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Challenges and Predictors of Quality in Gifted Education: Insights from Private Schools in Doha, Qatar

Dr. Shaker Lashuel[1], Dr. Riyam Chaar[2]

1,2 Adjunct Professor, Department of Education, Arkansas State University, Global Studies Institute, Qatar

Abstract: This study examined gifted education in private schools in Doha, Qatar. This study gathered data using a questionnaire survey on the educational options available for gifted children and conducted a quantitative analysis. The questionnaire was designed based on the existing literature and comprised 12 questions on teachers' knowledge of gifted education, attributes of gifted programs, diagnosis and identification of students, and programs implemented in schools. This study surveyed 70 teachers from 14 private schools in Doha, Qatar. The results showed a lack of clarity in policy, agreement on the criteria of giftedness, established identification processes, and budgetary allotments, as well as notable variations in the availability and execution of gifted education programs. Moreover, the correlation and regression analyses revealed that school support and teacher awareness were strong predictors of the quality of gifted education. This study highlights the necessity for a uniform implementation of identification and assistance methods, as well as comprehensive teacher training. Furthermore, the results suggest that comprehensive gifted education programs in Qatar require funding to effectively meet the needs of gifted students. These findings could guide stakeholders, school administrators, and educational authorities in supporting gifted education. Further research using qualitative approaches and including a wider spectrum of stakeholders are required to expand our understanding of gifted education in Qatar.
Keywords: definition, giftedness, educational system, gifted student, private school, school program.

Introduction

Qatar, a rapidly growing Middle Eastern nation, prioritizes education as a key pillar in its National Vision 2030. The Ministry of Education and Higher Education oversees public and private educational institutions(Al-Thani et al., 2021). Qatar invests in its educational system to achieve economic diversification and sustainability, strengthening curriculum, fostering STEM interest, and improving teacher development. The country is also considering creating programs for highly capable students(Sellami et al., 2023).

Qatar's educational revolution has been driven by the rise of private schools(Karkouti, 2016). The country's National Vision 2030 emphasizes the importance of education in achieving national development objectives. The Supreme Education Council initiated reforms to improve standards and connect education to long-term goals(Al-Thani et al., 2021). The number of private and international schools in Qatar has increased significantly, surpassing the current 302 national schools. Private schools offer a wide range of programs and curricula to meet local and expatriate families' needs(Gamal, 2020).

Providing educational opportunities to intellectually gifted children is essential for cultivating their distinct abilities and promoting their intellectual development. According to Davis and Rimm (2014), countless young individuals who possess exceptional capacities and gifts are now present in classrooms, although their unique needs and remarkable skills go unrecognized. These students

often await their peers to acquire information and skills that they had obtained one or two years earlier. In addition, some gifted students experience discomfort in attending school, leading them to feign illness or provide various explanations to avoid attending class. Their lack of stimulation and slow progress lead them to form detrimental study patterns. They may conceal their exceptional abilities from apathetic and unsympathetic colleagues and may even choose to discontinue education as soon as they reach the legal age, completely abandoning the pursuit of knowledge.

Private schools play a crucial role in providing educational services in Doha and Qatar. However, empirical evidence on the scope and efficacy of this education is scarce. Aboud (2023) presented an overview of gifted education in Gulf Cooperation Council (GCC) nations. He argued that gifted education in GCC nations should address the needs of gifted children, particularly those in Qatar due to Qatar's deficiency in the numerous essential components required for a strong gifted education program (Aboud, 2023). In contrast to other GCC countries, Qatar lacks a specific national definition of giftedness, well-defined national strategy for gifted programs, and official government support for gifted children. Furthermore, adequate identification tools, early identification procedures, and financial support are lacking. Moreover, yearly assessments of gifted programs from the perspective of those involved are lacking. The absence of a framework in Qatar implies that the country's approach to gifted education is not extensive, which may hinder the identification and support of exceptional students. These limitations must be addressed to improve the support for and advancement of talented students in Qatar.

Aboud (2023) indicated that Qatar's gifted education program, affiliated with pre-university education at the Qatar Foundation for Education, Science, and Community Development, supports 260 academically gifted students in Qatar Foundation schools, with 75% being Qataris. In collaboration with the Johns Hopkins Center for Gifted Youth, the program offers a place for gifted students to learn and interact with their peers. The program identifies gifted students after kindergarten using classroom behavioral traits and reasoning ability tests. Statistics indicate that 20% of intellectually talented children experience academic underachievement. By identifying these students, appropriate assistance may be provided to optimize their educational experiences and enhance their academic performance.

This study aimed to provide insights that represent the modern educational scene in Doha by addressing these issues and goals. The results could enhance the comprehension of existing assistance mechanisms for talented students and guide future educational methodologies and policy formulation in Qatar.

Literature review

Definition of giftedness

Gifted education relies on national policies that help identify and provide gifted students with appropriate programs. The process of identifying gifted students, administering tests, and measuring giftedness requires a clear definition of what it means to be gifted. Several definitions of gifted children exist in the literature, hindering the selection of one definition. According to Manning (2006), Lewis Terman introduced the term "gifted" in 1925. Costley (2011) defined gifted children as those who demonstrate one-third faster growth than their classmates. Renzulli's three-ring model indicates that giftedness requires above-average intellectual ability, task commitment, and creativity Renzulli, J.S. (2016). Costley's definition focuses on cognitive skills (Subotnik et al., 2011), suggesting that giftedness is primarily manifested in intellectual capabilities. However, research on giftedness points to a more complex picture, recognizing that

cognitive skills alone cannot adequately convey the complex character of giftedness (Rogers, 1986; American Psychological Association, 2017). According to Subotnik et al. (2011), giftedness is the display of extraordinary performance in a particular talent domain, exceeding even high-functioning individuals in that domain. Moreover, giftedness can be seen as developmental, and psychosocial variables are important in determining how giftedness is manifested (Subotnik et al., 2011).

Qatar's educational system

Qatar is a small but rapidly growing Middle Eastern nation. The nation's National Vision 2030 highlights the significance of building intellectual assets and identifies education as a crucial pillar in the country's shift to a knowledge-based economy. The country has public and private educational institutions. The Ministry of Education and Higher Education, which is responsible for curriculum creation, teacher preparation, and general policymaking, oversees the public school system and monitors it through a closely regulated framework (Al-Thani et al., 2021).

Qatar continues to make significant investments in its educational system, as it understands the importance of education in achieving the broader objectives of economic diversification and sustainability (Abdul-Moneim, 2020). Initiatives to strengthen the curriculum and evaluation, foster student interest in science, technology, engineering, and mathematics (STEM) subjects, and improve teacher development have benefited from this investment. Furthermore, Qatar has considered creating programs for highly capable students (Sellami et al., 2023).

Private schools in Qatar

The rise and expansion of private schools have been the defining features of Qatar's educational revolution (Karkouti, 2016). Historically, the educational system in Qatar has been greatly influenced by Arab countries in the region; the government adopted the Egyptian educational model and used textbooks from Saudi Arabia, Syria, Jordan, and Lebanon. However, with the exponential growth of foreign schools in which English is the primary language of instruction, the educational landscape has changed over the past 20 years (Gamal, 2020).

Qatar's realization of the critical role that education plays in accomplishing its national development objectives, as stated in Qatar's National Vision 2030, has been the driving force behind this shift (Al-Thani et al., 2021). The Supreme Education Council took over as the successor of the Ministry of Education in 2002 and initiated a number of educational reforms to raise standards and better connect education to the nation's long-term goals (Karkouti, 2016).

The number of private and international schools in Qatar has increased significantly over the years to over 330, far exceeding the number of national schools, which currently totals 302 (Gamal, 2020). Qatar's recognition of the value of education in creating a knowledge-based economy, as expressed in Qatar's National Vision 2030, has driven this surge in international schools (Abdul-Moneim, 2020). Private schools, which provide a wide choice of educational programs and curricula to meet the demands of local and expatriate families, have been major players in Qatar's educational transformation (Gamal, 2020).

Identification of gifted students

Ensuring that gifted children are provided with the support and opportunities that would best aid their development is critical. Therefore, identifying these students first is crucial. Some institutions enroll the top 3% to 5% of students, regardless of grade, or all students who score over a specific standard based on intelligence quotient (IQ) testing (Davis et al., 2014). Tuttle and Becker (1983) stated that including parents in the nomination process is advantageous, as children display their strengths at home because they feel comfortable around their guardians and because their parents spend time with them and know them best. Social comparison in middle and high schools may

lead students to hide their skills, preventing teachers from recognizing their inventiveness and individuality; therefore, self-nomination is recommended (Tuttle & Becker, 1983).

