

## How do the Saudi Educational policies express the promotion of creativity among gifted students? Four embedded circles are suggested for improvement

### **Abstract:**

Educational policy plays a pivotal role in influencing educational practices in schools. In Saudi Arabia, however, few studies focused on the analysis of the educational policies in Saudi Arabia. The influence of the educational policies might be greater given that all schools follow the educational policies issued by the Ministry of Education (MoE) and schools do not have separate educational policies. This study aimed to understand how the promotion of creativity is expressed for gifted students in Saudi Arabia by analysing educational policies issued by the MoE. To inform and guide the analysing of data, a 3Ps framework (*Press*, *Process*, and *Person*) was synthesised and used in this current study. The findings identified two major gaps in the Saudi educational documents for gifted education. The first gap was the lack of a clear explanation for the definition of creativity and giftedness and their relationship and the contradictions in defining creativity and giftedness. The second gap in these documents was a lack of detail about implementation mechanisms that could benefit teachers in schools. The study, therefore, suggests adding another (P) to the 3Ps framework for improvement. That is, promoting creativity in the educational context needs four embedded circles of (P): *Policy*, *Press*, *Process*, and *Person*.

---



# 1. Introduction

---

Creativity which is the ability to produce novel and beneficial outcomes (Amabile, 2011; Plucker et al., 2004), is crucial to the ongoing modernisation and development of humanity (Renzulli, 2017; Runco, 2004; Sawyer, 2015b; Sternberg & Karami, 2022). Encouraging creative energies for students, therefore, is a primary goal for many societies that seek growth and development. For gifted students, prompting their creativity might be more important, given that they have more creative abilities than others, so they need the education to be consistent with their abilities, and because promoting their creativity contributes to promoting their giftedness (Renzulli, 1978, 2016; Treffinger & Reis, 2004).

Two main research trends explain the relationship between creativity and giftedness or gifted children. The first trend considers excellence in the field of creativity as one of the ways to identify gifted students along with other ways such as mental or academic excellence. Meaning that this trend considers every creative child to be gifted and not vice versa. This trend was adopted by Marland's (1972) who defined gifted students as those who excel or have the readiness to excel in one or more fields that society values such as creativity mental abilities academic or art aspects. This means that creativity is one domain of giftedness among other domains.

On the other hand, there is another trend that considers creativity as anecessarycomponent of giftedness. Numerous researchers have linked the interpretationof creativity with the concept of giftedness; in fact, creativity has become one of the most important components of the conceptions of giftedness (Luria et al., 2016). For example, Renzulli is one of the most important pioneers in the domain. Renzulli (2016) supposed that creativity is one ring of his three-ring conception of giftedness, the other two rings are: The above-average mental ability and task commitment. Meaningevery gifted student has above average creativity as well as above average ability in the other two components (Renzulli, 1978, 2016).

Despite paying attention to the needs of gifted students including promoting their creativity, and making that a priority in educational reforms in many countries, evaluation of educational policies related to gifted education is still rare (VanTassel-Baska, 2013). In Saudi

---

Arabia, although there has been some research conducted in Saudi Arabia in gifted education, there is a dearth of exploratory research focused on exploring promoting creativity among gifted students from policy perspective. Despite that Saudi Arabia has some pioneering initiatives to nurture talent and creativity compared to other Arab countries, these efforts need to be reviewed and developed to keep pace with the latest trends to enhance giftedness and creativity and to meet the increasing needs of gifted students, their interests and motives (Ismail et al., 2022).

Recent research conducted to evaluate gifted education in Saudi Arabia revealed a significant gap which is the need for investigating the national educational policies. Alamiri (2020) carried out a systematic review aimed at investigating the patterns in gifted education in Saudi Arabia. The study concluded that *“more in-depth qualitative data and analyses should be carried out for addressing the challenges and developments of gifted education policies and practices in the Saudi educational context”*. Alamer and Phillipson (2022) also carried out a macro-systemic study aimed at investigating the current status of gifted education in Saudi Arabia. The study concluded that *“future evaluations of the Saudi gifted education system should begin with a clearer understanding of the policy from a variety of sources that include policy documents and policymakers”*. Although Alfaiz et al. (2022) study aimed at examining the current reality of gifted education in Saudi Arabia by analysing documents and distributing questionnaires, the documents analysed were merely annual reports issued by the Ministry of Education annual reports, paperwork outlining procedures, and trustworthy data from websites.

### **1.1. Conceptual Framework:**

Based on the 4Ps model suggested by Rhodes (1961) and the Systems Model of Creativity suggested by Csikszentmihalyi (2015), this current study adopted a 3Ps conceptual framework: (1) *Person*: Focuses on exploring the factors related to the learner that promotes creativity; (2) *Process*: Focuses on the process or education that leads to creativity such as the strategies or techniques; and (3) *Press*: Focuses on exploring the learning environment that stimulates students creativity. These three dimensions were suggested by Rhodes (1961) in the in 4Ps model.

Similar to the 4Ps model, the Systems Model of Creativity suggested by Csikszentmihalyi (2015) emphasised that understanding creativity is greater than just looking at it as merely one dimension. Csikszentmihalyi suggested that creativity is a complex

---

interaction between three components: (1) Field: represents the social system;(2) Domain: refers to the norms and procedures that a person learns inside the social environment (Field) that lead to creative endeavours; (3) Person: refers to a person who absorbs knowledge (domain) within the environment (field) in order to produce creative endeavours.

The relationship between the three dimensions of the conceptual framework of this research, (3Ps: *Person*, *Process*, and *Press*) is as follows: Students (*Person*) who receives education (*Process*) in school that include strategies and techniques that promote creativity, and then all the education for creativity is held within the learning environment of the classroom (*Press*). This means that (*Person*) is embedded in the other two dimensions (*Press* and *Process*) and affected by them; and (*Process*) is embedded and affected by (*Press*). Figure 1 shows the relationship between the 3Ps.

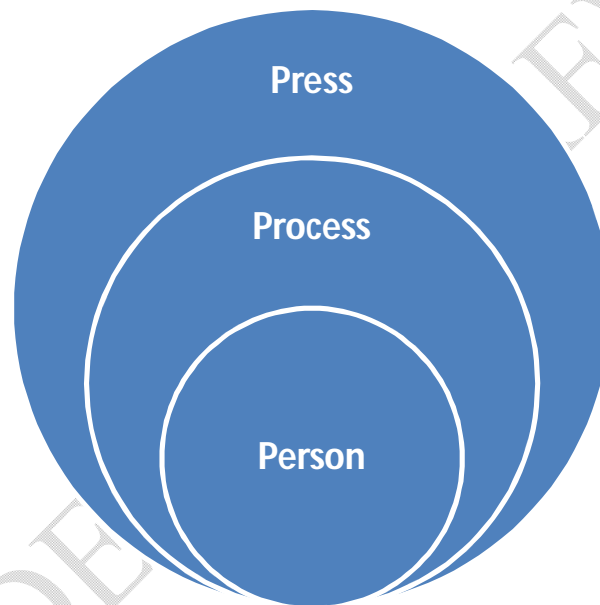


Figure 1 The 3Ps Framework for Promoting Creativity with Gifted Students.

After reviewing the literature regarding the educational environment that enhances creativity (*Press*), strategies and techniques that enhance creativity (*Process*), and finally, the factors associated with the personality of the learner that leads to creativity (*Person*), a number of recurring themes were found. Table 1 shows these themes with the supporting studies.

