



# An Exploratory Study of Teachers' Perceptions of Giftedness and Talent among Students in Bahraini Primary Schools

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**Abstract:** While there is no unanimity on how we define and assess giftedness and talent among students, identifying and educating gifted students in schools remain elusive. Despite criticisms leveled against teachers' understanding of giftedness, teachers' perceptions of giftedness and talent among students cannot be ignored. In the quest to gain insight into current practice in Bahrain; this study explored Bahraini teachers' perceptions of giftedness and talent among children in primary schools. Using a Likert type questionnaire, the study sampled data from 80 (male and female) Bahraini primary school teachers. The study revealed that Bahraini teachers viewed giftedness as essentially academic excellence. The study also revealed gaps in teachers' understanding of theory and practice in gifted education. In view of these findings, the study recommended a complete review of staff development programs and the preparation of pre-service teachers on understanding and educating highly able students in Bahrain schools.

**Keywords:** Acceleration; Enrichment; Giftedness; Gifted provisions; High ability; Perceptions; Talent

## 1. INTRODUCTION

The education of highly able students continues to attract debate and controversy. Most debates surround how we conceptualize and assess giftedness and talent in schools (e.g., Mathews & Foster, 2009; Ngara, 2010), in particular, how standardized intelligence tests are applied and their limitations in defining and identifying students' giftedness and talent in diverse cultures (e.g., Ford & Grantham, 2003; Gould, 1996; Porath, 2014). Defining and assessing giftedness is challenging because giftedness is shrouded in culture (Romero, 1994). Although the terms 'giftedness' and 'talent' are closely related and are often used together, they are not synonymous. As clarified in Gagne's (2004) Differential Model of Giftedness and Talent (DMGT), giftedness refers to 'innate abilities', 'raw potential' or 'outstanding aptitudes' that emerge early in childhood while 'talent' is the actual 'demonstrated outstanding ability', 'achievement', 'realization' or 'fulfillment' of potential in adult life. Meanwhile, Csikszentmihalyi and Robinson (1986) defined talent as a relationship between culturally defined opportunities for development of personal skills, opportunity and capacity to act. Hence, giftedness cannot be understood outside its cultural context. For example,

Niwa (2012) confirmed that the Maori of New Zealand's notion of giftedness differs markedly from the Pakeha's (New Zealanders of European origin) views of giftedness. The question that arises is whether we can find a central core for defining giftedness that is broad enough and representative of various multicultural perspectives (Phillipson as cited in Phillipson & McCann, 2007).

According to Claxton and Meadows (2009), current debate is focused on whether giftedness should be regarded as a fixed entity like 'fixed capacity engines' or a developing 'learnable ability'. In this debate, giftedness is viewed either as a 'mystery' in the traditional sense or 'developmental' in the mastery model (Matthews & Folsom, 2009). In the traditional sense, regarding giftedness as innate sets limits on who is selected into gifted programming and is therefore discriminatory, whereas the developmental/mastery model is open and based on recognizing the 'dynamic nature of development' (i.e., it's about domain-specific developmental advancement and the resulting curricular needs). While the mystery model emphasizing IQ testing is genetically based and rigid, the mastery model emphasizes provision of the best environment to nurture brightness. As concluded by Simonton (2009), giftedness is epigenetic (i.e., it is influenced by factors other than genetic).



Giftedness does not just refer to childhood thinking; it emerges throughout life, has a developmental peak period from 'gifted zygote' and can be exhibited throughout life.

From a Darwinian perspective, "Almost everyone is born with the ability to be bright and to be G & T in something" (Claxton & Meadow, 2009, p.7). However, Ziegler and Phillipson (2012) counter proposed that giftedness needed to be understood from a systemic approach which recognizes its context, interdependence and interconnectedness of its component parts. Consistent with Ziegler and Phillipson's systemic view of giftedness, Ngara's (2010, 2013) Dynamic and Interactive Process Model (DIPM) proposes that talent develops in dynamic and interactive processes triggered by a stimulating domain exposure. As summed up by Barab and Plucker (2002), gifted pedagogy should shift the paradigm from labeling and discriminating students on notions of giftedness to focusing on improving the conditions of learning that nurture giftedness so that students with potential for giftedness can show it. Hence, Matthews and Folsom (2009) advocate viewing "giftedness as an educational match for students who otherwise experience mismatch with the curriculum normally provided, the mastery model represents a changing mindset..." (p.20).