Although not previously used to identify gifted children, creativity assessments are now frequently used and considered essential. The Torrance Tests were created to assess creativity based on the Guilford paradigm, which distinguishes between creative and divergent thinking (Polland, 1994). Achievement examinations also assess students' academic growth, knowledge, and competencies in reading, math, and language. National standards underpin standardized test outcomes (Davis et al., 2014). In addition to the aforementioned identification methods, classmates can identify brilliant and exceptional students. Classmates' insights offer a privileged perspective on students' talents, capabilities, and potential because they know their peers well (Davis et al., 2014).

Researchers have identified the limitations of relying on a single criterion. For instance, teacher nominations are not a reliable method for identifying giftedness if teachers lack the necessary training and are unable to accurately identify gifted students (Gross, 1999). Relying on IQ scores alone is also defective, as they may not capture giftedness in areas beyond those tested. With these limitations in mind, the best practice is using a combination of identification methods, such as teacher nominations and the assessment of students' advanced academic work or creative productivity. Using multiple identification methods ensures that the process is diversified and inclusive, thus capturing a comprehensive perspective of a child's capacities. In addition, this approach prevents the exclusion of gifted students who do not meet traditional criteria. The shift away from using a single method for giftedness identification indicates an acknowledgment of its limitations and the desire to foster more accurate and inclusive identification approaches. Multiple methods should be used to holistically assess children and ensure accurate results in the giftedness identification process (Yakavets, 2013).

Gifted programs

Gifted children require additional attention for growth. Acceleration and enrichment grouping programs improve gifted students (Heacox & Cash, 2014). Davis et al. (2014) defined acceleration as providing students with the standard curriculum earlier than usual to help them advance academically. Acceleration can include grade skipping, early kindergarten, first grade, or early college (Davis et al., 2014). Acceleration also involves advancing students in one subject, such as reading or math, while keeping them with their peers in other subjects. Moreover, acceleration can be offered through Advanced Placement (AP) classes and Gifted and Talented programs (Goldman et al., 2015).

Acceleration differs from enrichment (Colangelo et al., 2010). According to Van Tassel-Baska (2007), enrichment refers to educational offerings that broaden and deepen a certain curriculum (Van Tassel-Baska, 2007). Davis et al. (2014) found that enrichment occurs when instructors provide additional assignments, activities, or resources to students who have mastered the grade-level information. Enrichment can take several forms, including individual studies, resource rooms, mentors, and mentorship opportunities. Classroom curricula should be tailored to meet the needs of gifted students (Robins et al., 2023). Gifted students have been found to be important resources for their communities' economic and social welfare (Nacaroğlu et al., 2021). Therefore, acceleration and enrichment programs must be available and accessible to gifted students, as they are essential for appropriately supporting exceptional students in their development.

Gifted education in the Gulf

The characterization of gifted education must be considered to evaluate its current state. The status and efficacy of gifted education programs are influenced by various factors, including variations in the definition of giftedness among nations, high-ability student perspectives, teacher

preparation, and accessible resources (Brigham & Bakken, 2014). For instance, in the United Arab Emirates, gifted education has been approached from a learning-resource perspective, which considers factors such as teacher expertise, family involvement, and learning resource accessibility. This comprehensive perspective recognizes that giftedness manifests differently in different cultural contexts, and that educational systems must adapt to meet these needs (Spawi et al., 2022).

The integration of Islamic values is a key component of Saudi Arabia's gifted education framework, which aims to develop students' moral and spiritual development in addition to their intellectual aptitude (Ismail et al., 2022). This method emphasizes the importance of connecting gifted education with the community's cultural and religious norms. Although gifted education programs and institutions catering to gifted students have been established nationwide, challenges persist in ensuring equitable access and tailored support for various student needs (Spawi et al., 2022).

To benefit children with exceptional aptitudes, the Qatari government has established specialized schools and organizations (Alghawi, 2017). Research indicates that financing for gifted education remains limited, and additional funding may be needed to provide students with greater access to opportunities and resources (Ismail et al., 2022). Kuwait has a national gifted education program; however, its implementation has been hampered by low teacher training and cultural biases toward high achievers (Alghawi, 2017).

A gifted education program has been established in Oman; however, its effectiveness has been hampered by inconsistent identification procedures, a lack of funds for extracurricular activities, and specialized curricula (Alghawi, 2017; Ismail et al., 2022). Bahrain's gifted education initiatives, which remain in their infancy, aim to establish specialized schools and enrichment programs (Spawi et al., 2022). Nevertheless, Bahrain continues to face challenges in ensuring equitable access to these opportunities for individuals from diverse socioeconomic backgrounds (Spawi et al., 2022). The lack of comprehensive and culturally appropriate procedures for identifying and evaluating giftedness and a comprehensive system for providing services to high-ability students are common problems in the Gulf region.

Teachers' role

Educators play a crucial role in the development of gifted children. Teachers are in an advantageous position in terms of their closeness to gifted students and are often the first to detect giftedness. Educators' abilities to identify and support gifted students are essential for their success in school and beyond. Educators must possess appropriate knowledge and skills to effectively support the education and development of gifted students (Gradišek, 2023). This includes understanding the characteristics of gifted students, being aware of effective instructional strategies for gifted learners, and possessing knowledge of relevant resources and support services. Teachers must use strategies such as monitoring, approval, and utilization to support gifted children's abilities. Teachers can also determine whether the curriculum is sufficiently challenging for students and provide insight into children's intellectual capacity (Golle et al., 2022). Due to this proximity and familiarity, teachers must be aware of and sensitive to giftedness, its indicators, and students' needs (Sayi, 2018). Teachers need to understand not only their subjects but also acquire knowledge of gifted education. (Şentürk et al., 2022). This knowledge and expertise enables educators to provide the best-fit educational experience for students and prevent the perpetuation of misconceptions regarding giftedness (Gradišek, 2023). Educators must receive in-service training and continuous professional development in gifted education to be effective educators for gifted students (Gourgiotou et al., 2019; Gradišek, 2023). Educators need to possess

the appropriate education, knowledge, and skills to effectively nurture the growth and development of gifted students (Gradišek, 2023). Therefore, teacher education programs must provide opportunities for specialization in gifted education and include sufficient courses on gifted education in faculties of education (Özer et al., 2018).

Professional development

Empowering teachers' knowledge and skills can be achieved through strategic professional development (Gourgiotou et al., 2019). By providing teachers with the necessary training and resources, schools can ensure that gifted students receive the educational experiences they deserve and reach their full potential. Despite the importance of the teacher's role in gifted education and the attention received from it, teacher training has often been neglected (Gourgiotou et al., 2019). Consequently, many teachers may not have the expertise or confidence to support gifted students effectively. This lack of teacher training can lead to missed opportunities and hinder the academic, social, and emotional growth of gifted students. Therefore, educational institutions must prioritize and invest in the professional development of gifted education teachers to provide high-quality curricula and instruction to gifted students (Cheung et al., 2022).

The role of other school personnel

Goodhew (2009) stressed that school administration is the main factor affecting the success of gifted students. Senior management plays a key role in fostering innovation, providing resources and opportunities, prioritizing teachers' professional development, ensuring appropriate assessments, and collaborating with parents and the broader community to establish support networks. School administrators should implement effective policies and procedures for identification and programming and advocate for the needs of gifted students within schools and districts.

Consequently, educating and training school administrators and support staff in gifted education are essential to ensure that they have the knowledge and skills required to effectively support gifted students (Gourgiotou et al., 2019). Moreover, school administrators should collaborate with school psychologists to provide social-emotional support for gifted students, consult with parents and teachers to address individual needs (Stephens, 2020). Counselors in school settings can play a crucial role in supporting gifted students by providing social-emotional counseling and guidance to address their unique needs (Adams-Byers et al., 2004). Thus, school administrators, support staff, counselors, and psychologists play vital roles in gifted education by providing leadership, advocating for resources and accommodation, offering guidance on social-emotional needs, and collaborating with other professionals to create a nurturing environment for gifted students.

Methods

This study aimed to identify the services offered in private schools for gifted children in Doha, Qatar and determine teachers' awareness regarding gifted education and its impact on supporting gifted students. We formulated a questionnaire that comprised 12 questions on the definition, services, identification, and programs implemented for gifted students in schools. A quantitative analysis was conducted to answer the following research questions:

1. What services are provided by private schools in Doha to intellectually gifted students?
2. To what extent does teachers' awareness of gifted education affect their support for gifted students?

Participants

This study included 70 teachers from 14 diverse private international schools selected by the researchers to represent a cross section of privately owned schools in in Doha, Qatar. This study

examined data from private international schools that use diverse curricula, such as the International Baccalaureate (IB), British Curriculum, and American Curriculum, which serve students ranging from primary school to high school. These schools were gender-mixed schools that provided education to both girls and boys. The researchers sought to have five teachers from each school to ensure that the results represented a wide variety of perspectives from each school. The number of schools and subjects allows the researchers to explore the availability and extent of implementation of gifted education programs.