---

**Table 1** *The Conceptual Framework for this Research, the 3Ps.*

The dimension	<b>The themes:</b> <i>Sub-themes or codes/Examples of supporting studies</i>
(1) Press	<p><b>Physical Environment:</b> Displaying student’s creative work (Piiro, 2011; Richardson &amp; Mishra, 2018), a variety of tools, materials, and resources for students (Craft, 2000; Davies et al., 2013; Harris, 2016; Richardson &amp; Mishra, 2018; Warner &amp; Myers, 2009), the classroom ‘furniture is flexible for multi configurations (Craft, 2000; Davies et al., 2013; Harris, 2016; Richardson &amp; Mishra, 2018), and a variety of workspaces for students (Richardson &amp; Mishra, 2018).</p> <p><b>Learning Climate:</b> An atmosphere of caring, and respect: (Chan &amp; Yuen, 2014; Richardson &amp; Mishra, 2018; Sawyer, 2015a), mistakes and differences are respectful, and novel ideas are valued or encouraged: (Aljughaiman &amp; Mowrer-Reynolds, 2005; Beghetto, 2007; Chan &amp; Yuen, 2014; Craft, 2000; Harris, 2016; Sternberg &amp; Williams, 1996), Students are independent learners (Beghetto &amp; Kaufman, 2014; Craft, 2000; Cropley, 1997; Harris, 2016; Hennessey &amp; Amabile, 1987; Sawyer, 2015b; Soh, 2015)</p> <p><b>Teaching Methods and Behaviours:</b> Allowing and using fun and humour (e.g., Hennessey &amp; Amabile, 1987; Piiro, 2011), Allowing sufficient time and delaying judgment on student responses: (Craft, 2000; Cropley, 1997; Sawyer, 2015b; Soh, 2015). The teacher is a facilitator, rather than a controller of the learning process, (Davies et al., 2013; Richardson &amp; Mishra, 2018; Sawyer, 2015a).</p>
(2) Process	<p><b>Play Strategy:</b> (Bowers et al., 2014; Garaigordobil &amp; Berruoco, 2011; Glăveanu et al., 2019; Jamali et al., 2012; Marsh et al., 2018; Vygotsky, 2016; Yeh, 2015; Zachopoulou et al., 2006).</p> <p><b>Thinking Skills Techniques:</b> Promoting fluency and flexibility(Torrance, 1990), SCAMPER(Eberle, 1972; Khawaldeh, 2018; Poon et al., 2014; Wu &amp; Wu, 2020), Cognitive Research Trust (CoRT): (Daher et al., 2017; De Bono, 1985; Hmeadat, 2016; Khawaldeh, 2018; Ritchie &amp; Edwards, 1996).</p> <p><b>Problem-Solving Techniques:</b> Creative Problem Solving (CPS)(De Bono, 2007, 2017; Kim et al., 2016; Torrance, 1972; Treffinger, 1980, 1995),TRIZ (Berdonosov &amp; Redkolis, 2015; Chang et al., 2016; Domb et al., 2010; Fan, 2010), the Six Hats (De Bono, 2017; Ziadat &amp; Al Ziyadat, 2016), Brainstorming: (Aiomy &amp; Haghani, 2012; Al Qararah, 2014; Michinov &amp; Primois, 2005; Torrance, 1972).</p> <p><b>Enrichment Programs:</b> (Al-Zoubi, 2018; Aljughaiman &amp; Ayoub, 2013; Gentry &amp; Owen, 1999; Kim, 2016).</p> <p><b>Focusing on Applied Aspects:</b> (Fasko, 2001; Sawyer, 2015a; Torrance&amp; Safter, 1990; Treffinger, 1980).</p>

(3) Person	<p><b><u>Self-efficacy:</u></b>(Hennessey &amp; Amabile, 1987; Kim, 2016; Sternberg, 2007).</p> <p><b><u>Intrinsic Motivation:</u></b> (Beghetto &amp; Kaufman, 2014; Hennessey &amp; Amabile, 1987; Kaufman &amp; Beghetto, 2009; Runco, 2003; Soh, 2015).</p> <p><b><u>Learner Engagement:</u></b> <i>Students are involved in tasks that are open-ended and/or involve choice</i>(Davies et al., 2013; Fasko, 2001; Richardson &amp; Mishra, 2018; Sawyer, 2015a). Students use multiple perspectives and learn according to their own pace (Richardson &amp; Mishra, 2018).</p> <p><b><u>Creative Habit of Mind (CHoM):</u></b> Encouraging a student to be Inquisitive, Imaginative, Persistent Collaborative Disciplined:(e.g., Lucas, 2016; Lucas, Claxton, &amp; Spencer, 2013; Pantaleo, 2019).</p>
------------	--

In the first P (*Press*) which refers to the learning environment that promotes creativity, three themes were highlighted: *Physical Environment, Learning Climate, and Teaching Methods and Behaviours*. The environmental context plays a pivotal role in understanding and interpreting creative endeavours and in nurturing creativity (Amabile, 2018; Csikszentmihalyi, 2015; Sternberg, 2006). To produce creative products, a creative individual needs an environment that supports, encourages, and rewards creative ideas (Sternberg, 2006). Through a systematic review of the literature, Davies et al (2013) concluded that schools that promote creativity are paying attention to both the physical environment of the classroom (i.e., providing suitable tools and materials) and the Learning Climate (i.e., high attention to learners' needs and flexible use of time). Within the learning environment (*Press*), many researchers also emphasised that the teachers' behaviour and interaction styles during the lesson play a pivotal and essential role in fostering the creative abilities of students (Craft, 2000; Cropley, 1997; Esquivel, 1995; Harris, 2016; Hennessey & Amabile, 1987; Piirto, 2011; Sawyer, 2015b; Soh, 2015; Sternberg, 2007; Sternberg & Williams, 1996; Treffinger, 1980). In fact, teachers behaviours and interactions with students could either stimulate or undermine students' creative abilities (Soh, 2017). For example, Allowing sufficient time and delaying judgment on student responses (Craft, 2000; Cropley, 1997; Sawyer, 2015b; Soh, 2015).

In the second P (*Process*) which refers to the strategies or techniques that are used to promote students' creativity, the literature highlighted three themes: *Play Strategy, Thinking Skills Techniques, and Problem-Solving Techniques*. *Play strategy* can promote creativity by promoting cognitive and emotional components related to creativity, such as curiosity, imagination, flexibility and problem-solving behaviour (Bowers et al., 2014; Garaigordobil & Berruoco, 2011; Glăveanu et al., 2019; Vygotsky, 2016). Thinking skills and creativity are

---

also tightly intertwined (Sternberg, 2006). Guilford (1967) referred to creativity as a combination of two main types of thinking: (1) divergent thinking: which is the ability to produce many possible responses or solutions for a specific question or problem, and (2) convergent thinking: which is the ability to choose the best response or solution. The literature highlighted some strategies and techniques to promote thinking skills including divergent and cognitive thinking such as SCAMPER (Poon et al., 2014), and Cognitive Research Trust (CoRT) (De Bono, 1983, 1985).

Creative Problem Solving (CPS) is also an incentive process for students' developing creativity (Alhusaini, 2018; De Bono, 2007, 2017; Kim et al., 2016; Torrance, 1972; Treffinger, 1980, 1995; Tseng et al., 2013). Typically, it is composed of three stages: (1) finding or understanding the problem; (2) generating ideas; (3) selecting suitable ideas and implementing them. CPS involves the combination of divergent and convergent thinking skills in different stages and can be learned and used through different ages (Treffinger, 1995). TRIZ is a famous theory for creative problem solving such as Merging (e.g., combining similar objects) and Segmentation (e.g. separating objects into independent parts). Brainstorming is another technique for creative problem solving which uses divergent thinking to generate all possible solutions to a specific problem, then uses the judgment of each idea to choose the best idea (Furnham, 2000). The Six Hats also can be a beneficial technique for solving problems in creative ways. This technique assumes six different patterns of thinking: Red (emotional thinking); White (fact-based thinking); Yellow (positive thinking); and Blue (thinking about thinking); Black (caution thinking); Green (creative thinking) (De Bono, 2017).