Although theorists may debate what giftedness is or what it is not, "It is ultimately the teacher who decides what curriculum to implement, how to implement it and how to shape and assess students' total development" (Ngara, 2002, p.217). Teachers spend an enormous amount of time interacting with children during the school day. Renzulli and Reis' (1997) "Five Step Identification Plan" recognizes teacher nomination as one of the critical steps in the procedure for identifying gifted students. Hence, the teacher's central role in identifying and instructing highly able learners cannot be ignored in this discourse (e.g., Speirs Neumunster, Adams, Pierce, Cassady & Dixon, 2007). However, as revealed in several studies (e.g., Coleman & Gallagher, 1992; Ngara, 2002; Speirs Neumeister et al., 2007), teachers tended to view giftedness and talent narrowly regardless of its cultural context. In particular, Speirs Neumeister et al.'s (2007) study of Caucasian fourth-grade teachers' perceptions of giftedness in the United States confirmed that even some experienced teachers also held similar narrow views of giftedness and talent. Hence, this study sought to gain insight into how Bahraini teachers in the Middle-East view and advance giftedness and talent among children in primary schools.

## 2. PURPOSE OF THE STUDY

In recognition of teachers' central role in both identifying and educating gifted and talented students, there is a need to examine teachers' perceptions of giftedness in their relevant contexts. Although teachers' perceptions of giftedness have been studied elsewhere outside the Bahrain context in previous studies, we do not

know how the Bahraini primary school teachers within a Middle-Eastern Arab context conceptualize giftedness and talent among students and how they educate students they presume to be gifted and talented in their schools. This study therefore sought to explore and bring to light Bahraini teachers' perceptions of giftedness and talent among children with a view to contribute towards the improvement of the educational services for highly able students in local schools. The study was also designed to investigate whether independent variables such as teachers' gender, teaching experience, and qualification, have an influence on how teachers perceive and develop giftedness and talent among children.

## 3. RESEARCH METHODS

This study is a descriptive case that used mixed methods to explore teachers' perceptions of giftedness and talent among children in Bahraini primary schools. The study was based on the assumptions that how teachers identify and educate students presumed to be gifted and talented in their schools is consistent with how they perceive giftedness and talent among children. To gain insight into teachers' perceptions of giftedness and talent among children in Bahraini primary schools, the study collected data using a questionnaire that elicited teachers' responses to the following three questions: What do teachers consider to be the indicators of giftedness and talent among children in primary schools? How do the teachers identify children presumed be gifted and talented in their schools? How do teachers instruct children they perceive to be gifted and talented in their schools? To investigate whether independent variables such as gender, teaching experience, qualification and teaching cycle are related to teachers' perceptions of giftedness and talent among children, a *null* hypothesis (*ho*) was tested. The null hypothesis tested proposed that gender and other independent variables have no influence on teachers' perceptions of giftedness and talent among students.

### A. Participants

A sample of 80 (38 male and 42 female) primary school teachers was selected from groups of teachers who were pursuing professional development courses at Bahrain Teachers College (BTC). This was a convenience sample that was drawn from different groups of Bahraini teachers sponsored by the Ministry of Education who were routinely taking professional development courses at BTC. Teachers sampled in this study were all Bahraini citizens of Arabic culture and language who freely consented to their participation in the study. The teachers' qualifications in this study ranged from Diploma and Bachelor of Education (B.Ed.) to Post Graduate Diploma and Master's degree while the largest group among the participants (75%) had B.Ed. degrees (See Figure 1). Teaching experiences among the teachers sampled ranged from about 5 years to over 20 years while 60% of the teachers fell within 6-10 years range of teaching experience (See Figure 2).

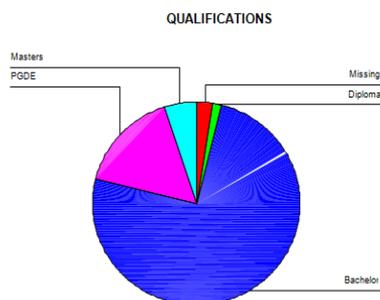


Figure 1. Qualifications of Teachers Sampled

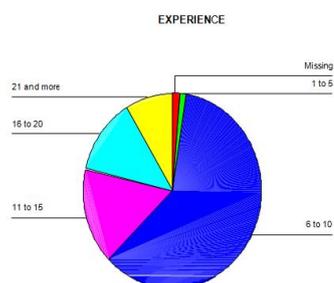


Figure 2. Teachers' Experience

Teachers sampled in this study had neither specialized training nor any teaching experience in special programming for highly able students. With regard to the background of the researchers in this study, one is a native Bahraini of Arabic culture and language while the other researcher is a non-Bahraini who has had over three years teaching experience in Bahrain. Both researchers have exposure to Western culture and education.