The principals selected 5 teachers from primary, intermediate, and high school levels who taught English, math, and science. These subjects were chosen not only because they are essential to the curriculum but also because schools in Qatar have full autonomy over these subjects and can choose any service or accommodation they deem essential to students' enhancement. Furthermore, these subjects usually receive the majority of resources to support students with various needs, as mastery of these subjects is considered indicative of giftedness. In addition, the teachers of these subjects typically receive specialized training that improves their ability to identify and assist children with different abilities.

All participants were informed of the goals and scope of the study and were assured of the privacy of their information and a signed informed consent was obtained from all participants prior to the survey.

Procedure

The survey was administered using Google Forms in December 2023, and a hyperlink to the survey was sent directly to the participants. This investigation obtained approval from Global Studies Institute research ethics committee. Participation was optional, and there was no remuneration offered for taking part. Stringent measures were implemented to uphold the privacy and confidentiality of participants, guaranteeing that all replies were de-identified and securely preserved.

The forms were completed in one session and took no more than 10 min to complete. A pilot study supported the estimated the time would be adequate to complete the survey. This time was considered ideal due to the lack of open-ended questions and use of Likert scales. A pilot study supported the estimated survey time.

Data analysis

We used a descriptive-analytical approach to examine the participants' demographic data. SPSS version 29 was used to analyze the data. Descriptive statistics were used to summarize key features of the dataset, including the means, medians, modes, and standard deviations (SDs), to identify the central tendency of the data and variations in the participants' responses.

Furthermore, an exploratory data analysis (EDA) was used to identify patterns and outliers. Cross-tabulation was used to aggregate variables and identify associations and trends in categorical data. The direction and strength of the relationships between survey responses were assessed using Pearson correlation coefficients to evaluate how elements affected the general standard of gifted education.

Results and Discussion

Demographics

Table 1 presents the participants' teaching backgrounds. Most teachers (n = 58) were at the primary level, indicating that they were involved in the early identification and assistance of gifted students.

Table 1. Teachers' distribution according to the subject and level they teach

	Level			
Subject	**Primary**	**Middle**	**Secondary**	**Total**
EN	20	4	2	26
MT	9	1	1	11
SC	9	0	2	11
MT, SC	2	2	0	4
EN, MT, SC	18	0	0	18
Total	58	7	5	70

Abbreviations: EN, English; MT, math; SC, science.
Developed by the researcher

School services for gifted education

The participants' responses on policies, definitions, procedures, and budgets are presented in Table 2.

Table 2. Participants' responses regarding policies, definitions, procedures, and budgets

Response	**Well-defined policy (%)**	**Consensus on definition (%)**	**Established procedures (%)**	**Annual budget allocation (%)**
Strongly Agree (5)	13 (18%)	9 (13%)	7 (10%)	2 (3%)
Agree (4)	27 (39%)	32 (46%)	34 (48%)	12 (17%)
Neutral (3)	17 (24%)	19 (27%)	18 (26%)	26 (37%)
Disagree (2)	11 (16%)	9 (13%)	9 (13%)	25 (36%)
Strongly Disagree (1)	2 (3%)	1 (1%)	2 (3%)	5 (7%)
Mean (SD)	3.53 (1.13)	3.47 (0.98)	3.39 (0.98)	2.72 (0.98)

Developed by the researcher

Clearly stated policy

As emphasized by Subotnik et al. (2011) and Manning (2006), comprehensive, well-defined, and consistently applied policies are critical for gifted education. The results indicated that despite many Doha private schools having gifted education programs, some schools need to implement these policies in a more uniform manner.

Agreement on the meaning of giftedness

Researchers emphasize the importance of a clear and shared definition of giftedness for the consistent identification and support of gifted students (Pfeiffer, 2015) and Subotnik et al. (2011). The findings suggest that, although a general agreement on the definition of giftedness exists, variability indicates a need for clearer communication and shared understanding within schools. Professional development and training focused on the definition of gifted education could help bridge this gap.

Allocation of the annual budget

Gross (1999) and Ismail et al. (2022) contend that the growth and viability of gifted education programs depend on sufficient funding. The amount of funding that these programs receive can potentially impact the programs, materials, and teacher preparation. The results indicated a large

disconnect between theoretical concepts and the actual application and implementation of gifted education in private schools in Doha.

Although most participants agreed that rules, criteria, and processes existed for gifted education, they were uncertain regarding the amount of money required for these initiatives. Responses ranged moderately, as indicated by the SDs of all four components. Well-defined policy responses exhibited the highest variability, indicating a higher degree of inconsistency within this domain. The comparatively large percentages of agree and disagree responses indicated areas in which schools may need to strengthen their support for gifted education, particularly regarding funding distribution. To effectively support talented children and match practice with theoretical principles, these anomalies must be addressed, ensuring clear communication and implementation of rules and procedures.

Our findings suggest that budgetary constraints in private schools in Qatar affect the identification and services of gifted students. Schools must consider the long-term benefits, which include better student outcomes, increased parent and student satisfaction, and the potential to draw in additional families seeking to send their gifted children to schools where they thrive. Better programs may result in higher student enrollment and retention rates, which could balance investments in gifted programs. Schools' focus on gifted programs can benefit their revenue; however, this requires major initial investments in resources.

Types of gifted programs available

We examined the programs offered in various schools. Descriptive statistical analyses were performed. The results shown in Table 3 demonstrated that responses varied widely. Of these, 27 participants said that their schools only offered enrichment programs as a kind of gifted education, 35 said their schools offered both enrichment and acceleration programs, and eight teachers said their schools had no gifted programs at all. Van Tassel-Baska (2007) argued that enrichment programs are meant to extend and enhance the basic curriculum by giving students who have mastered grade-level materials more homework, exercises, or resources. However, not every gifted student's needs can be met by enrichment programs alone, especially those who might benefit from acceleration. According to 35 participants, a combination of acceleration and enrichment programs is the best option because it offers a more thorough approach to gifted education. This is in line with the methods recommended in the research, which supports a multifaceted strategy to meet the many needs of gifted students, as explained by Heacox and Cash (2014) and Colangelo et al. (2010). Schools that provide both types of programs are better able to assist children's academic success and intellectual development.

However, eight teachers indicated a notable deficiency in gifted education, which was alarming. Gross (1999) asserted that highly able students may underachieve and become disengaged because of a lack of suitable educational opportunities. The identification of gifted and talented children is one aspect of effective gifted education. Other requirements include the availability of appropriate programs and resources.

This study provides important insights into the state of gifted education in Qatar's private schools. According to this analysis, the availability and application of gifted-education-related policies and programs varied significantly across schools. Although many schools had established policies and procedures, we identified significant variation in how these were applied and communicated, as demonstrated by instructors' levels of awareness and agreement.

Furthermore, we identified a gap between gifted education programs and identification processes. The criteria used by schools to identified gifted students differed significantly; some relied only

on grades (2.9%) or nominations (8.7%), whereas others adopted more comprehensive approaches. Only 4.3% of the participants reported their schools using all five approaches (i.e., grades, IQ testing, creativity evaluations, student portfolios, and nominations). Dependence on a single method of identification could lead to a failure to recognize children who are talented but do not meet the typical giftedness metrics. Schools should use multiple identification techniques, such as a mix of grades, IQ tests, creative evaluations, and nominations from other sources.

With 38.6% of schools offering only enrichment programs and 11.4% offering no gifted programs at all, we identified a clear deficiency in acceleration programs. Program availability limits gifted students' opportunities to grow and face appropriate challenges, which can result in underachievement and disengagement. Enrichment and acceleration programs should be included in the curriculum to serve the needs of talented children better.

Table 3. Types of programs available for gifted students

Program	Frequency	Percentage
Enrichment	27	38.6
Acceleration	0	0
Enrichment and acceleration	35	50
None	8	11.4
Total	70	100

Developed by the researcher

Identification of gifted students

The findings in Table 4 and as seen in Figure 1 align with the literature emphasizing the need to use a range of identification strategies to capture the diverse manifestations of giftedness. According to Tuttle and Becker (1983), data from a range of sources, such as self-nominations, peer and parent nominations, teacher nominations, and quantitative assessments such as grades and IQ tests, can be used to paint a more complete picture of student talents. Gross (1999) asserted that this tactic mitigates the disadvantages of relying solely on a single identification method. According to Yakavets (2013), holistically evaluating children, that is, using many identification techniques, is the best way to obtain a more complete picture of a student's potential and talent. Finally, the results demonstrated that Doha's private schools used a range of identification techniques.