Finally, in the third P (*Person*) which refers to personal factors that lead to creativity, the literature highlighted four important themes:

- **Self-efficacy:** is important for promoting creativity (Hennessey & Amabile, 1987; Kim, 2016; Kim & Chae, 2019; Sternberg, 2007, 2018). Self-efficacy can be defined as the extent to which a person believes that he/she is capable of accomplishing a certain task (Bandura, 1977, 1997).
  - **Intrinsic Motivation** refers to deep internal interest, and it is important for providing creative works (Amabile, 2011, 2018; Csikszentmihalyi, 2015; Hennessey & Amabile, 1987; Kaufman & Beghetto, 2009; Sternberg & Lubart, 1991).
  - **Learner Engagement:** refers to the active participation of the students during the lesson (Richardson & Mishra, 2018). Creative Engagement in the classroom includes
-

students being involved in tasks that are open-ended and/or involve choice (Davies et al., 2013; Fasko, 2001; Richardson & Mishra, 2018; Sawyer, 2015a) and students learning according to their own pace (Richardson & Mishra, 2018).

- **Creative Habits of Mind (CHoM):** are important for prompting learners' creativity (e.g., Lucas, 2016; Lucas, Claxton, & Spencer, 2013; Pantaleo, 2019). Lucas (2016) developed the "Creative Habits of Mind" (CHoM) model. This model composes five habits and each habit composes three sub-habits: (1) inquisitive: "wondering and questioning", "exploring and investigating", and "challenging assumptions"; (2) imaginative: "playing with possibilities", "making connections", and "using intuition"; (3) persistent: "sticking with difficulty", "daring to be different", and "tolerating uncertainty"; (4) collaborative: "sharing the product", "giving and receiving feedback", "cooperating appropriately"; (5) disciplined: "developing techniques", "reflecting critically", and "crafting and improving" (Lucas, 2016, p 281-282).

## 2. Methodology:

---

A qualitative study is an appropriate approach when a problem or issue of research needs to be explored (Creswell & Poth, 2016). This current research adopted a qualitative approach to explore how the promotion of creativity among gifted students is expressed in the educational policies in Saudi Arabia. More specifically, the study sought to answer the question: *How do the national education policies in Saudi Arabia interpret and state the promotion of creativity among gifted students?*

Document analysis is one way of the qualitative methods (Merriam, 1998). Because there is no single document in Saudi Arabia concerned with promoting creativity among gifted students, four different documents were analysed to achieve the study's objective including: (1) *The Educational Policy of Saudi Arabia (TEPSA)* (1995), (2) *The Regulatory Rules for Gifted Education in Saudi Arabia (TRRGESA)*, (2001), (3) *The Arabic Strategy for Giftedness and Creativity (TASGC)* (2008), and (4) *Guide for Gifted Programs in Schools (GGPS)* (2009).

---



## **2.1. Data Analysis:**

Data analysis in qualitative research is the process of making sense of the data (Merriam, 1998). This current study adopted the thematic analysis suggested by Braun and Clarke (2006). Thematic analysis is "*a method for identifying, analysing, and interpreting patterns of meaning (themes) within qualitative data*" (Clarke et al., 2015, p. 297). Therefore, it can be helpful to identify patterns, create codes, and develop themes in the educational policies in Saudi Arabia.

Identifying patterns or themes within the thematic analysis can be deductive or inductive (Braun & Clarke, 2006). In the process of coding data within the deductive method, a researcher pays attention to the themes the literature reveals; whereas in the inductive method, the themes are developed based on the data (Braun & Clarke, 2021). This study adopted both deductive and methods. During the analysis of data, themes, categories, and codes from the 3Ps framework were considered (Table 1) so, the deductive approach was adopted; however, the researcher also adopted an inductive method where new themes or codes were developed from the collected data (Braun & Clarke, 2021). Adopting the hybrid approach, which is an integration of inductive and deductive coding can provide a balanced and comprehensive view of the data rather than purely relying on codes that may be separated from their context (Xu & Zammit, 2020).

## **3. Results and Discussion**

---

Thematic analysis of the educational policies in Saudi Arabia yielded three major themes: 1) the significance of promoting creativity, 2) ambiguity and contradiction in the interpretation of giftedness and creativity, and 3) lack of detail regarding the methods of promoting creativity. The following sections present the results and the discussion of these three themes.

### **3.1. The Significance of Promoting Creativity:**

It was found in examining the policy documents for promoting creativity among gifted students in Saudi Arabia that the documents emphasised the rights of gifted students, the economic benefits of promoting creativity, and the influence of globalisation. Below is a discussion of these sub-themes.

### **3.1.1. The Rights of Gifted Students:**

The national educational documents in Saudi Arabia asserted the imperative of promoting giftedness and creativity among gifted students, as one of the gifted students' rights. For example, article 192 in *TEPSA*(1995) emphasised that " gifted students must be educated with special care in order to develop their gifts". "Promoting creativity among gifted students in Saudi Arabia stems from the principle of the right of these students to obtain educational programmes that are consistent with their abilities and meet their needs"(*GGPS*, 2009, ). This assertion is similar to previous assertions by some researchers that gifted students have special educational needs; therefore, education should be provided that is compatible with their needs and with their abilities (Hines et al., 2019; Reis & Renzulli, 2010; Renzulli, 2021). In the same context, Gallagher (2015) emphasised that one of the values that must be entrenched in the national educational policy of any country is "*vertical justice*", which means providing unequal treatment for unequal students in order to achieve equity for all. This means emphasising the importance of providing fair treatment for all groups of students, which is commensurate with the needs of each group of students. Hence, the emphasis in any national educational policy should be on providing justice, not equality for all students (Gallagher, 2015).

The findings of the current research showed that the Saudi educational policies did emphasise the importance of providing education that matches the needs of gifted students, including the promotion of creativity in a way that is suitable for them, as one of their rights. Consequently, the national educational policies in Saudi Arabia were shown to emphasise the principle of equity, not equality. This is in line with education globally. Due to the pace of the current era and the world characterised by economic competitiveness, the move from an education policy based on equality to a more selective one has become more acceptable, including providing an appropriate education for gifted students commensurate with their unique needs (Tomlinson, 2008). For example, Denmark, which is considered an advocate of egalitarian traditions, they are now implementing an educational policy directed at the category of gifted students and aiming to implement special programs and strategies for their educational system to meet the needs of this group of students (Rasmussen & Lingard, 2018).

### **3.1.2. The Economic Benefits :**

Another justification for promoting creativity among gifted students in the educational policies in Saudi Arabia was its vital value and benefit to contribute to the comprehensive development of society and address economic challenges. For example, it was stated that "gifted students are the leaders of the radical transformation of economic development" (TASGC, 2008, p.18). In fact, "the development of giftedness and creativity would contribute to economic growth and support the gross domestic product"(TASGC, 2008, p. 41). This outcome is in line with the national educational policies in some other countries. Pillana (2019) examined six different countries (US, India, China, Mexico, Chile, and Singapore), which have different economic development and demands and differences in approaching and implementing creativity in educational reforms. The national educational policies in these countries gave important weight to promoting creativity in modern education as an essential step towards accelerating the pace of reform and economic growth of society. In fact, the emphasis on promoting creativity stated in the national educational policy of any country often stems from motives to achieve national economic prosperity and the enlightenment visions of the nation; in Europe, the national education policy documents reveal that promoting creativity is a vital goal of education (Wyse & Ferrari, 2015). Policymakers in Australia and other countries have also emphasised creativity in their national education policies as there is increasing recognition of its value and its societal and economic contributions to society (Lassig, 2009). Indeed, it is some authors' opinions that countries with successful and influential economies cannot continue such momentum unless they have an educational policy that is concerned with providing differentiated education for their gifted and highly capable students that promote their creativity (Rasmussen & Lingard, 2018).

### **3.1.3. The Influence of Globalisation:**

Another reason for promoting giftedness and creativity in Saudi Arabia, according to the national educational documents, was the globalisation and competition between nations. In the national educational documents, promoting giftedness and creativity was seen as significantly contributing to addressing the negative effects of globalisation, as well as contributing to transferring the Kingdom of Saudi Arabia to be a competitive country in cultural, economic and development fields. The argument regarding addressing globalisation and competition also exists in the national educational policies of other countries. For example, in a study aimed at investigating educational policies in gifted education in Denmark compared with those in Australia and Britain, Rasmussen and Lingard (2018)

concluded that the educational policies of these three countries emphasised the significance of having a national vision for giftedness development for global competition and economic promotion. In fact, when there is talk of globalisation in these three countries, the momentum of support for gifted students in their educational policies escalates (Rasmussen & Lingard, 2018). Gallagher (2015) contended that the United States was also engaged in economic, cultural, and political competition, so it seeks educational reform and the promotion of creativity and innovation to exploit students' creative potential in order to compete efficiently on a global basis.

