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# Gifted education in Saudi Arabian educational context: A systematic review

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## ABSTRACT

**Background:** The educational dynamics for the gifted students have a catalyzed effect on the global educational endeavor. Similarly, the Kingdom of Saudi Arabia (KSA) has also developed educational policies for meeting and expanding the scope of gifted education.
**Aim:** The study, therefore, aims to identify the pattern of giftedness among the Saudi educational practices and research.
**Methods:** A literature search was carried out at a broad spectrum from different libraries and scholarly platforms including; Medline, ERIC, PubMed, and Google Scholar to retrieve quality studies.
**Summary of Key Findings:** This literature search discussed goals, practical strategies, assumptions, and major approaches associated with paradigms of gifted education from 2009-2018. The findings of this study showed that gifted education in Saudi educational context evolves around three integrated paradigms; gifted child, talent development, and differentiated instruction. However, the findings indicated that differentiated instruction has an exclusive manner in which the identified gifted students are instructed in a sperate classes through the pull-out programs, rather than in mainstream classes. In particular, the study showed that the talent development and differentiation in pull-out programs were the two paradigms specifically associated with gifted education practices in Saudi Arabia. Gifted child paradigm embedded within the talent development and differentiation paradigm.
**Contributions and Implications:** The study highlighted two emerging paradigms of giftedness in Saudi Arabian context; one is the participatory paradigm and second is the creative productivity.

Key Words: Paradigms, Gifted Education, Talented Development Paradigm, Differentiation Paradigm, Gifted Child Paradigm.
JEL classification code: D23, I21, I24, I28.


## 1. Introduction

Over the last decade, an increasing amount of attention was given to the need for reforming gifted education policies and practices in the Saudi Arabian educational context. The Saudi official educational policy, published by the Ministry of Education (1995), determined the basic goals of

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education in Saudi Arabia. One of these goals is 'identifying and nurturing gifted individuals, and providing them with various resources and opportunities to develop their talents within the framework of general programs, in addition to special programs' (Ministry of Education, 1995). The hierarchical and centralized approach often shapes gifted education practices in Saudi Arabian schools. In general, giftedness, in the Saudi educational system, follows the traditional structure of gifted programming, which includes the definition of gifted students, screening and identification procedures, school-based programs (e.g., enrichment and acceleration), and the preparation programs for qualifying teachers to work with the identified gifted students. Although there is a systematic structure guiding the practices of gifted education in Saudi schools, there is a lack of clarity about the nature of the paradigm of giftedness and how it is conceptualized to achieve its ultimate goals.

The purpose of this study is to provide an analysis of how giftedness is conceptualized in Saudi's educational context, determining the paradigm in which the research and educational practices are involved. The analysis is underpinned by Dai and Chen's (2013a; 2013b) paradigmatic framework of the historical and theoretical grounds of gifted education. The study begins with a brief description of the developmental movements of gifted education in Saudi Arabia. The study discusses the conception of giftedness and the educational provisions in Saudi Arabia. The study goes on to present the three paradigms of gifted education proposed by Dai and Chen (2013b), indicating how gifted education research and practices in the Saudi context are compared and contrasted. The paper concludes by highlighting implications and recommendations for further research.

### 1.1 Development of gifted education in Saudi Arabia

The early interest in gifted education in Saudi Arabia begun in 1969 when the official educational policy was approved by the Council of Ministers. The policy included three regulations related to the gifted education for both boys and girls:

- The states give special care to gifted individuals to develop their talents, direct them properly, and open opportunities for their talents;
- Concerned authorities shall determine the means of discovering talents, the special program for educating talented, and the privileges given to them for encouragement; and;
- Means of scientific research are made available to talented individuals to facilitate from their capacities and to offer them with Islamic guidance (Ministry of Education, 1995).

The development of gifted education in Saudi Arabia can be briefly described in seven major historical movements;

- 1989-1995: The establishment of the national program of identifying and nurturing gifted students in Saudi schools.
- 1999: The establishment of King Abdul-Aziz and his Companions Foundation for Giftedness and Creativity.
- 2002: The Ministry of Education implemented the school-based enrichment program (i.e., the pull-out enrichment program) for nurturing gifted students in many Saudi schools.
- 2009: The Ministry of Education launched Al-Faisalyah School (i.e., a public school in the city of Jeddah), which is the first special school for gifted students in Saudi Arabia.
- 2013: The Ministry of Education adopted the Whole-Grade Skipping as the type of academic acceleration for identified gifted students.
- 2017: The University of Jeddah established the unprecedented program of "Attracting and Nurturing Gifted Youth", which brought a new vision and strategy for developing a gifted education system by bridging the gap between the basic education in schools and higher education to ensure the sustainability and investment in nurturing gifted students.
- 2018: The Ministry of Education established the gifted education classes in many Saudi public schools.