Literature highlighting the significance of comprehensive identification approaches is consistent with the strong positive connection observed between the quantitative and subjective dimensions of identifying talented students. According to Tuttle and Becker (1983), a variety of identification techniques, including self-nomination, grades, IQ testing, parent and peer nomination, and teacher nomination, provide a comprehensive picture of students' skills. To guarantee that highly able students benefit from the programs and opportunities they need, Gross (1999) emphasized the importance of organized and uniform identification processes. Our findings suggested that the participants considered procedures effective and adequate when using several identification methods. This was consistent with the theoretical framework, which suggested that improved identification and support for gifted students could be achieved using various and well-defined identification procedures.

Developed processes for recognizing talented students

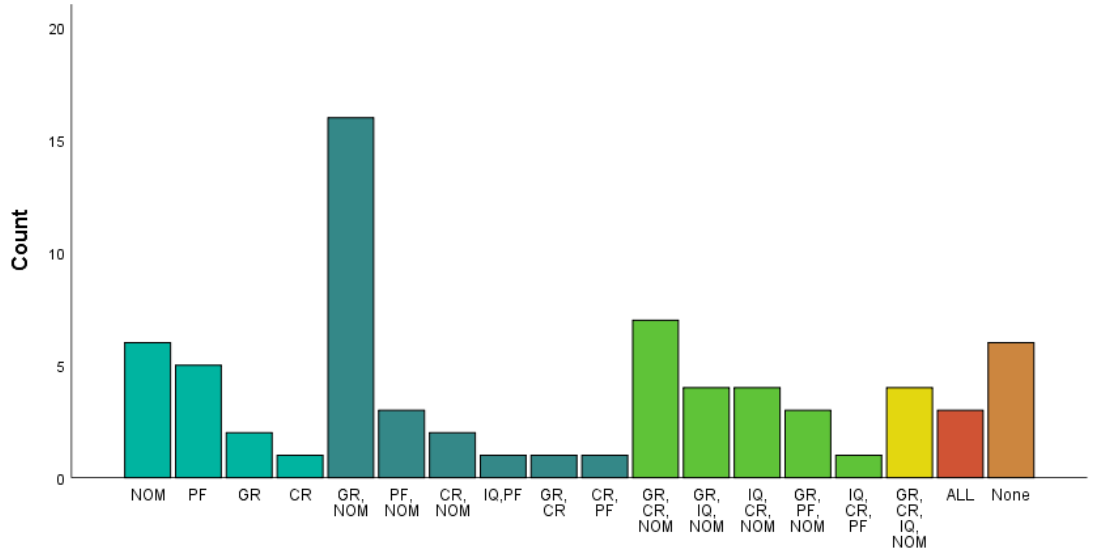
To effectively identify gifted children, ideal identification processes should combine qualitative and quantitative indicators in a comprehensive, reliable, and consistent manner (Davis et al., 2014; Yakavets, 2013). The results revealed a tendency to favor having set procedures; however, change is required based on sizeable indifference and negative replies. Comprehensive identification techniques must be adopted and standardized by schools to ensure that all instructors are aware of and knowledgeable about these protocols.

Table 4. Identification procedures

	Identification Criteria	**Frequency**	**Percentage**
One Type	GR	2	2.9
	CR	1	1.4
	PF	4	5.8
	NOM	6	8.7
Two Types	GR, CR	1	1.4
	GR, NOM	16	23.2
	IQ, PF	1	1.4
	CR, NOM	2	2.9
	CR, PF	1	1.4
	PF, NOM	3	4.3
Three Types	GR, IQ, NOM	4	5.8
	GR, PF, NOM	3	4.3
	GR, CR, NOM	7	10.1
	IQ, CR, NOM	4	5.8
	IQ, CR, PF	1	1.4
Four Types	GR, CR, IQ, NOM	4	5.8
	All [a]	3	4.3
	None	6	8.7
	Total	70	100

Abbreviations: GR, grades; IQ, intelligence quotient; PF, students' portfolio; NOM, nominations.
[a] All types of identification procedures.
Developed by the researcher

Figure 1. Identification procedures



Developed by the researcher

Types of educational programs and identification procedures for gifted students

Table 5. Schools with an existing identification procedure but no available gifted education

Identification Procedure	**No Gifted Education**
IQ	1
NOM	1
GR, NOM	1
GR, IQ, NOM	1
Total	4

Abbreviations: IQ, intelligence quotient; NOM, nominations; GR, grade.
Developed by the researcher

Table 6. Schools with no existing identification procedure but available gifted education.

Education	**No Identification Procedure**
Enrichment	2
Acceleration	0
Total	2

Developed by the researcher

Correlation between the subjective and quantitative aspect of identification procedure of gifted students

Pearson's correlation coefficient was used, and the results showed a significant and strong positive relationship between the variables, with $r(68) = 0.86$, $p < .001$ (Table 8). These results suggested

elevated awareness among teachers regarding identification procedures and their efficacy. A strong linear relationship indicated a positive correlation (Figure 2); in other words, as the number of procedures used increased, participants were more likely to agree that the defined procedures at their schools were adequate.

Figure 2 Quantitative-subjective correlation of the identification procedure

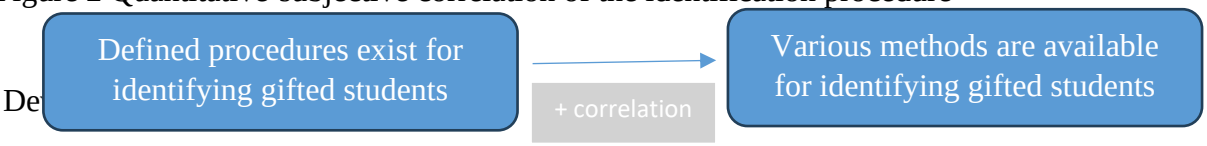


Table 7. Bivariate correlation between quantitative and subjective aspects of the identification procedure

	Defined Procedures	**Various Methods**
Defined Procedures	1	.860**
Various Methods	.860**	1

** Correlation is significant at the 0.01 level (2-tailed).
Developed by the researcher

Quantitative aspects of enrichment programs and their distribution

We examined the types of gifted education offered at the sampled schools, including up to seven types of enrichment and acceleration programs.

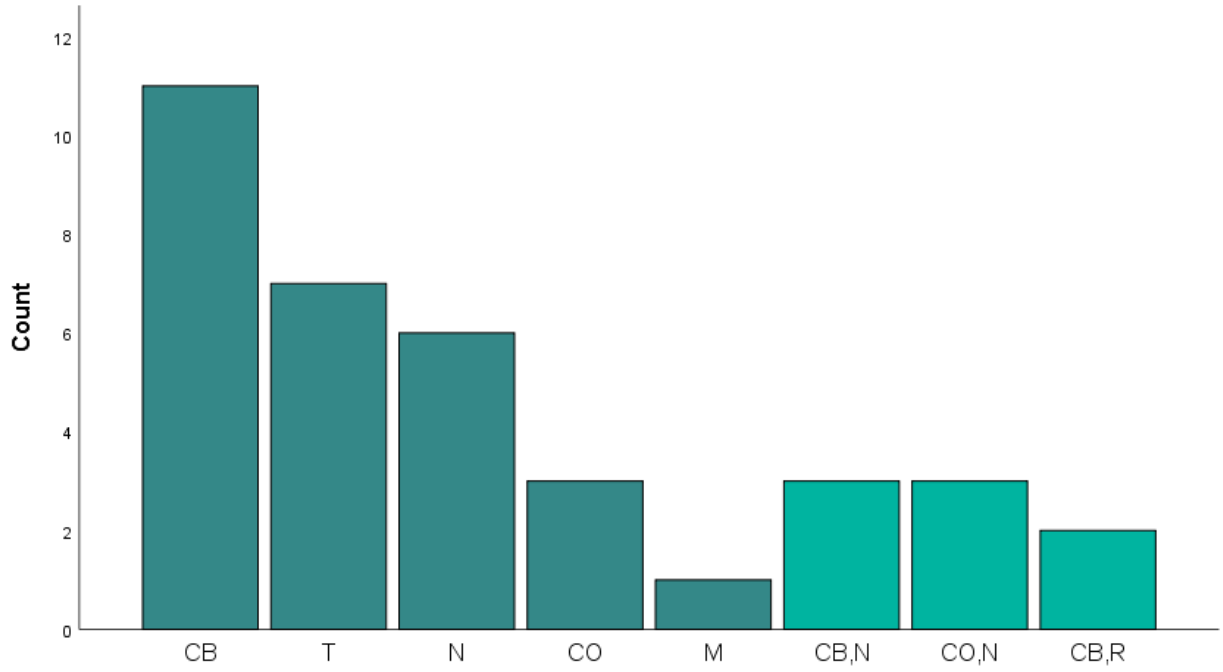
Most participants (51.4%) indicated that their schools offered one or two types of enrichment programs (Table 8, Figure 3), which was relatively low. Furthermore, 17.1% reported their schools offering three types of enrichment programs (Table 9, Figure 4), and 12.9% indicated four to five types of enrichment programs (Table 10, Figure 5). Moreover, 5.7% reported that their schools offered more than five enrichment programs (Table 11, Figure 6).