Creativity is the fuel of the global competition between countries (Lassig, 2009), and in the midst of the changing world and the context of globalisation and massive digital transformation, the promotion of creativity becomes more important in contemporary societies and nations (Henriksen et al., 2018). In fact, creativity is considered to be one of the fundamental factors for promoting human civilization (Hennessey & Amabile, 2010), and the creative achievements of individuals constitute an essential factor contributing to building the human civilization of countries and societies (Sak, 2004). In general, convincing logical arguments for developing special education policies for the gifted (including enhancing their creative abilities) are based on achieving the global competitiveness of countries and societies (Rasmussen & Lingard, 2018).

Transferring Saudi Arabia to be a global competitor country is one of the fundamental goals of the Saudi Vision 2030, which is the vision for the whole nation until 2030 (Saudi Vision 2030, 2022). In the national educational policies, however, it is not enough to state that creativity is essential and needs to be promoted in schools, rather the national educational policy should provide a clear and uniform discourse on the definition of creativity (Lassig, 2009). The educational policy documents in any country are more than just documents, they are the visions of the nation and therefore it is a serious mistake to underestimate their influence (Henriksen et al., 2018). There were, however, also gaps in the educational policies in Saudi Arabia including ambiguities and contradictions in the discourse around giftedness and creativity and a lack of details. The next section discusses the first gap found in the Saudi national educational policies related to the ambiguities and contradictions in the definitions of creativity and giftedness.

### 3.2. Ambiguity and Contradiction in the Interpretation of Giftedness and Creativity:

The Saudi educational documents revealed ambiguity, confusion and sometimes contradiction in reporting the relationship between the term of giftedness and creativity. The analysis of the policy documents found that the interpretation of giftedness and creativity followed four trends:

- Trend 1: Creativity under the umbrella of giftedness; meaning giftedness involves excelling in important fields including the creativity field.
- Trend 2: Creativity as a component of giftedness; meaning that the existence of giftedness necessitates the existence of creative ability, given that creativity is an essential and inseparable part of giftedness.
- Trend 3: Creativity equals giftedness; meaning creativity and giftedness are the same.
- Trend 4: Nurturing giftedness leads to creativity; meaning that the ultimate outcome of nurturing giftedness is to provide creative outcomes.

Trend1 was evident in the documents as the documents provided a definition of giftedness that included creative abilities: "*Giftedness is an innate ability or an inherited aptitude in one or more areas of mental, creative, leadership, artistic, kinaesthetic, and other special talents, giftedness needs a suitable environment in order to grow, develop and provide creative achievements*" (TASGC, 2008, p. 25). Likewise, a gifted student is stated in the Saudi documents as "*anyone who possesses exceptional ability or capabilities, or high performance compared to his/her peers of the same age in the mental, academic, creative, leadership, technical or kinetic fields, as evidenced by his/her performance in tests or measures*" (TASGC, 2008, p. 24). These two definitions of the giftedness and gifted students are consistent with Marland's (1972) definition of giftedness. Marland defined gifted as those who are "*capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination: general intellectual ability, specific academic aptitude, creative or productive thinking, leadership ability, visual and performing arts, and psychomotor ability*" (p. 2). Marland's (1972) definition also included the creative thinking ability under the umbrella of giftedness.

While trend 1 considers giftedness as the ability to excel in important areas, including creative areas, trend 2 considers the existence of giftedness necessitates the existence of

creative ability. The educational documents regarded creative ability as not a separate ability from giftedness: "*creativity is an important component of giftedness*"(TASGC, 2008, p. 24). Creativity also, according to the documents, is one of the characteristics of gifted students: "*characteristics of gifted students include that they learn at a faster rate than their peers, are able to flexible thinking and creativity, are well-informed, maintain their focus for a long time, and have high perseverance and commitment*"(TASGC, 2008, p. 25). Renzulli's(1978, 2016) three-ring conception of giftedness is consistent with trend 2. Renzulli proposed that creativity is one ring of the three-ring conception of giftedness, and the other two rings are task commitment and above-average mental ability.

Trend 3 emerged from the Saudi educational documents because in many places in the documents when the word "giftedness" was mentioned, it was followed by the word "creativity". Furthermore, in many places in the documents, "gifted and creative students" was mentioned in the same context. For example, *TASGC stated* ,"*attention must be paid to the school environment to promote giftedness and creativity, including the training of teachers specialised in nurturing giftedness and creativity*" (TASGC, 2008, p. 57). Mentioning "giftedness" and followed it with "creativity" as well as mentioning "gifted and creative students" in the same context may give the reader the feeling that giftedness equals creativity.

Finally, trend 4, was evident as creativity or innovation was regarded in the documents to be a result of or a final goal of nurturing giftedness. This was stated several times in *TASGC*. For example, it was stated that "*the document affirms that it was formulated according to a framework that takes into account the importance of nurturing giftedness in supporting the national innovation system*"(TASGC, 2008, p. 34).

This ambiguity and contradiction in the interpretation of giftedness and creativity, revealed by the four trends, could lead to a negative impact on promoting creativity among gifted students in schools in Saudi Arabia. While individuals can have various and broad conceptions of creativity, it is essential that educational policy provide clear and consistent definitions of creativity that give stakeholders a common perspective and discourse to promote creativity in schools (Henriksen et al., 2018; Lassig, 2009). Educational leaders and teachers in schools need a clear and inclusive discourse to explain giftedness and creativity. The results from analysing the national education policies of Saudi Arabia have some similarities with prior studies regarding gaps in education policies globally.

Despite the importance of providing a clear definition of creativity in educational policy documents, which is considered a cornerstone and starting point for promoting creativity in schools, some studies revealed obvious shortcomings in providing clear definitions of creativity in other national educational policy documents. For example, in a study aimed at investigating promoting creativity from policy to practice in Queensland, Australia, Lassig (2009) found that the educational policy lacked a clear and uniform definition of creativity. Her study concluded by calling for shared discourse for creativity in education policies that are used by stakeholders in schools. Similarly, after investigating the creativity in the national curricula of 27 member countries of the EU (EU 27) along with UK, Wyse and Ferrari (2015) concluded their study calling for "*rigorous definitions of creativity*" (p.45).

Whichever perspectives are taken by policymakers regarding promoting creativity in schools, a clear definition of creativity is essential to ensure greater rigour and coherence in promoting students' creativity in schools (Wyse & Ferrari). Henriksen et al., (2018) investigated the emergence of creativity in educational policy in six countries namely: Bulgaria, Slovakia, the United States, Australia, and the Czech Republic. They concluded that despite the variation in how creativity was understood, all national policies in these six nations lacked a clear definition of creativity. Mammadov (2015) found the definition of giftedness in the educational policies in Turkey was also inconsistent and sometimes conflicting. It was found therefore that a basic gap in the Saudi documents related to interpreting the meaning of creativity and giftedness and the relationship between them. These ambiguities must be clarified before being implemented as a uniform educational policy (McBee & Makel, 2019). In fact, without interpreting the complexity and definitional challenges of the concept of creativity in educational policies, schools cannot understand the discourse of these policies in meaningful ways, and thus it is difficult for teachers to adopt and apply meaningful methods in order to enhance creativity with students (Henriksen et al., 2018). The next theme discusses the lack of details regarding the methods and practices of promoting creativity as another gap identified in the Saudi documents.