Despite the early policy and regulations for supporting gifted education, the gifted education programs have been formally established in some Saudi public schools since 2002 (Alamiri, 2013). In 2016, the Kingdom of Saudi Arabia launched Saudi Arabia's vision 2030, which shapes the roadmap for the Kingdom's development and economy objectives for the next 15 years. For the Ministry of Education, the National Transformation Program (NTP) 2020 establishes eight strategic objectives that support the

Saudi Arabia's vision of 2030. Gifted youth, creativity, and innovation are clearly addressed within the Ministry's NTP. To illustrate, the third strategic objective includes the following statement; "improve the learning environment to stimulate creativity and innovation". Thus, Saudi Arabia's vision of 2030 has a leading role in reforming the policy and practices of gifted education in Saudi schools.

## 1.2 The conception of giftedness in Saudi Arabia

The Ministry of Education adopted the following definition of gifted students, 'The student who has an aptitude or exceptional ability or differentiated performance from his peers in one particular field or more considering by the society, particularly in the field of intellectual talent, creative thinking, academic achievement, and special skills and abilities, and he needs special educational care that cannot be provided by school in the regular academic program' (Al Nafa'a et al., 2000).

The definition of giftedness was developed based on Marland's definition of gifted children in 1972 (Cluntun, 2002). The definition focused more on the term gifted as the foundation for defining students. It seems that the definition views gifted programs as alternative education for the gifted students who were placed in the regular classrooms, which fails to meet their needs. Therefore, gifted education necessitated developing measures for identifying gifted students, preparing special teachers for the identified gifted students, and providing special programs outside the regular classroom.

According to the definition of giftedness, Al Nafa'a et al (2000) highlighted the identification criteria of gifted students in Saudi schools:

1) Intelligent students: Those students who scored 120 or more based on the modified Arabized Wechsler Intelligence Scale for Children-Revised (WISC-R);

2) Talented Students: Those students who achieve 90% or more on their general academic achievement as well as 90% or more in math and/or science subjects, in the past following two years before establishing a gifted program in a school.

3) Students with Creative Thinking: Those students who scored 115 based on Figural Torrance Tests of Creative Thinking (TTCT), Figural –B Form, which translated and adapted to Saudi culture. This test also comprises four components that are fluency, flexibility, originality, and elaboration; and

4) Students with Special Abilities and Skills: Those students who scored well on cognitive abilities scale, which comprises four abilities; linguistic, numerical, spatial and deductive, interests scale and teachers' nominations.

Through this conception and the identification procedures, gifted education is viewed as an alternative system. In other words, the notion of differentiating curriculum and stimulating learning environment for meeting the diverse needs of students in heterogeneous classes have been often overlooked. Borland (2005) brought an alternative paradigm in gifted education that focuses on the notion of differentiating curricula and instruction for meeting the individual differences of all students in the regular classroom rather than focusing on the gifted program and its traditional components (e.g., definition of giftedness and identification process). One challenge encountering the definition of giftedness in Saudi schools is the limitation of consistent development and updates to reach the recent trends in gifted education. Another challenge is the centralized model in which all gifted programs in schools follow a similar approach for serving gifted students.

## 1.3 Gifted education provisions in Saudi Arabian context

The General Directorate of Gifted Care at the Ministry of Education in Saudi Arabia has developed four major types of educational provisions for gifted students; special schools; special classes for identified gifted students in selective schools; pull-out enrichment programs; and academic acceleration. Furthermore, the Ministry of Education, in cooperating with a number of public and private institutions in Saudi Arabia, offers some specific programs and competitions for gifted students such as the Summer Forums and the National Olympiad for Scientific Creativity. Gifted education practices in Saudi schools focus often on pull-out and self-contained programs (i.e., pull-out enrichment programs in a special class) that are not relevant for the core curriculum. To meet the objectives of Saudi Arabia's vision 2030, the Ministry of Education implemented the initiative of "Special Classes for Gifted Students" in some regular schools.