Table 8. Distribution of responses indicating one or two enrichment programs offered at the school

	Program	**Frequency**	**Valid Percent**
One Type	CB	11	15.7
	CO	3	4.3
	M	1	1.4
	N	6	8.6
	T	7	10
Two Types	CB, R	2	2.9
	CB, N	3	4.3
	CO, N	3	4.3
	Total	36	51.4

Abbreviations: CB, clubs based on students' interest; CO, programs that offer competition opportunities; M, mentors and mentorships programs; N, programs that cover non-academic content, such as art and physical education; T, teacher-created learning centers.
Developed by the researcher

Figure 3. Distribution of responses indicating one or two enrichment programs offered at the school



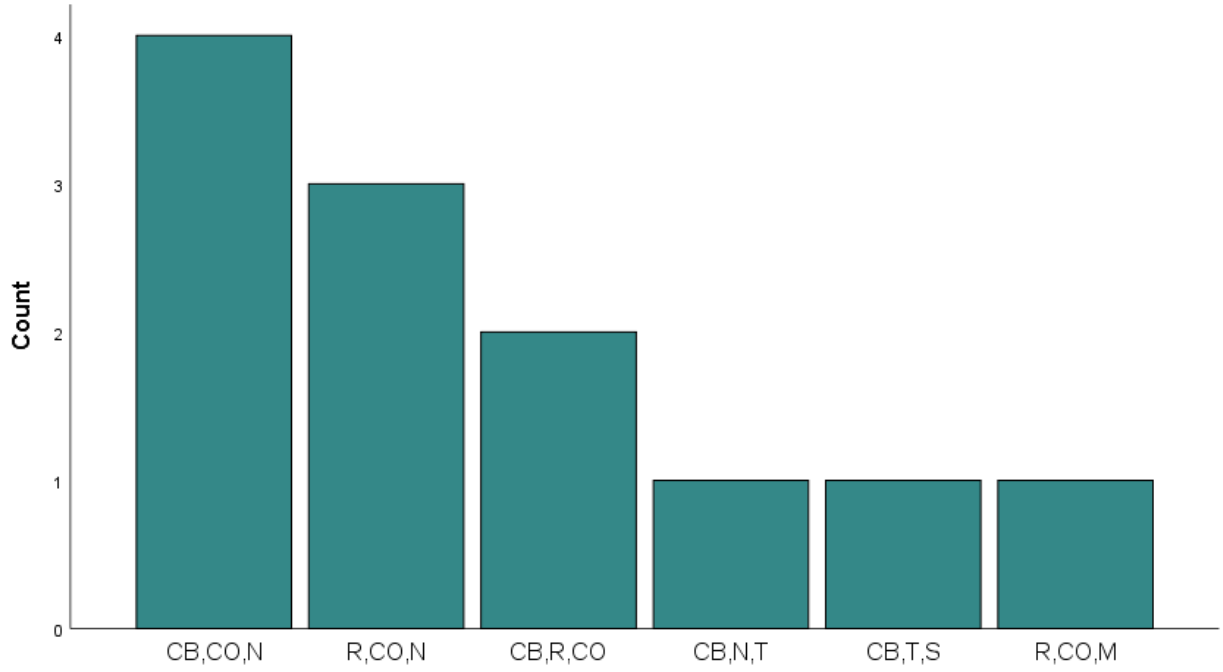
Developed by the researcher

Table 9. Distribution of responses indicating three enrichment programs offered at the school

Program	Frequency	Valid Percent
CB, R, CO	2	2.9
CB, CO, N	4	5.7
CB, N, T	1	1.4
CB, T, S	1	1.4
R, CO, M	1	1.4
R, CO, N	3	4.3
Total	12	17.1

Abbreviations: CB, clubs based on students' interest; CO, programs that offer competition opportunities; M, mentors and mentorships programs; N, programs that cover non-academic content, such as art and physical education; T, teacher-created learning centers; R, programs based on research project; S, summer programs that cover leadership and self-esteem skills.
Developed by the researcher

Figure 4. Distribution of responses indicating three enrichment programs offered at the school



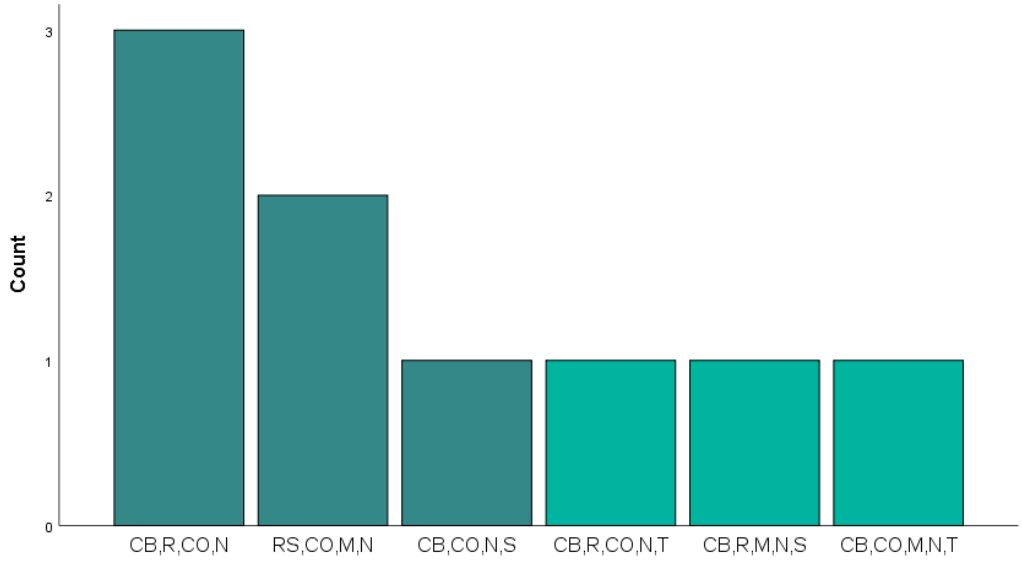
Developed by the researcher

Table 10. Distribution of responses indicating four or five enrichment programs offered at the school

	Program	Frequency	Valid Percent
Four Types	CB, R, CO, N	3	4.3
	CB, CO, N, S	1	1.4
	RS, CO, M, N	2	2.9
Five Types	CB, R, CO, N, T	1	1.4
	CB, R, M, N, S	1	1.4
	CB, CO, M, N, T	1	41.4
	Total	9	12.9

Abbreviations: CB, clubs based on students' interest; CO, programs that offer competition opportunities; M, mentors and mentorships programs; N, programs that cover non-academic content, such as art and physical education; T, teacher-created learning centers; R, programs based on research project; S, summer programs that cover leadership and self-esteem skills.
Developed by the researcher

Figure 5. Distribution of responses indicating four or five enrichment programs offered at the school



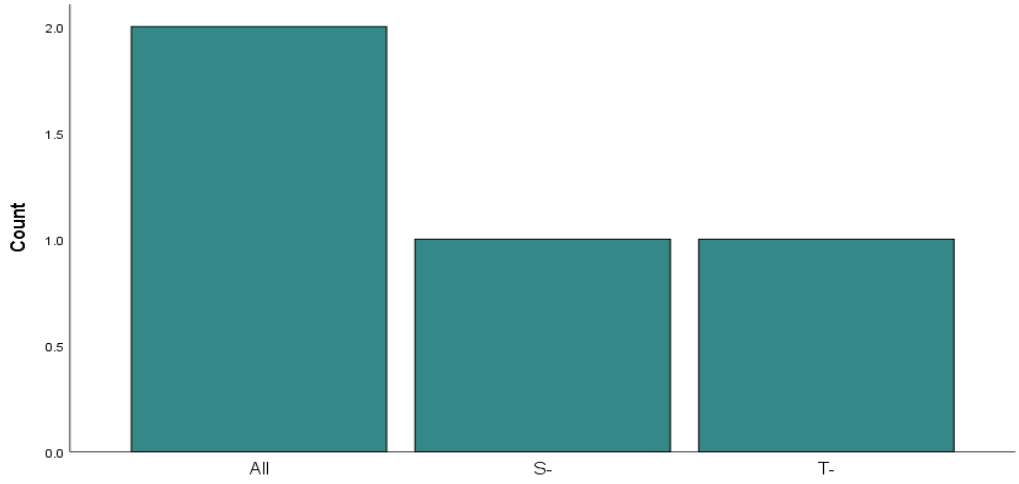
Developed by the researcher

Table 11. Distribution of responses indicating more than five enrichment programs offered at the school

Program	Frequency	Valid Percent
S-	1	1.4
T-	1	1.4
All [a]	2	2.9
Total	4	5.7

Abbreviations: S-, all but summer programs that cover leadership and self-esteem skills; T-, all programs except teacher-created learning centers; All [a], all types of enrichment programs.
Developed by the researcher

Figure 6. Distribution of responses indicating more than five enrichment programs offered at the school



Developed by the researcher

Quantitative aspect of acceleration programs and their distribution

Acceleration programs, which were less prevalent, showed a similar pattern, with 31.4% of responses indicating that their schools offered one type of acceleration program (Table 12, Figure 7). 11.4% of responses reflected schools offering two types of acceleration programs (Table 13, Figure 8), and 7.1% of responses reflected schools offering three to four types of acceleration programs (Table 14, Figure 9).