### **3.3. Lack of Detail Regarding the Methods of Promoting Creativity:**

The current study found the discourse in the educational policies in Saudi regarding promoting creativity and giftedness was dominated by brevity and laconic when it came to

the methods and practices of promoting creativity. More specifically, within each theme found under the updated 3Ps framework, brevity was the salient feature. In education policies, it is vital to create a common discourse about promoting creativity and translate this into effective methods for promoting creativity in schools (Lassig, 2009). This current study reported a lack of information in the policy documents, including a lack of information about effective practices that could be translated by schools. Even the *GGPS (Guide for Gifted Programs in Schools, 2009)*, which is meant to serve as a guide for teachers to apply creativity-promoting techniques, was lacking in detail.

The outcome that Saudi educational documents lack detail regarding the methods of promoting creativity is in line with other research studies. For example, Mammadov (2015) found the educational policy in Turkey regarding gifted education lacked details, guidance, or any practice and implementation plans for educational leaders or teachers in schools. The study concluded that the national policy efforts to educate gifted students in Turkey are failing due to the absence of implementation steps. Another study that aimed to investigate the place of creativity in the national curricula of EU member states and the United Kingdom, found that there were not enough details for teachers to implement effective practices for promoting creativity (Wyse & Ferrari, 2015). The researchers argued that if there were details for teachers and a coherent representation of creativity in these national policies, this would reflect positively on promoting creativity in schools (Wyse & Ferrari, 2015). Lassig (2009) concluded that one of the solutions to promote creativity in schools was to provide teachers with the necessary strategies and mechanisms through an informed educational policy. It is important for any educational policy to be a practical framework for teachers, providing a vision, goals, and specific actions, thus helping teachers by informing implementation (Henriksen et al., 2018). This current study highlighted the need for educational policies in Saudi Arabia to include further details regarding promoting creativity and giftedness so that they help teachers with informed implementation in schools.

## Conclusion

---

The current research has presented a picture of how creativity is expressed in educational policies in Saudi Arabia. The findings of this study can benefit policymakers, teachers, and educational leaders in Saudi Arabia. Presenting the Saudi context is also useful

for other educational systems in the world, by taking advantage of the positives and avoiding or addressing the obstacles and gaps. Findings emphasised the significance of promoting creativity among gifted students, as one of their educational rights, as well as because of the benefits for the cognitive, economic and cultural aspects of Saudi society. The findings from this current study, however, reported two major gaps in the educational documents. The first gap was the lack of a clear definition and sometimes contradiction regarding the concepts of giftedness and creativity and the relationship between them. The second gap was the brief and lacking details in methods and practices for prompting creativity among students. In other words, when the documents mentioned some of the educational methods that promote creativity, this mention did not provide details of the implementation mechanisms that could benefit teachers to apply in schools.

Therefore, after discussing the results of the current research, it has been evident that one of the most important factors affecting the inadequacy of the role of schools in Saudi Arabia to promote creativity is the lack of an appropriate policy. This is also the case in many countries (as discussed in Sections 8.1.2 and 8.1.3). Lassig (2021) also concluded that creativity, in general, is included in the educational policies of all countries, but the issue is the lack of clear definitions and coherent discourse about promoting creativity among students in schools. The lack of an education policy for promoting creativity among students is a research gap needs to be addressed. This research concluded that the key and the first step toward promoting creativity in schools is the existence of policy. Thus, in order to support schools in terms of promoting students' creativity in Saudi Arabia or in any similar educational contexts, this research suggests adding another (P) which is Policy to the 3P framework (Figure 2). That is, promoting creativity in the educational context needs 4Ps: *Policy, Press, Process, and Person*

These 4Ps are the four dimensions of Ps for promoting creativity among gifted students in school. The first and smallest circle is *Person* which focuses on personal characteristics among learners that lead to creativity. These personal characteristics can be promoted through a bigger circle (*Process*), which relates to strategies, techniques and programs for promoting creativity. These strategies and techniques are carried out with a bigger circle which is the learning environment (*Press*). Finally, *Policy* is the biggest circle that affects all the other previous 3Ps. Figure 2 shows the relationship between these four circles of P

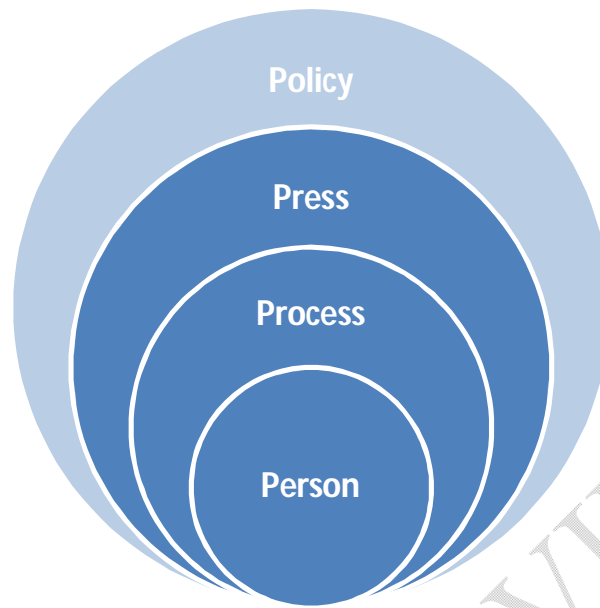


Figure 2 The Relationship Between the Four Dimensions of Ps for Promoting Creativity in Schools

This research therefore recommends policymakers in Saudi Arabia (and in countries with similar contexts) establish a policy for promoting creativity among gifted students which includes (1) a clear definition of the concept of giftedness and the concept of creativity along with explaining clearly the relation between these two concepts; (2) paying attention to the themes under the other 3Ps (*Press*, *Process*, and *Person*) and including details and instructions that guide teachers in implementing creativity with gifted students in the classroom.

## References

---

Aiamy, M., & Haghani, F. (2012). The effect of synectics & brainstorming on 3 rd grade students' development of creative thinking on science. *Procedia-Social and Behavioral Sciences*, 47, 610–613, article. <https://doi.org/10.1016/j.sbspro.2012.06.704>

Al-Zoubi, S. M. (2018). Effects of enrichment programs on the academic achievement of gifted and talented students. *Online Submission*, 2(2), 22–27. <https://eric.ed.gov/?id=ED590420>

Al Qararah, A. (2014). The effect of using brain storming in teaching science in developing creative thinking skills for basic seventh grade students of tafila schools–south of Jordan. *An-Najah University Journal for Research - Humanitie*, 28(4), 668–706. <https://repository.najah.edu/handle/20.500.11888/2456>

Alamer, S., & Phillipson, S. N. (2022). Current status and future prospects of Saudi gifted education: A macro-systemic perspective. *High Ability Studies*, 33(1), 21–44.