One of the most influential approaches for nurturing gifted students in Saudi public schools is the Oasis Enrichment Model (OEM), which was developed by Aljughaiman (2005) in a span of 10 years. This model provided evidence-based practice and a systematic process for designing effective programs in Saudi schools. The model was formed by the interaction between three axes; research and thinking skills, learning and academic skills, and personal and social skills (Aljughaiman, Nofal & Hein, 2016). The model has been implemented as a pull-out enrichment program to support gifted students based on the pedagogy, instruction, and educational services that continuously nurture students' talents and excellence (Aljughaiman, Nofal & Hein, 2016).

Similarly, Saudi Arabia has induced various programs and policies for disseminating education among the gifted students. Since the 1980s, the country policies and programs have advanced for nurturing the gifted and talented individuals with the establishment of King Abdul-Aziz and his Companion Foundation for Giftedness and Creativity (Mawhiba). Various initiatives are launched by the foundation although its main highlight is inclusive of the summer program, which is introduced by the topmost national and international institutes. Along with it, its image services are also highly effective, which provides an electronic interface for middle-and high-school students for developing their necessary knowledge in their specific domain. It has also introduced a specialized educational consultancy named Shawer Service for meeting the needs of gifted individuals and educators through a national portal. Similarly, it also holds an electronic web portal for facilitating the needs of the gifted students.

The efforts for the development of educational programs for gifted learners are also supplemented in the Saudi Vision 2030, which addresses the development of the human potential in the country (Saudi Vision 2030, 2017). This development also ensures the provision of timely effectiveness for gifted students.

## 1.4 Giftedness paradigms

The term paradigm refers to the thought process and the related practices to dominate the thinking, feeling, and practices of a field for identifying a certain phenomenon (Dai & Chen, 2013a, b). The paradigm shift has served as an area of interest for both recent and old researches particularly in the context of gifted education (Ziegler, Stoeger & Vialle, 2012; Lo & Porath, 2017). These are either present in an explicit manner or sometimes implicit, which lacks in the articulation of their findings (Carman, 2013). Therefore, the intent of this literature is to highlight the major articulated and unarticulated paradigms or related ideas presented by the researches for systematically understand the gifted education programs and policies.

Traditionally, the society remains fascinated with the individuals who possess outstanding abilities whether it be a talented cave painter or a fledgling hunter, each and every individual is highly considered in the society (Lo, & Porath, 2017). Though, the actual recognition of the gifted persons continued after the 1920s, where the incorporation of the emergency intelligence assessment with the educational movement identifies differences in an individual via educational placement, which serves as a foundation for the modern gifted education (Davis et al., 2015). This has given a rise to various strategies policies and programs for promoting the gifted education for children.

Varied inter-relations among the goals of gifted education programs aim to provide experiences to the students, important for nurturing their abilities and focusing on their energies to attain the highest possible level of excellence and self-assertion (Feldhusen & Kolloff, 1988). The relevant programs surpass their peers and consequently need special and advanced educational experiences because of the superiority of the cognitive abilities of gifted and talented students.

Though, certain pitfalls highlighted in the Saudi literature of gifted education were observed in the form of discrepancies such as the official policies and their actual implementation. This is corroborated by the study's outcomes of Al Qarni (2010) who demonstrated a discrepancy among the determined official Saudi policies and the implementation of gifted education policies in the country. This may be due to the different paradigms, which were followed in the educational policies. Al-Lawati (2016) has also supported the disparity towards gifted students' education among the attitude and services of citizens offered to them in the Arab countries. Al-Lawati (2016) also recommended that the gap, which exists among the policy recommendation and implementation, may have a negative influence on the education programs for gifted students. Due to these discrepancies, parameters are set to continue the

progression of gifted education and its impact on the ability of gifted students to effectively meet their needs.

As Aljughaiman (2006) mentioned, gifted education practices in Saudi schools were underpinned by three theories; the Constructivism Theory (e.g., Dewey, 1938; Vygotsky, 1978), Renzulli's Three-Ring Theory of Giftedness (Renzulli, 1986; 2005), and Sternberg's Triarchic Theory of Intelligence (Sternberg, 1985; 1999). In practice, however, it seems that there is a gap between such theories and their application in the school context. It is likely that most gifted education programs were influenced by the administrative manner more than the research base.