#### B. Procedure

Data in this study were collected using a questionnaire designed in a Likert Scale format that was originally developed in a similar study by Ngara (2002). The Likert Scale format was found to be convenient for collecting data for determining directionality of the participants' responses by a consensus. The questionnaire was designed to tap teachers' responses in three sections: (1) characteristics teachers attribute to giftedness and talent in a child, (2) methods or techniques employed by teachers to identify students presumed to be gifted and talented in their schools, and (3) educational provisions teachers adopted to instruct highly able students in their schools. The questionnaire had five Likert Scale type options that were coded for SPSS analysis (i.e., Strongly Agree-5, Agree-4, Neutral-3, Disagree-2 and Strongly Disagree-1). The questionnaire also included spaces in between items where open-ended responses were requested. The few open-ended items enabled the participants to clarify or elaborate their responses to ensure effective communication and cross-checking for consistency in some of the responses. In the questionnaire, certain items on common stereotypes were deliberately repeated in language guise to check the consistency of responses given.

After a few minor modifications were done to suit the study's language and cultural context, the questionnaire was pilot-tested with a small sample of 10 teachers (5 males + 5 females) drawn from earlier group of teachers who had been on the staff development programme at BTC. After a few minor adjustments, the questionnaire produced a split-half reliability coefficient of 0.74 and it was judged to be reliable and was applied in this study (See Appendix 1). The questionnaire was administered by the researchers to groups of consenting teachers during their evening classes of professional development after they had signed informed consent forms. Participation in the study was free and voluntary.

#### 4. DATA ANALYSIS

In the first part of the analysis, frequency tables were used to reflect the participants' responses. Frequencies derived from the SPSS analysis tables were collated into three groups: Agree (including both Agree + Strongly Agree) or Disagree (including Disagree + Strongly Disagree) while Neutral and missing cases were counted together. Data analysis involved classifying, interpreting and sorting responses in percentages to gauge a consensus of responses (i.e., establish the typical response). In the second part of the analysis, the Kruskal-Wallis Ranking Test was applied to test a *null* hypothesis ( $h_0$ ) using a Chi-Square. The *null* hypothesis tested proposed that independent variables of 'gender', 'experience', 'subject taught', 'teaching cycle' and 'teaching qualification' have no relationship with teachers' perceptions of giftedness and talent among students.

#### 5. RESULTS

Frequency counts of teachers' responses to the study questionnaire are shown in Tables 1- 4 in descending order by consensus strength. Table 1 reflects the participants' responses to the question: What do teachers consider to be the indicators of giftedness and talent among children in primary schools? As shown in Table 1, the most commonly acknowledged attributes of giftedness were showing intense interest in some subjects (86.3%), showing creativity in school work (85%), and quickness to grasp/finish class assignments (85%). Participants also endorsed the view that giftedness is innate (or genetic) ability (72.5%). Meanwhile, 68.8% of the participants indicated that gifted students only excelled in the intellectual/academic domain while a slightly lower percentage (66%) acknowledged that giftedness could be expressed in both academic and nonacademic areas such as sports. In a disguised repeat item, participants were asked whether they believed giftedness could be expressed across domains and they showed an even lower consensus (58%) with 17.5% disagrees and 23.8% neutral responses.



TABLE I. TRIBUTES OF GIFTEDNESS IN CHILDREN

Gifted Children....	Agree	Disagree	Neutral
show intense interest in some subjects	69 (86.3%)	7 (8.8%)	4(5%)
show creativity in their school work	68 (85%)	3 (3.8%)	9(11.3)
are quick to grasp.../finish class assignments	68 (85%)	3 (3.8%)	9(11.3)
can sail/excel without putting much effort	64 (80%)	7 (8.8%)	9 (11.3%)
always score high in tests and examination	62 (77.5%)	11 (13.8%)	7 (8.8)
don't need to work hard, can sail...	62 (77.5%)	11 (13.8%)	7 (8.8)
are born with innate/natural abilities	58 (72.5%)	10 (12.5%)	12 (15%)
excel in non-academic areas such as sports,	55 (68.8%)	10 (12.5%)	14(17.5%)
excel in academic/intellectual subjects only	53 (66.3%)	20 (20%)	7 (8.8%)
excel in both academic & non-academic areas	47 (58.8%)	14 (17.5%)	19(23.8%)

Table 2 shows the participants' responses to the question: How do the teachers identify children presumed to be gifted and talented in their schools? Consistent with the response that gifted students show intense interest in some subjects (Table 1), Table 2 shows that 90% of participants mostly relied on assessment of motivation to identify gifted students. The most commonly used identification methods were checklists of attributes of giftedness (87.5%) and personal observation by teacher (86.3%). Meanwhile, responses on comparison by classroom tests and grades (83.8%) and Portfolio assessment (83.8%) were consistently high. While self-nomination by student (78.8%) was acknowledged, neutral cases (15%) were also significant, possibly suggesting unfamiliarity with the practice. In addition, though psychological /intelligence testing by qualified persons (75%) was acknowledged, the number of neutral cases (17.5%) noted could suggest unfamiliarity with the method. Not only were combination of methods, peer and parental nomination least acknowledged, those items also showed the highest counts of disagree, neutral responses and missing cases (See Table 2).