<https://doi.org/10.1080/13598139.2020.1840966>

- Alamiri, F. Y. (2020). Gifted education in Saudi Arabian educational context: A systematic review. *Journal of Arts and Humanities*, 9(4), 68–79. <https://doi.org/10.18533/journal.v9i4.1895>
- Alfaiz, F. S., Alfaid, A. A., & Aljughaiman, A. M. (2022). Current status of gifted education in Saudi Arabia. *Cogent Education*, 9(1), 1–31. <https://doi.org/10.1080/2331186X.2022.2064585>
- Alhusaini, A. A. (2018). Using the TASC model to develop gifted students' creativity: Analytical review. *Journal for the Education of Gifted Young Scientists*, 6(3), 11–29. <https://doi.org/10.17478/JEGYS.2018.78>
- Aljughaiman, A. M., & Ayoub, A. E. A. (2013). Evaluating the effects of the oasis enrichment model on gifted education: A meta-analysis study. *Journal of Talent Development and Excellence*, 5(1), 99–113. <http://www.iratde.com/index.php/jtde/article/view/49>
- Aljughaiman, A. M., & Mowrer-Reynolds, E. (2005). Teachers' conceptions of creativity and creative students. *The Journal of Creative Behavior*, 39(1), 17–34. <https://doi.org/10.1002/j.2162-6057.2005.tb01247.x>
- Amabile, T. M. (2011). *Componential theory of creativity*. Harvard Business School. <https://doi.org/10.4135/9781452276090.n42>
- Amabile, T. M. (2018). *Creativity in context: Update to the social psychology of creativity*. Routledge.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman and Company.
- Beghetto, Ronald A. (2007). Does creativity have a place in classroom discussions? Prospective teachers' response preferences. *Thinking Skills and Creativity*, 2(1), 1–9. <https://doi.org/10.1016/j.tsc.2006.09.002>
- Beghetto, Ronald A., & Kaufman, J. C. (2014). Classroom contexts for creativity. *High Ability Studies*, 25(1), 53–69. <https://doi.org/10.1080/13598139.2014.905247>
- Berdonosov, V. D., & Redkolis, E. V. (2015). TRIZ evolutionary approach: Didactics. *ScienceDirect*, 131, 1105–1112, article. <https://doi.org/10.1016/j.proeng.2015.12.428>
- Bowers, M. T., Green, B. C., Hemme, F., & Chalip, L. (2014). Assessing the relationship between youth sport participation settings and creativity in adulthood. *Creativity Research Journal*, 26(3), 314–327. <https://doi.org/10.1080/10400419.2014.929420>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology*, 18(3), 328–352. <https://doi.org/10.1080/14780887.2020.1769238>
- Chan, S., & Yuen, M. (2014). Personal and environmental factors affecting teachers' creativity-fostering practices in Hong Kong. *Thinking Skills and Creativity*, 12, 69–77, article. <https://doi.org/10.1016/j.tsc.2014.02.003>
- Chang, Y. S., Chien, Y. H., Yu, K. C., Chu, Y. H., & Chen, M. Y. C. (2016). Effect of TRIZ on the creativity of engineering students. *Thinking Skills and Creativity*, 19, 112–122. <https://doi.org/10.1016/j.tsc.2015.10.003>
- Clarke, V., Braun, V., & Hayfield, N. (2015). Thematic analysis. *The Journal of Positive Psychology*, 12(3), 297–298. <https://doi.org/10.1080/17439760.2016.1262613>

- Craft, A. (2000). *Creativity across the primary curriculum: Framing and developing practice*. Routledge.
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage.
- Cropley, A. J. (1997). Fostering creativity in the classroom: General principles. In M. A. Runco (Ed.), *The creativity research handbook* (Vol. 1, pp. 84–114). Ablex.
- Csikszentmihalyi, M. (2015). *The systems model of creativity: The collected works of Mihaly Csikszentmihalyi*. Springer. <https://doi.org/10.1007/978-94-017-9085-7>
- Daher, W., Tabaja-Kidan, A., & Gierdien, F. (2017). Educating Grade 6 students for higher-order thinking and its influence on creativity. *Pythagoras*, 38(1), 1–12. <https://doi.org/10.4102/pythagoras.v38i1.350>
- Davies, D., Jindal-Snape, D., Collier, C., Digby, R., Hay, P., & Howe, A. (2013). Creative learning environments in education—A systematic literature review. *Thinking Skills and Creativity*, 8, 80–91. <https://doi.org/10.1016/j.tsc.2012.07.004>
- De Bono, E. (1983). The cognitive research trust (CoRT) thinking program. In W. Maxwell (Ed.), *Thinking: The expanding frontier* (pp. 115–127). The Franklin Institute.
- De Bono, E. (1985). The CoRT thinking program. In A. L. Costa (Ed.), *Developing minds: A resource book for teaching thinking* (pp. 203–211). Association for Supervision and Curriculum. <https://files.eric.ed.gov/fulltext/ED262968.pdf#page=205>
- De Bono, E. (2007). *How to have creative ideas: 62 exercises to develop the mind*. Vermilion.
- De Bono, E. (2017). *Six thinking hats*. Penguin.
- Domb, E., Miller, J., & Czerepinski, R. (2010). Improve TRIZ teaching and learning by getting out of the classroom. *Proceedings of the 10th ETRIA World Conference*. <http://www.aitriz.org/documents/TRIZCON/Proceedings/Domb-Miller-and-Czerepinski-Improve-TRIZ-Teaching-and-Learning-by-Getting-Out-of-the-Classroom.pdf>
- Eberle, R. F. (1972). Developing imagination through scamper. *Journal of Creative Behavior*, 6(3), 199–203. <https://eric.ed.gov/?id=EJ067371>
- Esquivel, G. B. (1995). Teacher behaviors that foster creativity. *Educational Psychology Review*, 7(2), 185–202. <https://doi.org/10.1007/BF02212493>
- Fan, J. (2010). Application idea for TRIZ theory in innovation education. *2010 5th International Conference on Computer Science & Education*, 1535–1540. <https://doi.org/10.1109/ICCSE.2010.5593787>
- Fasko, D. (2001). Education and creativity. *Creativity Research Journal*, 13(3–4), 317–327. [https://doi.org/10.1207/S15326934CRJ1334\\_09](https://doi.org/10.1207/S15326934CRJ1334_09)
- Furnham, A. (2000). The brainstorming myth. *Business Strategy Review*, 11(4), 21–28. <https://doi.org/10.1111/1467-8616.00154>
- Gallagher, J. J. (2015). Political issues in gifted education. *Journal for the Education of the Gifted*, 38(1), 77–89. <https://doi.org/10.1177/0162353214565546>
- Garaigordobil, M., & Berruoco, L. (2011). Effects of a play program on creative thinking of preschool children. *The Spanish Journal of Psychology*, 14(2), 608–618. [https://doi.org/10.5209/rev\\_SJOP.2011.v14.n2.9](https://doi.org/10.5209/rev_SJOP.2011.v14.n2.9)
- Gentry, M., & Owen, S. V. (1999). An investigation of the effects of total school flexible cluster grouping on identification, achievement, and classroom practices. *Gifted Child Quarterly*, 43(4), 224–243.

<https://doi.org/10.1177%2F001698629904300402>

- Glăveanu, V. P., Ness, I. J., Wasson, B., & Lubart, T. (2019). Sociocultural perspectives on creativity, learning, and technology. In C. A. Mullen (Ed.), *Creativity under duress in education?* (Vol. 3, pp. 63–82). Springer. <https://doi.org/10.1007/978-3-319-90272-2>
- Guide for gifted programs in schools (GGPS)*. (2009). Ministry of education in Saudi Arabia (MoE). <https://edu.moe.gov.sa/Quriat/DocumentCentre/Docs/الأدلة/الموهوبين/دليل برنامج رعاية الموهوبين في المدارس لعام 1428هـ.pdf>
- Guilford, J. P. (1967). Creativity: Yesterday, today and tomorrow. *The Journal of Creative Behavior*, 1(1), 3–14. <https://doi.org/10.1002/j.2162-6057.1967.tb00002.x>
- Harris, A. (2016). *Creativity, education and the arts*. Palgrave Macmillan. <https://doi.org/10.1007/978-3-319-63661-0>
- Hennessey, B. A., & Amabile, T. M. (1987). *Creativity and learning: What research says to the teacher*. National Education Association. <https://files.eric.ed.gov/fulltext/ED312835.pdf>
- Hennessey, B. A., & Amabile, T. M. (2010). Creativity. *Annual Review of Psychology*, 61(1), 569–598. <https://doi.org/10.1146/annurev.psych.093008.100416>
- Henriksen, D., Henderson, M., Creely, E., Ceretkova, S., Černochová, M., Sendova, E., Sointu, E. T., & Tienken, C. H. (2018). Creativity and technology in education: An international perspective. *Technology, Knowledge and Learning*, 23(3), 409–424. <https://doi.org/10.1007/s10758-018-9380-1>
- Hines, M. E., Catalana, S. M., & Anderson, B. N. (2019). When learning sinks in: Using the incubation model of teaching to guide students through the creative thinking process. *Gifted Child Today*, 42(1), 36–45. <https://doi.org/10.1177/1076217518804858>
- Hmeadat, S. R. A. (2016). The effect of the cognitive research trust program for development of thinking skills on the achievement of the Jordanian English language learners. *The Arab Journal of Sciences and Research Publishing*, 2(1), 442–450. <https://platform.almanhal.com/Files/2/85357>
- Ismail, S. A. A., Alghawi, M. A., AlSuwaidi, K. A., & Ziegler, A. (2022). Gifted education in Arab countries: Analyses from a learning-resource perspective. *Cogent Education*, 9(1), 1–7. <https://doi.org/10.1080/2331186X.2022.2115620>
- Jamali, B., Kazemi, R., & Shahbazi, M. (2012). Effects of sport activities on increasing preschool children's creativity. *Management Science Letters*, 2(6), 1975–1980. <https://doi.org/10.5267/j.msl.2012.06.024>
- Kaufman, J. C., & Beghetto, R. A. (2009). Beyond big and little: The four c model of creativity. *Review of General Psychology*, 13(1), 1–12. <https://doi.org/10.1037%2Fa0013688>
- Khawaldeh, H. M. A. (2018). *The effectiveness of SCAMPER and CoRT programs on creativity among gifted and talented students* [Doctoral dissertation, Universiti Utara Malaysia]. [http://etd.uum.edu.my/7420/2/s95521\\_01.pdf](http://etd.uum.edu.my/7420/2/s95521_01.pdf)
- Kim, K. H. (2016). *The creativity challenge: How we can recapture American innovation*. Amherst, NJ: Prometheus Books.
- Kim, K. H., & Chae, N. (2019). Recapturing American innovation through education: The creativity challenge for schools. In C. A. Mullen (Ed.), *Creativity under duress in education?* (pp. 215–233). Springer. [https://doi.org/10.1007/978-3-319-90272-2\\_12](https://doi.org/10.1007/978-3-319-90272-2_12)
- Kim, M. (2016). A meta-analysis of the effects of enrichment programs on gifted students. *Gifted Child Quarterly*, 60(2), 102–116. <https://doi.org/10.1177%2F0016986216630607>