Furthermore, Alamiri (2013; 2015) introduced the paradigm of participatory giftedness in the Saudi context. Alamiri (2018) also developed the Creative Productivity Model as an essential component for defining giftedness in the context of the participatory paradigm, showing the essential elements of how giftedness becomes productive (see Figure 1). Based on Alamiri's theory of participatory giftedness (2019), the integrated paradigms between participatory giftedness and creative productivity brought a new direction for conceptualizing giftedness in the Saudi context;

Giftedness emerges from the participatory context that constructs the interaction among individual synchronous development, constructed knowledge, learning process, and creative productivity that shows the observable outcomes, interprets the level and impact of individual's or group's talents, contribution, and excellence as determined within the particular context. (p. 9)

The theory of participatory giftedness was influenced by a number of theoretical frameworks (e.g., Borland, 2005; Heron & Reason, 1997; Lo, et al., 2018; Reason & Bradbury, 2001; Renzulli, 2005; Schön, 1983; Vygotsky, 1978). The participatory paradigm provides a holistic ideology that constructs giftedness as a person-by-context interaction rather than a person-by-person identification that defines giftedness based-on the identification of one's abilities. Within the participatory paradigm, giftedness cannot be defined without a context. In practice, this paradigm interprets the differentiated pedagogy interactively between context and individual, whereas creative productivity interprets talent development on how an individual's abilities grow from that context to produce a valuable and influential outcome.

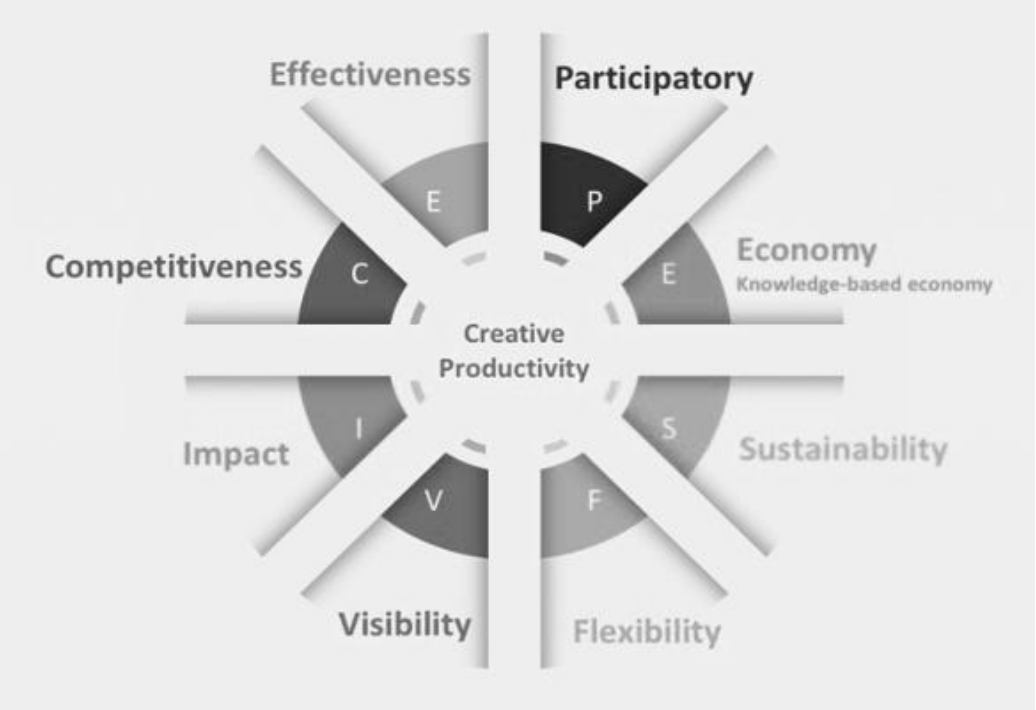


Figure 1. Alamiri's Model of Creative Productivity (Source: Adapted from Alamiri, 2018)

## 2. Methods

A literature search was conducted using different libraries and scholarly platforms including; Google Scholar, Taylor and Francis, Elsevier, and Springer to retrieve quality studies, which have discussed the goals, practical strategies, assumptions, and major approaches of gifted education in Saudi Arabia. The search strategy was on the following keywords: "Gifted education", AND "Gifted students",

AND "goals", AND "practical strategies", AND "assumptions", AND "major approaches", AND "Saudi students". Journal articles including original studies, thesis, and review articles were searched and extracted while the rest of all other categories were excluded. Moreover, only the studies, published during the 18-years duration (2000-2018), were considered. Older versions, case reports, essays, and blogs were excluded because of reduced reliability and authenticity. Only articles presented in English language were considered. This exclusion was imposed to further clarify the concept, challenges, and provision of gifted education in Saudi Arabia.