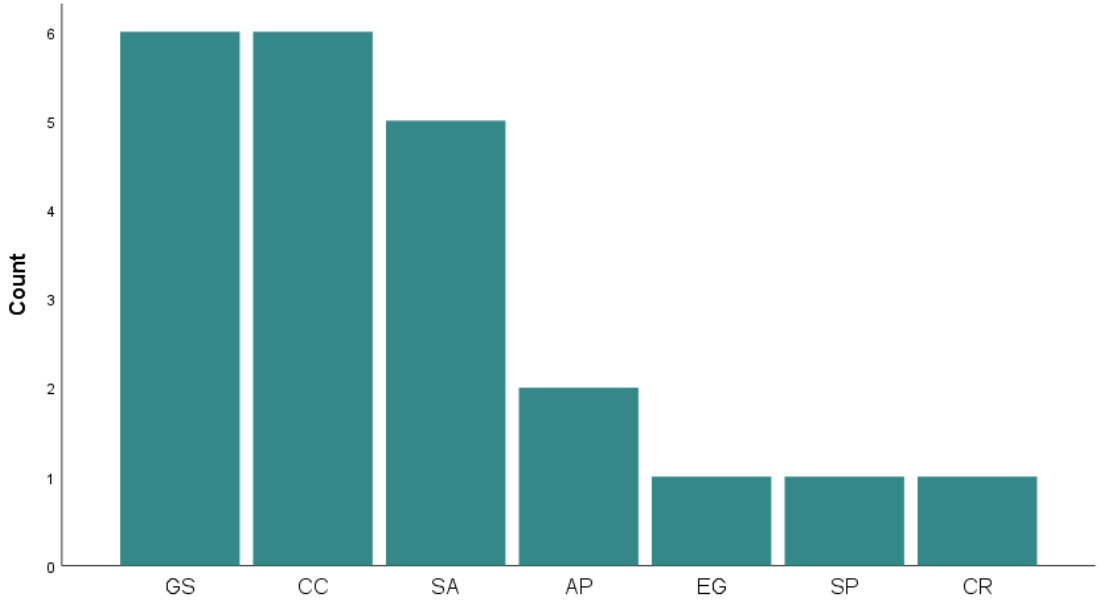
Table 1. Distribution of responses indicating one type of acceleration program offered at the school

Program	Frequency	Valid Percent
GS	6	8.6
SA	5	7.1
EG	1	1.4
CC	6	8.6
SP	1	1.4
CR	1	1.4
AP	2	2.9
Total	22	31.4

Abbreviations: GS, grade skipping; SA, subject acceleration; EG, early graduation; CC, curriculum compacting; SP, self-paced instruction; CR, correspondence courses; AP, advanced placement courses.

Developed by the researcher

Figure 7. Distribution of responses indicating one type of acceleration program offered at the school
Developed by the researcher



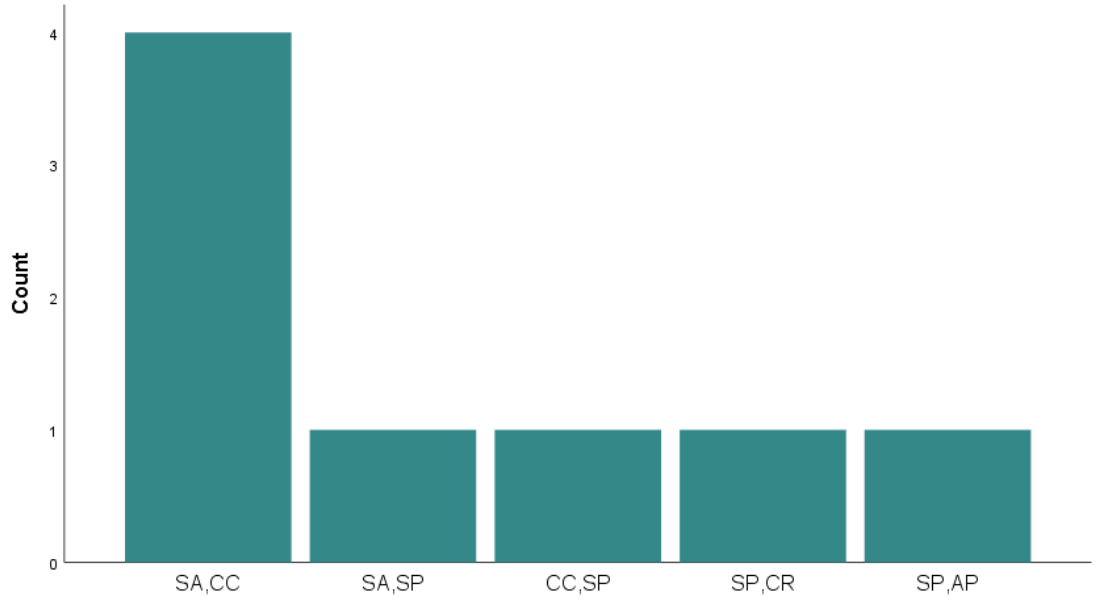
Developed by the researcher

Table 2. Distribution of responses indicating two types of acceleration programs offered at the school

Program	Frequency	Valid Percent
SA, CC	4	5.7
SA, SP	1	1.4
CC, SP	1	1.4
SP, CR	1	1.4
SP, AP	1	1.4
Total	8	11.4

Abbreviations: GS, grade skipping; SA, subject acceleration; EG, early graduation; CC, curriculum compacting; SP, self-paced instruction; CR, correspondence courses; AP, advanced placement courses.
Developed by the researcher

Figure 8. Distribution of responses indicating two types of acceleration programs offered at the school



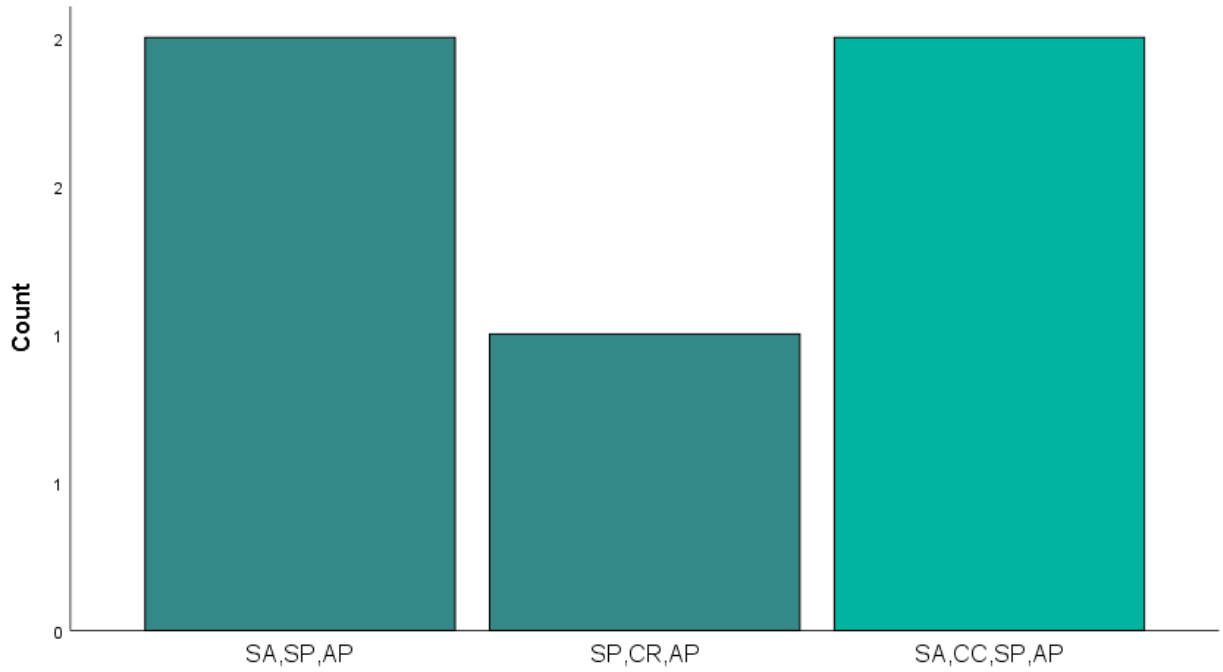
Developed by the researcher

Table 3. Distribution of responses indicating three or four types of acceleration programs offered at the school