- Kim, M. K., Roh, I. S., & Cho, M. K. (2016). Creativity of gifted students in an integrated math-science instruction. *Thinking Skills and Creativity*, 19, 38–48, article. <https://doi.org/10.1016/j.tsc.2015.07.004>
- Kuhar, K., & Sabljčić, J. (2016). The work and role of extracurricular clubs in fostering student creativity. *Journal of Education and Training Studies*, 4(4), 93–104. <https://doi.org/10.11114/jets.v4i4.1319>
- Lassig, C. J. (2021). Creativity talent development: Fostering creativity in schools. In S. R. Smith (Ed.), *Handbook of giftedness and talent development in the Asia-Pacific* (pp. 1045–1069). Springer. [https://doi.org/10.1007/978-981-13-3021-6\\_49-1](https://doi.org/10.1007/978-981-13-3021-6_49-1)
- Lassig, C. J. (2009). Promoting creativity in education- From policy to practice: An Australian perspective. *Proceedings of the Seventh ACM Conference on Creativity and Cognition*, 229–238. <https://doi.org/10.1145/1640233.1640269>
- Lucas, B. (2016). A five-dimensional model of creativity and its assessment in schools. *Applied Measurement in Education*, 29(4), 278–290. <https://doi.org/10.1080/08957347.2016.1209206>
- Lucas, B., Claxton, G., & Spencer, E. (2013). *Progression in student creativity in school: First steps towards new forms of formative assessments*. OECD Publishing. <https://doi.org/10.1787/5k4dp59msdwk-en>
- Luria, S. R., O'Brien, R. L., & Kaufman, J. C. (2016). Creativity in gifted identification: Increasing accuracy and diversity. *Annals of the New York Academy of Sciences*, 1377(1), 44–52. <https://doi.org/10.1111/nyas.13136>
- Mammadov, S. (2015). Current policies and policy efforts for the education of gifted children in Turkey. *Roeper Review*, 37(3), 139–149. <https://doi.org/10.1080/02783193.2015.1047548>
- Marland Jr, S. P. (1972). *Education of the gifted and talented. Report to the congress of the United States by the U.S. commissioner of education*. U.S. Government Printing Office. <https://eric.ed.gov/?id=ED056243>
- Marsh, J., Plowman, L., Yamada-rice, D., Bishop, J., Lahmar, J., & Scott, F. (2018). Play and creativity in young children's use of apps. *British Journal of Educational Technology*, 49(5), 870–883. <https://doi.org/10.1111/bjet.12622>
- McBee, M. T., & Makel, M. C. (2019). The quantitative implications of definitions of giftedness. *AERA Open*, 5(1), 1–13. <https://doi.org/10.1177/2332858419831007>
- Merriam, S. B. (1998). *Case study research in education: A qualitative approach*. Jossey-Bass.
- Michinov, N., & Primois, C. (2005). Improving productivity and creativity in online groups through social comparison process: New evidence for asynchronous electronic brainstorming. *Computers in Human Behavior*, 21(1), 11–28. <https://doi.org/10.1016/j.chb.2004.02.004>
- Pantaleo, S. (2019). Creativity and elementary students' multimodal narrative representations. *Australian Journal of Language and Literacy*, 42(1), 17–27. <https://search.informit.com.au/fullText;dn=123654102086002;res=IELIND>
- Piirto, J. (2011). *Creativity for 21st century skills: How to embed creativity into the curriculum*. Sense Publishers. [https://doi.org/10.1007/978-94-6091-463-8\\_1](https://doi.org/10.1007/978-94-6091-463-8_1)
- Pllana, D. (2019). Creativity in modern education. *World Journal of Education*, 9(2), 136–140. <https://doi.org/10.5430/wje.v9n2p136>
- Plucker, J. A., Beghetto, R. A., & Dow, G. T. (2004). Why isn't creativity more important to educational psychologists? Potentials, pitfalls, and future directions in creativity research. *Educational Psychologist*, 39(2), 83–96. [https://doi.org/10.1207/s15326985ep3902\\_1](https://doi.org/10.1207/s15326985ep3902_1)

- Poon, J. C. Y., Au, A. C. Y., Tong, T. M. Y., & Lau, S. (2014). The feasibility of enhancement of knowledge and self-confidence in creativity: A pilot study of a three-hour SCAMPER workshop on secondary students. *Thinking Skills and Creativity*, 14, 32–40, article. <https://doi.org/10.1016/j.tsc.2014.06.006>
- Rasmussen, A., & Lingard, B. (2018). Excellence in education policies: Catering to the needs of gifted and talented or those of self-interest? *European Educational Research Journal*, 17(6), 877–897. <https://doi.org/10.1177/1474904118771466>
- Reis, Sally M., & Renzulli, J. S. (2010). Is there still a need for gifted education? An examination of current research. *Learning and Individual Differences*, 20(4), 308–317. <https://doi.org/10.1016/j.lindif.2009.10.012>
- Renzulli, J. S. (1978). What makes giftedness? Reexamining a definition. *Phi Delta Kappan*, 60(3), 180–184. <https://doi.org/10.1177%2F003172171109200821>
- Renzulli, J. S. (2016). The three-ring conception of giftedness: A developmental model for promoting creative productivity. In S. M. Reis (Ed.), *Reflections on gifted education* (pp. 55–90). Prufrock Press. <https://psycnet.apa.org/record/2016-00316-003>
- Renzulli, J. S. (2017). Developing creativity across all areas of the curriculum. In R. A. Beghetto & J. C. Kaufman (Eds.), *Nurturing creativity in the classroom* (Vol. 2, pp. 23–44). Cambridge University Press. <https://doi.org/10.5539/elt.v9n4p11>
- Renzulli, J. S. (2021). *Reflections on gifted education*. Routledge. <https://doi.org/10.4324/9781003237693>
- Rhodes, M. (1961). An analysis of creativity. *Phi Delta Kappa International*, 42(7), 305–310. <https://www.jstor.org/stable/20342603%0A>
- Richardson, C., & Mishra, P. (2018). Learning environments that support student creativity: Developing the SCALE. *Thinking Skills and Creativity*, 27, 45–54, article. <https://doi.org/10.1016/j.tsc.2017.11.004>
- Ritchie, S. M., & Edwards, J. (1996). Creative thinking instruction for aboriginal children. *Learning and Instruction*, 6(1), 59–75. [https://doi.org/10.1016/S0959-4752\(96\)80004-1](https://doi.org/10.1016/S0959-4752(96)80004-1)
- Runco, M. A. (2003). Education for creative potential. *Scandinavian Journal of Educational Research*, 47(3), 317–324. <https://doi.org/10.1080/00313830308598>
- Runco, M. A. (2004). Creativity. *Annual Review of Psychology*, 55, 657–687, article. <https://doi.org/10.1146/annurev.psych.55.090902.141502>
- Sak, U. (2004). About creativity, giftedness, and teaching the creatively gifted in the classroom. *Roeper Review*, 26(4), 216–222. <https://doi.org/10.1080/02783190409554272>
- Saudi Vision 2030. (2022). *National transformation program*. <https://vision2030.gov.sa/en>
- Sawyer, K. (2015a). A call to action: The challenges of creative teaching and learning. *Teachers College Record*, 117(10), 1–34. <https://doi.org/10.1177%2F016146811511701001>
- Sawyer, K. (2015b). How to transform schools to foster creativity. *Teachers College Record*, 118(4), 1–23. <http://keithsawyer.com/PDFs/TCR.pdf>
- Soh, K. (2015). Creativity fostering teacher behaviour around the world: Annotations of studies using the CFTIndex. *Cogent Education*, 2(1), 1–18. <https://doi.org/10.1080/2331186X.2015.1034494>
- Soh, K. (2017). Fostering student creativity through teacher behaviors. *Thinking Skills and Creativity*, 23, 58–66, article. <https://doi.org/10.1016/j.tsc.2016.11.002>