Based on the above criteria, 1150 abstracts were searched in the initial process. A multi-step process was deployed to regulate the entire review process. Firstly, each abstract was evaluated by the investigator along with an academic professional. The studies were included for further analysis if they were based on quantitative, qualitative, and review-based articles. Also, these types of studies were included based on the information provided regarding gifted education in Saudi Arabia.

The reason for such comprehensive scrutiny of the abstracts is to select the most relevant studies. The abstracts having a correlation with gifted education and students with policy development were promoted. The first phase has resulted in the exclusion of 88% of the articles (1012 abstracts). The remaining articles were endorsed for the second phase of scrutiny. In total, 138 abstracts were promoted in the second phase. After all the limiters were applied, 77 articles in total were added in the pool. The remaining articles were assessed on the basis of a developed conceptual framework to assure the direction and significance of this study. In the third phase, articles other than Saudi context were excluded from the pool. This results in the exclusion of 68 articles. Therefore, total nine articles were extracted in the final pool after applying all limiters. A pictorial depiction has been presented to show the selected studies in Figure 2.

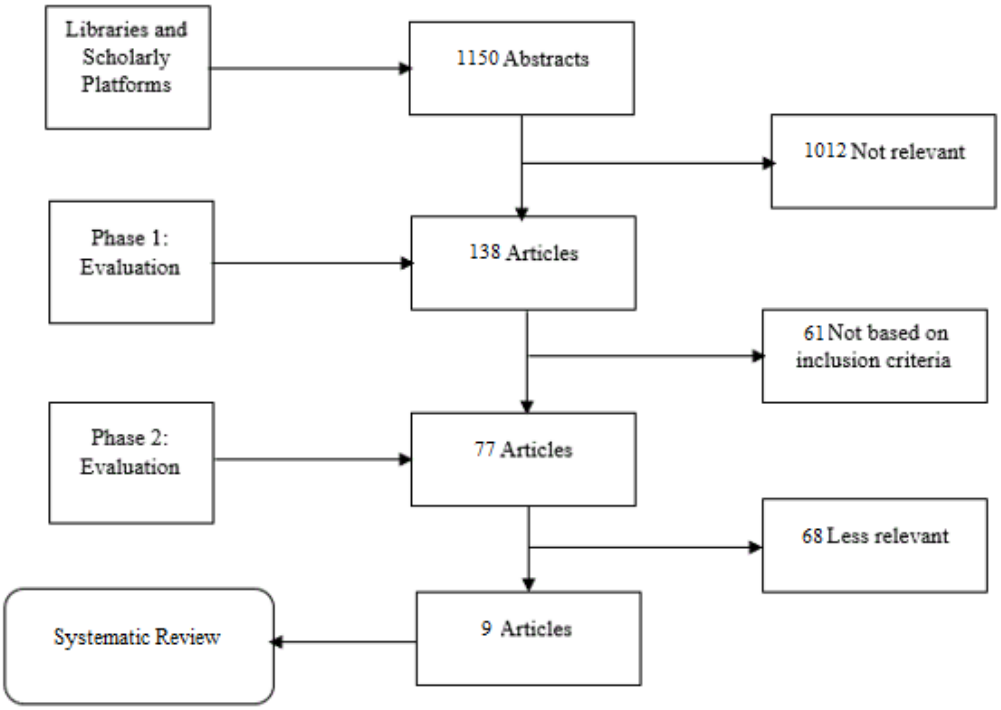


*Figure 2.* Graphical Representation of Selected Studies

## 3. Results and discussion

A total of nine articles met the aforementioned criteria. Out of nine articles, five were doctoral thesis published in different international university's libraries (Alkhannani, 2016; Almakhalid, 2012; Al-Garni, 2012; Alqefari, 2010; Alamer, 2010), two articles were published in Elsevier Journals (Aichouni et al., 2015; Al–Zoubi & Bani Abdel Rahman, 2015), one article was published in Australasian Journal of Gifted Education (Aljughaiman, 2011), and one article was published by the Ministry of Education in Saudi Arabia (Aljughaiman et al., 2009).