	Program	Frequency	Valid Percent
Three Types	SA, SP, AP	2	2.9
	SP, CR, AP	1	1.4
Four Type	SA, CC, SP, AP	2	2.9
	Total	5	7.1

Abbreviations: SA, subject acceleration; CC, curriculum compacting; SP, self-paced instruction; CR, correspondence courses; AP, advanced placement courses.
Developed by the researcher

Figure 9. Distribution of responses indicating three or four types of acceleration programs offered at the school



Developed by the researcher

Teachers' awareness regarding gifted education

We examined the teachers' roles in gifted education, particularly their awareness and knowledge about gifted education, and its effect on the overall level of gifted education.

A descriptive analysis of responses rated on a five-point Likert scale was conducted. The first question asked the participants to rate the extent to which they agreed that they had received sufficient training on how to deal with gifted students. Results are presented in Table 16. Of the participants, 24 (34%) agreed that they received sufficient training, 21 (30%) gave a neutral responses, and 20 (29%) disagreed. Those who strongly agreed or strongly disagreed represented 3% and 4% of the participants, respectively.

With neutral responses considered as the median, the responses of 26 participants were above the median (two strongly agreed, 24 agreed), and 23 were below the median (20 disagreed, three strongly disagreed). This reflected the heterogeneity of teachers and their levels of preparedness among the schools surveyed.

The results regarding teachers' awareness and understanding of gifted education were consistent with those of previous research, highlighting the vital role that teacher preparation plays in the successful execution of gifted education initiatives. Gradišek (2023) asserted that the success of brilliant students depends on teachers' capacities to recognize and assist them. The range of answers demonstrated unevenness in instructors' preparation, implying that some teachers did not have sufficient training in this area. This result was in line with the findings of Gourgiotou et al. (2019), who argued that although professional development is crucial for gifted education, it is frequently disregarded, leaving instructors lacking the knowledge and assurance needed to properly assist talented students.

The results in Table (15) identified inadequacies in teacher education programs, as indicated by the significant proportion of teachers (29%) who stated that they did not receive adequate training. Teachers come out of their undergraduate programs underprepared. According to Özer et al. (2018), teacher preparation programs frequently do not include sufficient courses on gifted education, creating a gap in the preparedness of instructors to work with gifted students. This training gap highlights the need for more thorough and focused professional development programs that focus on the needs of talented children.

Research on gifted education highlights the significance of professional growth and specialized training. According to Gourgiotou et al. (2019), ongoing professional development is essential for providing teachers with the abilities and information required to help gifted students. Our findings indicated a deficiency in formal gifted education coursework, emphasizing the need for policy changes to include comprehensive gifted education training in teacher-preparation programs.

Table 15. Teachers at your school receive sufficient training on handling gifted students.

	Frequency	Percent
Strongly Agree	2	3
Agree	24	34
Neutral	21	30
Disagree	20	29
Strongly Disagree	3	4

Developed by the researcher

The second question inquired whether the participants had taken academic courses on gifted education. The results showed that 19% teachers strongly agreed (n = 2) and agreed (n = 11), 50% of teachers disagreed (n = 31) and strongly disagreed (n = 4), and 31% of teachers gave a neutral answer (Table 16). This response not only clarified the previous question about the sample diversity but also suggested that the participants 50% lacked the academic preparation for gifted education. Thus, we examined how this affected the quality of gifted education in the surveyed schools.

The results revealed a lack of formal education in gifted education, which was consistent with the findings of previous research indicating the inadequacy of teacher preparation in this area. Gradišek (2023) argued that instructors must have a strong foundation in gifted education to properly recognize and support exceptional individuals. A clear gap exists in the training, as indicated by most participants (35 out of 70) stating that they did not complete academic courses on gifted education.

Table 4. You have taken university courses on gifted education.

	Frequency	Percent
Strongly Agree	2	3
Agree	11	16
Neutral	22	31
Disagree	31	44
Strongly Disagree	4	6

Developed by the researcher

Correlation and regression

We combined the responses from these two questions and computed their mean value to measure teacher awareness. This variable measures the quality of teachers' preparedness for gifted education, with 1 indicating the highest preparedness and 5 indicating the lowest preparedness level.

Second, as we identified an influence of the services provided by schools on gifted **education** in the exploratory analysis, we constructed another independent variable that combined these services to test their contribution to gifted education. This variable, termed school services, combined four questionnaire items. This variable measures the quality of school services, with 1 indicating the highest quality of school services and 5 indicating the lowest quality.

For the dependent variable, we combined the three questions that measured the quality of gifted education. As most of the questions in our survey were based on a five-point Likert scale measurement, for some questions, we transformed quantitative data into a five-point Likert scale for a robust interpretation. Responses indicating > 5 were assigned a score of 5, those indicating 4–5 counts were assigned a score of 4, those indicating 2–3 were assigned a score of 3, those indicating 1 were assigned a score of 2, and those indicating 0 were assigned a score of 1 (Table 15). Thus, 1 indicated the highest quality of gifted education, and 5 indicated the lowest quality.

We conducted a bivariate analysis to assess the relationship between teachers' awareness and gifted education. The Pearson correlation coefficient showed a significant and strong positive relationship between the two variables, with $r(68) = 0.96$, $p < .001$ (Table 17). The bivariate analysis of school services and gifted education also showed a significant and strong positive relationship between the two variables, with $r(68)=0.91$, $p< .001$ (Table 18).

Finally, after identifying a linear relationship between our independent and dependent variables, we assessed the influence and contribution of these variables. For a simplistic regression analysis, and to mitigate potential collinearity issues, we considered both independent variables as one entity, represented as school support.

Thus, the purpose of this linear regression model was to determine the effect of school support on the gifted educational status. By combining the two independent variables into a single function, we sought to examine how the impact of teachers' knowledge and skills in the population, as well as school-provided services, contributed to the overall level of gifted education.

The results of the simple linear regression analysis indicated a significant relationship between gifted education status and school support (Table 19) and between school services and gifted education (Table 20). The F-statistic ($F(1,68) = 581.8$) was highly significant, with a p-value < 0.001.

The coefficient of determination (R^2) was 0.89, indicating that approximately 89% of the variance in the status of gifted education was explained by school support. This substantial R^2 value suggested the strong predictive power of school support in determining the status of gifted education.

The regression coefficient for school indicated that for each one-unit decrease in the quality of school support, the predicted status of gifted education decreased by approximately 1.31 units. This finding suggested a positive relationship, implying that lower levels of school support were associated with a lower predicted status of gifted education.