- Sternberg, R. J. (2006). The nature of creativity. *Creativity Research Journal*, 18(1), 87–98. [https://doi.org/10.1207/s15326934crj1801\\_10](https://doi.org/10.1207/s15326934crj1801_10)
- Sternberg, R. J. (2007). Creativity as a habit. In A.-G. Tan (Ed.), *Creativity: A handbook for teachers* (pp. 3–25). World Scientific. [citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.148.5028&rep=rep1&type=pdf](https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.148.5028&rep=rep1&type=pdf)
- Sternberg, R. J. (2018). Creative giftedness is not just what creativity tests test: Implications of a triangular theory of creativity for understanding creative giftedness. *Roepers Review*, 40(3), 158–165. <https://doi.org/10.1080/02783193.2018.1467248>
- Sternberg, R. J., & Karami, S. (2022). An 8P theoretical framework for understanding creativity and theories of creativity. *The Journal of Creative Behavior*, 56(1), 55–78. <https://doi.org/10.1002/jocb.516>
- Sternberg, R. J., & Lubart, T. I. (1991). An investment theory of creativity and its development. *Human Development*, 34(1), 1–31. <https://www.jstor.org/stable/26767348%0A>
- Sternberg, R. J., & Williams, W. M. (1996). *How to develop student creativity*. Association for Supervision and Curriculum Development (ASCD).
- The Arabic strategy for giftedness and creativity (TASGC)*. (2008). Mawhiba. <https://www.mawhiba.org/Ar/About/who/Documents/arab-strat.pdf>
- The educational policy of Saudi Arabia (TEPSA)* (4th ed.). (1995). Ministry of education in Saudi Arabia (MoE). [https://www.moe.gov.sa/ar/aboutus/nationaltransformation/RPRLibrary/سياسة التعليم بالمملكة.pdf](https://www.moe.gov.sa/ar/aboutus/nationaltransformation/RPRLibrary/سياسة%20التعليم%20بالمملكة.pdf)
- The regulatory rules for gifted education in Saudi Arabia (TRRGESA)*. (2001). Ministry of education in Saudi Arabia (MoE). [https://www.moe.gov.sa/ar/aboutus/nationaltransformation/RPRLibrary/القواعد التنظيمية لرعاية الموهوبين.pdf](https://www.moe.gov.sa/ar/aboutus/nationaltransformation/RPRLibrary/القواعد%20التنظيمية%20لرعاية%20الموهوبين.pdf)
- Tomlinson, S. (2008). Gifted, talented and high ability: Selection for education in a one-dimensional world. *Oxford Review of Education*, 34(1), 59–74. <https://doi.org/10.1080/03054980701542096>
- Torrance, E. P., & Safter, H. T. (1990). *The incubation model of teaching: Getting beyond the aha*. Creative Education Foundation Press.
- Torrance, E. P. (1972). Can we teach children to think creatively? *The Journal of Creative Behavior*, 6(2), 114–143. <https://eric.ed.gov/?id=ED061544>
- Torrance, E. R. (1990). *The Torrance tests of creative thinking norms—technical manual figural (streamlined) forms A & B*. Scholastic Testing Service, Inc.
- Treffinger, D. J. (1980). *Encouraging creative learning for the gifted and talented: A handbook of methods and techniques*. Ventura County Schools/LTI.
- Treffinger, D. J. (1995). Creative problem solving: Overview and educational implications. *Educational Psychology Review*, 7(3), 301–312. <https://doi.org/10.1007/BF02213375>
- Treffinger, D. J., & Reis, S. M. (2004). *Creativity and giftedness*. Corwin Press.
- Tseng, K.-H., Chang, C.-C., Lou, S.-J., & Hsu, P.-S. (2013). Using creative problem solving to promote students' performance of concept mapping. *International Journal of Technology and Design Education*, 23(4), 1093–1109. <https://doi.org/10.1007/s10798-012-9230-8>
- VanTassel-Baska, J. (2013). The world of cross-cultural research. *Journal for the Education of the Gifted*, 36(1), 6–18. <https://doi.org/10.1177/0162353212471451>
- Vygotsky, L. S. (2016). Play and its role in the mental development of the child. *International Research in Early*

*Childhood Education*, 7(2), 3–25. <https://eric.ed.gov/?id=EJ1138861>

- Warner, S. A., & Myers, K. L. (2009). The creative classroom: The role of space and place toward facilitating creativity. *Technology and Teacher*, 69(4), 28–34. <https://gateway.library.qut.edu.au/login?url=https://www.proquest.com/scholarly-journals/creative-classroom-role-space-place-toward/docview/235272068/se-2?accountid=13380>
- Wu, T.-T., & Wu, Y.-T. (2020). Applying project-based learning and SCAMPER teaching strategies in engineering education to explore the influence of creativity on cognition, personal motivation, and personality traits. *Thinking Skills and Creativity*, 35, 1–9, article. <https://doi.org/10.1016/j.tsc.2020.100631>
- Wyse, D., & Ferrari, A. (2015). Creativity and education: Comparing the national curricula of the states of the European Union and the United Kingdom. *British Educational Research Journal*, 41(1), 30–47. <https://doi.org/10.1002/berj.3135>
- Xu, W., & Zammit, K. (2020). Applying thematic analysis to education: A hybrid approach to interpreting data in practitioner research. *International Journal of Qualitative Methods*, 19, 1–19, article. <https://doi.org/10.1177/1609406920918810>
- Yeh, C. S. H. (2015). Exploring the effects of videogame play on creativity performance and emotional responses. *Computers in Human Behavior*, 53, 396–407, article. <https://doi.org/10.1016/j.chb.2015.07.024>
- Zachopoulou, E., Trevlas, E., Konstadinidou, E., & Group, A. P. R. (2006). The design and implementation of a physical education program to promote children's creativity in the early years. *International Journal of Early Years Education*, 14(3), 279–294. <https://doi.org/10.1080/09669760600880043>
- Ziadat, A. H., & Al Ziyadat, M. T. (2016). The effectiveness of training program based on the six hats model in developing creative thinking skills and academic achievements in the Arabic language course for gifted and talented Jordanian students. *International Education Studies*, 9(6), 150–157. <https://doi.org/10.5539/ies.v9n6p150>