Reflecting upon the context of gifted education in Saudi schools, various policies and practices have been developed, which vary in terms of the adopted paradigm. Table 1 provides an overall analysis

of gifted education paradigms in the Saudi educational context based on Dai and Chen's (2013b) paradigmatic framework, which highlights three essential paradigms (i.e., Gifted Child, Talent Development, Differentiation). In particular, Table 1 shows how giftedness in the Saudi school context can be interpreted in light of the three paradigms and their dimensions (i.e., What, Why, Who, How) as proposed by Dai and Chen's (2013b, p.159).

Table 1.
*Analysis of Gifted Education Paradigm in Saudi Arabia in light of Dai and Chen's Paradigms ( 2013b, p. 159)*

| | Paradigms | | |
|---|---|---|---|
| **Dimension** | **Gifted child** | **Talent development** | **Differentiation** |
| Assumption: "What" | Exclusive assumption for defining and selecting the gifted students. Emphasis on the person more than the context, identifiable approach | General intelligence assumption, developing abilities into general domains of talents and achievement, identified-static traits | Homogenous group assumption, focus on the general enrichment program (i.e., thinking skills) rather than the school curriculum framework (i.e., subject-specific knowledge) |
| Purpose: "Why" | Supporting gifted students with specialized provisions that cannot be provided within the school curriculum and classroom setting | Define aptitudes and the distinguished performance in general domains (e.g., thinking skills, research skills, academic achievement) | Address the identified needs of gifted students based on the predetermined objectives and topics of the enrichment program |
| Targeted Students: "Who" | Identified-gifted students based on input measures of intellectual talent, creative thinking, academic achievement | Selection based on a general domain and a distinguished performance from average peers | Identified group of gifted students for the enrichment purposes in a special class |
| Strategy: "How" | Pull-out enrichment program as an essential model for educating gifted students in schools | Primary emphasis on training programs and enrichment activities in a general topic for enhancing creative thinking skills, creative problem solving, research skills | Plan appropriate enrichment lessons and activities for part-time learning during the school day |

In addition, table 2 presents analysis of Saudi literature covering paradigms in gifted education. This analysis was based on the selected nine articles, which covered the goals, practical strategies, assumptions, and major approaches of gifted education in the Saudi context. Out of nine articles, seven articles have covered the goals, practical strategies, assumptions, and major approaches of gifted education based on the talent development paradigm (Aljughaiman, 2011; Aljughaiman et al., 2009; Aichouni et al., 2015; Almakhalid, 2012; Al–Zoubi & Bani Abdel Rahman, 2015; Al-Garni, 2012; Alamer, 2010). Whereas, remaining two articles have covered the above aspects using the differentiation paradigm (Alkhannani, 2016; Alqefari, 2010). None of the articles selected has used gifted child paradigm.

Table 2.
*Analysis of Saudi Literature Paradigms in Gifted Education*

| Systematic Review Articles | Paradigms | | | |
|---|---|---|---|---|
| | Gifted Child | Talent Development | Differentiation | Other |
| Aljughaiman (2011) | | ✓ | | |
| Aljughaiman et al. (2009) | | ✓ | | |
| Alkhannani (2016) | | | ✓ | |
| Aichouni et al. (2015) | | ✓ | | |
| Almakhalid (2012) | | ✓ | | |
| Al–Zoubi & Bani Abdel Rahman (2015) | | ✓ | | |
| Al-Garni (2012) | | ✓ | | |
| Alqefari (2010) | | | ✓ | |
| Alamer (2010) | | ✓ | | |

The detailed explanation to the adoption of these paradigms is presented in the following paragraphs covering the goals, practical strategies, assumptions, and major approaches of gifted education. For instance, the experimental study of Aljughaiman (2011) assessed the math and science summer enrichment programs in Saudi Arabia. The study has followed the talent development paradigm and found the significant impact of such programs on students' thinking skills, research skills, personal and social skills, and mastery of academic content mastery, depending on the Gifted Education Programming Standards, developed by Aljughaiman et al. (2009).