Table 5. Dependent and independent variables

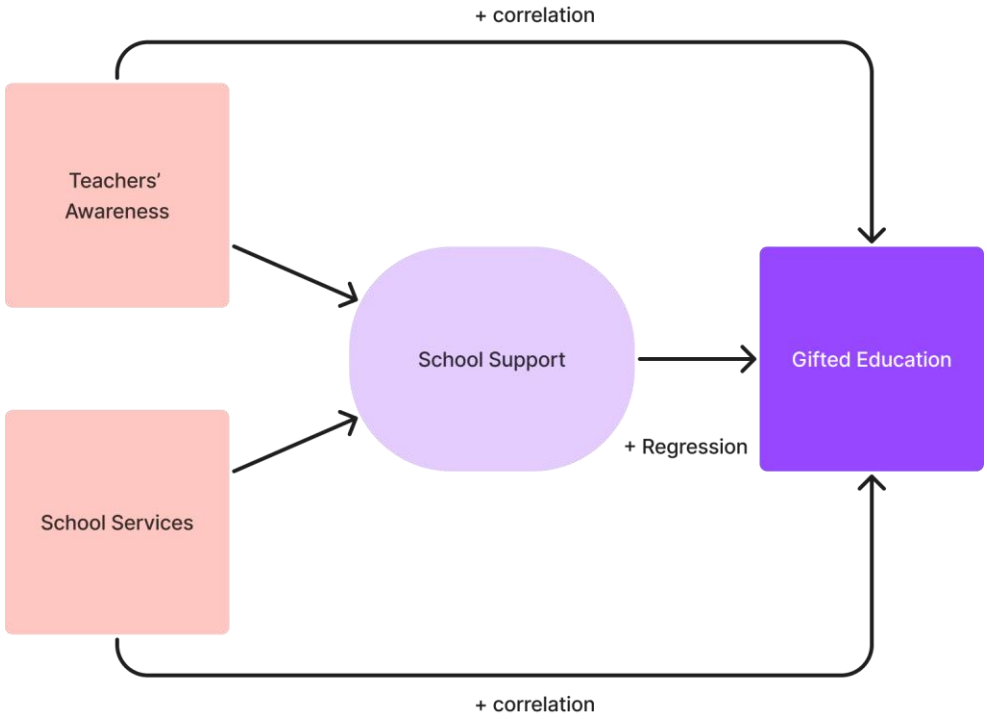
Variables	Survey Questions	Cronbach's Alpha
Independent Variables		
Teachers' Awareness	Q1: Teachers at your school receive sufficient training on handling gifted students. Q2: You received university courses on gifted education.	0.93
School Services	Q1: Your school has a clear policy for services for gifted students. Q2: An agreed definition for giftedness exists at your school. Q3: Defined procedures for determining gifted students are available at your school. Q4: Your school allocates a yearly budget to support gifted students' needs.	0.98
Dependent Variable		
Gifted Education	Q1: There are enough services or programs for gifted students at your school. Q2: The acceleration program at your school offers a range of services for students. Q3: The enrichment program at your school offers a range of services for students.	0.93

Table 6. Quantitative to scale transformation

Count	Assigned Measurement	Assigned Scale Number
> 5	Strongly Agree	1
4–5	Agree	2
2–3	Neutral	3
1	Disagree	4
0	Strongly Disagree	5

Developed by the researcher

Figure 10. Correlation and regression



Developed by the researcher

Figure 10 presents a graphical summary of the created variables. Pink boxes represent the independent variables, whereas the purple box represent the dependent variable. The questions used to create these variables are listed in Table 14. Arrows indicate the tested relation between variables. For independent variable boxes, arrows linking them to the dependent variable indicate a test of correlation, with a positive sign above the arrow indicating a positive relationship.
The oval represents a variable that combines both independent variables. This was created to assess the influence of the independent variable on the status of gifted education. The arrow from this variable to the dependent variable indicates a positive correlation.

Table 19 Correlation between teachers' awareness and gifted education.

	Gifted Education	**Teachers' Awareness**
Gifted Education	1	.966**
Teachers' Awareness	.966**	1

** Correlation was significant at the 0.01 level (2-tailed).
Developed by the researcher

The strong statistical correlation between gifted education status and school support was consistent with the findings of previous research that highlighted the critical role of school resources and teacher preparation in providing high-quality gifted education. Gradišek (2023) argued that the effectiveness of gifted education programs is greatly affected by teachers' capacity to recognize and assist gifted children. Our finding indicated that the perceived quality of gifted education increased in tandem with instructors' awareness and preparedness. According to Gourgiotou et al.

(2019), extensive teacher preparation is essential to providing gifted children with the support that they need. The results of this study support this hypothesis.

The significant R^2 value (0.89) in our regression analysis (Table 21) highlighted the importance of integrated school support in identifying gifted educational status. This was consistent with Yakavet's (2013) findings that revealed the need for comprehensive and well-coordinated support systems in schools to successfully implement gifted education programs. Our results showed a robust relationship between gifted education quality and school support, which was in line with the findings of previous studies emphasizing the value of comprehensive school services and teacher preparation. The success of gifted education programs can be significantly improved by addressing these variables through resource allocation and policies, ensuring that gifted students receive the assistance they need to thrive.

Table 20. Correlation between school services and gifted education.

	Gifted Education	**School Services**
Gifted Education	1	.914**
School Services	.914**	1

** Correlation was significant at the 0.01 level (2-tailed).

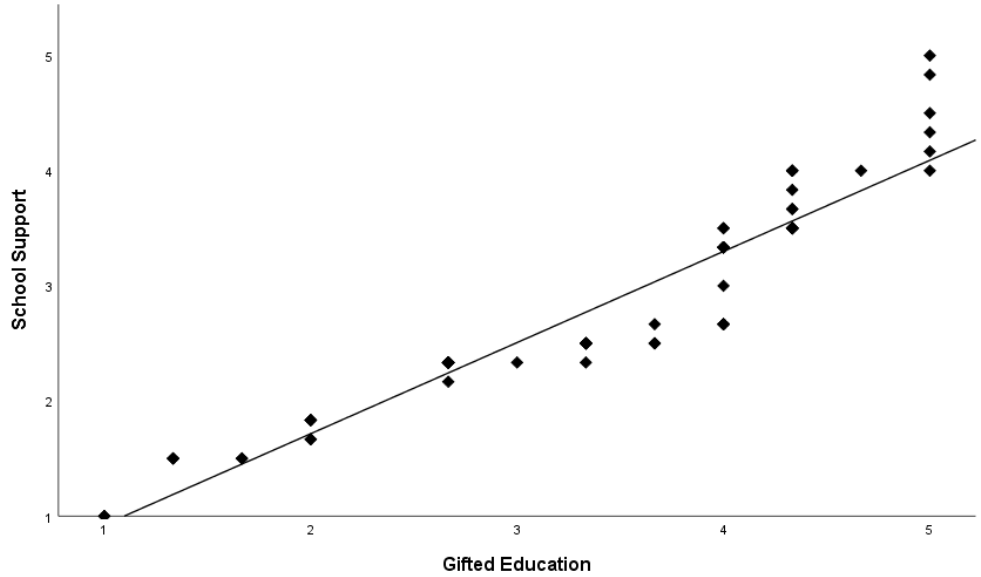
Table 21. Linear regression model between school support and gifted education

	Gifted Education			
Variables	B	SE	β	p
School Support	1.131	0.047	0.946**	< .001
R^2	0.89			

** Correlation was significant at the 0.01 level.

Developed by the researcher

Figure 11. Linear regression model between school support and gifted education



Developed by the researcher

Figure 11 presents the relationship between gifted education and school support, measured on a five-point Likert scale. The x-axis indicates Likert-scale scores for gifted education, whereas the y-axis indicates Likert-scale scores for school support.

Future research directions

Future research should focus on several important areas to build on the findings of this study. Future surveys should inquire about the number of gifted children per school, which would allow for a more thorough examination of the relationship between the number of gifted students recognized and range of available programs and identification techniques. An understanding of this association would help schools efficiently manage their resources and customize their curricula. Further insights into the experiences and opinions of students, parents, and instructors regarding gifted education could be obtained by incorporating qualitative methods, such as focus groups and interviews. Qualitative information can supplement quantitative results and offer a more comprehensive understanding of the advantages and disadvantages of gifted education. Furthermore, research could identified effective strategies and opportunities for development by contrasting Qatar's gifted education programs with those of other GCC nations and other countries worldwide.

Study limitations

The results' generalizability is limited by many factors. Initially, the research had a limited scope, focusing only on private schools within a certain region. This may not accurately represent the wider context of gifted education in different regions. In order to overcome this constraint, future studies could broaden the geographical coverage to include other locations, thereby offering a more exhaustive perspective on practices in gifted education. Furthermore, the research only relied on self-reported data provided by instructors at private schools, which has the potential to include bias and may not comprehensively represent the intricacies of the educational setting. In order to address this issue, future study should integrate other data sources, such as direct observations and third-party evaluations, to authenticate the information provided by teachers. Furthermore, the research failed to take into account the viewpoints of parents and students, which are essential for a comprehensive assessment of gifted education programs. In order to have a comprehensive knowledge of the success and impact of gifted education programs, future research should aim to include input from all pertinent stakeholders, including teachers, parents, students, administrators, and school board members. Utilizing both qualitative and quantitative methodologies will enhance the data and provide a more comprehensive examination of the condition of gifted education in private schools in Qatar.

Conclusion

The study demonstrated that the quality of gifted education was strongly predicted by school support, which included teacher awareness and service provision. Private schools in Qatar can improve their gifted education and provide better services to gifted students by addressing the limitations identified in this study and implementing international best practices. Effective models in nations such as Singapore and the United States, which have robust gifted education systems, place a strong emphasis on the value of thorough identification techniques, a wide range of program options, and ongoing teacher preparation. By implementing best practices adapted to its educational and cultural setting, Qatar can benefit from these models. This could include working with institutions and specialists worldwide to create and implement successful gifted education plans.

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