are also discussed are workplace (Azeem et al., 2019; Ke et al., 2020), sociocultural (Amzaleg & Masry-Herzallah, 2021) and supportive peers (Chung & Chen, 2018; Jin et al., 2021).

Table 6. Previous research of teachers' creative teaching related to organisational factors

Organizational Factors	Number	Study
School climate	2	Liu and Wang (2019); Chang et al. (2021)
Principal's transformational leadership	3	Harris and de Bruin (2018); Chang et al. (2021); Chen and Yuan (2021)
Environmental support	6	Sliogeriene and Valunaite-Oleskeviciene (2017); Harris and de Bruin (2018); Robinson et al. (2018); Akyildiz and Celik (2020); Abdullah et al. (2021); Anderson et al. (2021)
School support	2	Huang et al. (2019); Deng et al. (2020)
Workplace	2	Azeem et al. (2019); Ke et al. (2020)
Social cultural	1	Amzaleg and Masry-Herzallah (2021)
Supportive peer	2	Chung and Chen (2018); Jin et al. (2021)

4. Discussion

The studies analysed have shown that creativity brings a positive impact on teaching and learning. The developmental trend of creative teaching can be seen through an analysis of study findings. The development of creative education is increasingly emphasised in line with the development of world changes, especially in countries of Asia. According to the studies' findings, which were based on a systematic review, there are a variety of factors that can influence teachers' creative teaching. These factors are categorised into three groups, namely demographic factors, individual factors and organisational factors, according to the characteristics and similarities of the factors identified. In light of the finding, there are two factors that have the most elevated recurrence and strength contrasted with different elements, namely self-efficacy and environment support.

Individual variables that are most common in teachers' creative teaching are self-efficacy factors. Self-efficacy was first introduced by Bandura (1986) in his book 'Social Foundation of Thought and Action: A Social Cognitive Theory'. Bandura (1986) explains that self-efficacy refers to a person's beliefs about his or her ability to manage and implement an action to achieve the desired outcome. In other words, self-efficacy is the belief teachers have about their ability to perform their professional responsibilities in completing tasks in the specific context of teaching and behaviour and positive attitude. The decisions and action of teachers in implementing a lesson are based on their beliefs. Thus, self-efficacy demonstrates its importance for understanding how to improve performance in creativity.

Teachers with high self-efficacy can compete by showing change and advancement in self-insight, and timely process and feedback teaching information, predict unexpected events and frequently take the initiative to check their teaching activities (Anderson et al., 2021). In addition, teachers with high levels of self-efficacy also use a variety of teaching strategies to improve student achievement (Boujut et al., 2017). This suggests creative teaching will provide teaching ideas using new and meaningful creativity and teaching strategies. Therefore, a teacher is a person who is given the responsibility to teach effectively to students. If people given this responsibility are less confident then, of course, the teaching will be less effective, and this will be borne to students. In other words, during lessons, teachers claimed they used highly creative teaching to instil scientific creativity in students.

Teachers' levels of inventiveness, on the other hand, were lower than they thought. To put it another way, the teachers thought they knew a lot about creativity, that they had the necessary talents and science process skills to inculcate creative thinking in their pupils and that their professional environment and teaching aids were enough for conducting creative teaching.

The environment also plays a role in creating creativity in teaching practice. Amabile (1996) sums up the impacts of society on creativity as 'the social environment, including a society's educational system, overall classroom climate, school and work environment could be important resources to facilitate or inhibit a person's creativity'. The influence of environmental factors is defined as a characteristic of the surrounding conditions that cause something to happen, change and/or occur. In this context, an environment that supports creativity activities has the potential to enrich an individual's life and experience (Chang et al., 2016). Thus, environmental support also plays an important role in encouraging creative teaching. According to Gao et al. (2020), the development of professionalism and teachers' understanding of creative teaching is influenced by school support factors.

In the process of teaching and learning, the environment refers to the school. The environment plays an important role in ensuring effective teaching and learning processes. This is to ensure that the school is a place where the teaching and learning process is implemented for students to gain knowledge and skills to face today's challenges. Therefore, schools that are equipped with various resource materials can support the teaching and learning process to implement quality education.

In addition, the study also found that China has published many articles related to creative teaching in the past 5 years. They have seen the importance of creativity in teaching that can improve student achievement. This is evident when China's national achievements in Trend in International Mathematics and Science Study (TIMSS) and Programme for International Student Assessment (PISA) are at the top. Thus, creative teaching is an important aspect that is increasingly given attention in conducting the teaching and learning process around the world.

5. Conclusion

This systematic review has analysed 33 articles based on factors influencing teachers' creative teaching for the current 5-year study period. The year of publication shows the increase in articles related to creative teaching, especially in 2020. This shows the importance of creativity in education has been given attention. On the other hand, based on the findings, there are various types of factors or variables that are categorised as demographic factors, individual factors and organisational factors. It can be concluded that creative teaching is not influenced by one factor only. There are various types of factors or variables that influence teachers to implement creative teaching in the classroom. However, this study has found that self-efficacy and environmental factors show a high frequency in previous studies. As a result, the significance factors and relevance of self-efficacy and environmental have been briefly presented in order to provide direction and contribute to future study knowledge.

6. Recommendations

This systematic study provides information on the factor influencing teachers' creative teaching. These findings have important implication to policy-makers and educators. Therefore, it is suggested that further extensive research be undertaken in the future to better understand the impact of the highlighted factors. It could identify whether these factors have a direct impact or as moderators or mediators of creative teaching among teachers. Future research also can be continued using a more extensive database. More in-depth research is also required because there are still a number of elements that need to be investigated, particularly in the context of teachers and their respective areas. It is intended that this study will inspire future research in order to further enhance this knowledge, particularly in Malaysia and in the discipline of mathematics.

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