Alkhannani (2016) has focused on the four elements of gifted English language learners (GELLs) including teacher attitude, the identification of GELLs, practice, and support for GELLs. In particular, Alkhannani's study can be categorized within the differentiation paradigm. The findings have indicated that additional encouragement about EFL classes is needed, which includes the provision and development of more interesting and appropriate topics and resources.

Aichouni et al (2015) have emphasized the weaknesses in training and awareness programs on creativity and innovation throughout the educational system at the fundamental and the higher education level. According to Aichouni et al (2015), it is essential to provide awareness and training programs to gifted students, specifically with innovation and creativity tools, which include mind-mapping, six thinking hats technique, morphological analysis, and brainstorming.

By emphasizing the talent development paradigm, Almakhalid (2012) has indicated that slightly positive attitudes were shown by primary teachers towards gifted pupils and their education as compared to regular teachers. On the contrary, there were significant differences between gifted program teachers and regular teachers in providing overall training needs and knowledge about gifted education to gifted students.

Al–Zoubi & Bani Abdel Rahman (2015) have emphasized on the talent development paradigm and indicated that talented students were highly satisfied with the performance of the teachers and administrators, while they were moderately satisfied with teaching methods, student relationships, facilities and equipment, and enrichment activities. The study has recommended that Saudi schools should consider enhancing their teaching methods, environment, and enrichment activities about gifted education. Al-Garni (2012) have emphasized on talent development paradigm and revealed that the

attitudes of most special education future teachers were substantially enhanced toward ability grouping, which includes special classes and schools, but remained highly concerned due to either time pressure or elitism.

The differentiation paradigm is reflected in the study by Alqefari (2010) which highlighted that the administrative unit in Saudi Arabia introduces various different approaches for improving the programs for the gifted student. Based upon the analysis, the differentiation paradigm in Saudi school's context focused mainly on the pull-out enrichment programs in special classes (i.e., homogenous grouping) outside the mainstream classes. Also, differentiation for gifted students includes different activities such as post-school term, weekend programs, and summer camps. A similar paradigm is found in the study of Alkhannani (2016) who claimed that the concept of giftedness is engraved in the society of Saudi Arabia. The study has assessed the importance of giftedness among Saudi citizens and highlighted that the focus of gifted education is centered on science, technology, engineering, and mathematics (STEM) subjects. Along with it, it also focuses on the development of effective teacher education and training for both teaching language as well as gifted learners.

Alamer (2010) highlighted the earlier perception of Saudi students following a talent development paradigm. The study has demonstrated a gifted individual ability for solving the problem and making a significant contribution among gifted students as their highest gift. Alamer (2010) has also highlighted the activities adopted for the promotion of gifted students' abilities such as art and physical education. Differentiation paradigm is applied within the study of Al Qarni (2010) who indicated that the use of specific terms (i.e., smart, genius, super talented, gifted, and exceptional) differentiate gifted students based on their abilities.

Alqefari (2010) has also highlighted the current education system of the KSA, based on King Abdul Aziz and His Companions Foundation for Giftedness and Creativity (MAWHIBA) model, which is in accordance with the Ministry of Education. The model constitutes of a series following the development of a tool for identifying the gifted learners in the KSA. An appropriate enrichment program was established in the study to identify the relationship between adequate practices to specialist work and education. Moreover, it is also highlighted that the MAWHIBA model focuses on educating the wider society for supporting the gifted children and for the success of the national economy, activity, and creation of national wealth. The model elucidated the educational policy of the country for meeting the needs of the gifted persons and ensuring high-quality education.

The challenges pertaining to Saudi Arabia's gifted education have been highlighted by Alamer (2014). Its restriction to the development in the educational context indicated its adaptation of the differentiation paradigm. The nature of the challenges explored in the study includes the nature of the education system, the curricula structure, and the Saudi teacher readiness who were involved with the gifted students. Alamer (2014) has revealed that despite the efforts made by the ministry of education, gifted education in school settings still lacks behind in its accomplishment of the globally set standards.

The findings of the literature point towards the prevalence of the differentiated paradigm majorly in the region. This demonstrates the need to improve the direction of the policies which should aim to develop the gifted learners' talent that surpasses the boundary of education and expands to the social context. This strategy allows educational institutions in Saudi Arabia to accelerate its development and progression towards the fulfillment of the "Saudi Vision 2030" and the requirements of future.

Aichouni et al. (2015) have highlighted that there exists a gap in the theory and practice of the gifted education in Saudi Arabia as the gifted students are still forced to study in a regular curriculum, while several types of research have urged towards the development of the differentiated curriculum for meeting the needs of gifted students. Different studies have also presented their findings related to gifted education and other challenges in different regions (Aljughaiman & Grigorenko, 2013; Hudson et al., 2010; Al-Sahafi and Ghani, 2015; Lough, 2017).

For instance, Aljughaiman & Grigorenko (2013) have highlighted that the education system in Saudi Arabia makes efforts in improving the participation of the gifted students by developing their skills based on a differentiation paradigm. In the Australian context, Hudson et al. (2010) also pointed towards the differentiation paradigm and stated the implementation of appropriate curricula for gifted students to meet academic needs. The use of differentiation curricula has been suggested by the study of Al-Sahafi and Ghani (2015) and shows that it helps gifted students in regular classrooms, accelerates their academic achievement, and induces in their academic attitudes. In addition, the assessment of Lough (2017) shows

that provision of the right and adequate curricula to the gifted students to meet their talent needs is not effective unless they are provided with a trained teacher who understands their needs and is knowledgeable.

### 3.1 Implications for policy

This review was carried out to present the goals, practical strategies, assumptions, and major approaches for supporting gifted education in Saudi Arabia that can inform its further development. This review potentially improves the understanding of how the needs of gifted students might be significantly different from other students and how their requirements be achieved using a combination of skillful and differentiated learning experiences, within the context of Saudi Arabia. This review opens doors for the policy makers in Saudi Arabia to adopt the inclusive paradigm of gifted education in mainstream contexts. Differentiated learning has been the vital element of gifted education in many international contexts, which was often overlooked in the regular classrooms in most Saudi schools.

The paradigms discussed in the systematic review refer to the dynamics of classroom learning and an emphasis on flexible grouping and collaborative learning. Social scaffolding facilitates and supports learning procedures, which supports the assumption that effective strategies are underlying social interaction for gifted students. It may also challenge the focus and guidance of independent learning to offers solitary learning experiences and extension activities as part of a supplementary strategy. There should be a policy on gifted education, which consider the recent developments in education, innovation, and sciences. A statement of objectives, goals, and desired outcomes should be included in the policy, which should be shared with all stakeholders who are involved in providing education to gifted students, at all levels. Assessment of the effectiveness of the policy should be accounted regularly.

### 3.2 Implications for research

Different types of data have been elicited by different types of research. In particular, the use of systematic review in this study was majorly benefitted from selected studies to provide evidence on the gifted education in Saudi Arabia. It is entirely possible that studies belonging to this group comprised important information for associated inquiry lines. This exclusion is an unfortunate, but ultimately inevitable outcome of methodological adherence Administrators and policymakers should assure that all stakeholders involved in gifted education are aware of the policy requirements. Information and documentation must be made available willingly. Both professional and financial resources should be made available.

## 4. Conclusion

In this study, there were a low number of studies included in the final synthesis that were rated as having a high overall weight of evidence. The strongest studies in this study were predominantly quantitative in terms of methodological rigor. Therefore, more in-depth qualitative data and analyses should be carried out for addressing the challenges and developments of gifted education policies and practices in Saudi educational context .

The considered attention should be given to the curriculum differentiation which can help in leveraging the students' learning needs and help in the identification of unexplored gifts or talents. In this regard, enrichment and acceleration programs should be built on the basis of the core curriculum content and standards, so that advanced students have the opportunity to extend their knowledge and skills based on the essential objective and values of the core curriculum. Two recent emerging paradigms have been found through the analysis of gifted education literature in Saudi Arabia; one is the participatory paradigm of giftedness and second is creative productivity. The two paradigms have been developed to bring a new direction for defining giftedness in Saudi's educational context.

Based on the findings, the implications are that educational policies needs be comprehensive enough for district-level interpretation into classroom practice by restructuring gifted education instruction. Alignment of gifted education instruction is essential to state standards of learning so that Saudi educational institutions can explore how gifted education accelerates the options and standards.

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