TABLE II. METHODS OF IDENTIFICATION  $N=80$ 

Gifted children can be identified by.....	Missing	Agree	Disagree	Neutral
motivation assessment	1	71 (90%)	3 (3.8%)	5 (6.3%)
Checklist on attributes of giftedness	0	70 (87.5%)	1 (11.2%)	9 (11.3%)
teacher /personal observation	2	69 (86.3%)	3 (3.8%)	6 (7.5%)
comparison by tests & grades	0	67 (83.8%)	9 (11.2%)	4 (5.0%)
portfolio assessment	1	66 (83.8%)	8 (10%)	5 (6.3%)
self-nomination by student	0	63 (78.8%)	5 (6.2%)	12 (15%)
psychological/intelligence testing	0	60 (75%)	6 (7.5%)	14 (17.5%)
a combination of methods	26	47 (58.8%)	1 (1.3%)	6 (7.5%)
peer nomination	0	46 (57.5%)	16 (20%)	18 (22.5%)
parental nomination/Informed by parents	0	44 (55%)	10 (25%)	16 (20%)

Table 3 shows the participants' responses to the question: How do teachers instruct the children they presumed to be gifted and talented in their schools? Participants mostly relied on giving students research projects in their areas of special interest (95%), ability group teaching (94.6%), and giving more challenging work (93.8%)/ or giving students more/or extra work to rapid learners (90%). Participants strongly supported the enrichment of gifted students (93.8%) and curriculum differentiation (90%). They also acknowledged involving gifted students in solving community problems (82.6%) and inviting outside mentors to work with talented students at school (80%). Meanwhile, special class placement in math, science and language and acceleration provisions in general were the least acknowledged with high numbers of disagrees, neutral and missing cases.



TABLE III. PROVISIONS FOR GIFTED STUDENTS N=80

Gifted students' learning provisions...	Missing	Agree	Disagree	Neutral
research projects in their areas....	2	76 (95%)	2 (2.5%)	0 (0%)
ability group teaching...	2	74 (94.6%)	1 (1.3%)	3 (3.8%)
more challenging work to fast....	2	75 (93.8%)	2 (2.5%)	1 (1.3)
enrichment programs ...	2	75 (93.8%)	1 (1.3%)	2 (2.5%)
curriculum differentiation.	3	72 (90%)	2 (2.5%)	3 (3.8%)
giving them more/or extra work	2	72 (90%)	2 (2.5%)	4 (5%)
solving community's problems...	2	66 (82.6%)	3 (3.8%)	9 (11.3%)
pairing students with mentors	2	64 (80%)	4 (5.1%)	10 (12.5%)
special class placement in math...	2	58 (72.5%)	9 (11.3%)	11 (13.8%)
acceleration list types	7	46 (66.3%)	5 (6.3%)	22 (22.7%)
acceleration (adv. grade placement)	2	40 (50%)	25 (31.3%)	13 (16.3%)

#### A. Gifted Education Themes

Table 4 shows the common themes in gifted education that were reflected across Table 1 to 3 on attributes of giftedness, the identification methods employed by teachers and the provisions they adopted to educate gifted and talented students in their schools.

- *Motivation.* As revealed in Table 4, motivation featured strongly (95%) in teachers' responses as a key hallmark of giftedness they observed in children. Motivation is one of the aspects which teachers (87.5%) look for in the checklist of attributes of giftedness. The participants also confirmed that they identified motivated students through personal observation in class (86%). In addition, teachers acknowledged using inquiry-based learning projects (95%) to develop students' interests.
- *Ability group teaching.* As shown in Table 4, the participants highly regarded ability group teaching (94.6%) in instructing gifted students.

The ability group teaching strategy reported involved giving more challenging work to fast learners (93.8%). A deliberate repeat version of this item - giving more /or extra work to rapid learners (90%) - yielded a similarly high consensus.

Students believed to be gifted were selected by comparison using classroom tests and examinations (77.5%) when they consistently scored high marks and top grades (77.5%). Though acknowledged, testing for giftedness and talent by the school psychologist (75%) was reportedly rarely practiced in local schools.

- *Enrichment option.* Table 4 shows that the enrichment option for educating gifted students was strongly supported (93.8%). The types of enrichment reported were limited to inquiry-based learning projects (95%) and giving more challenging work (93.8%) or giving more or extra work to fast finishers (90%). While pairing talented students with outside mentors (80%) was acknowledged, it was reportedly rarely practiced in local schools.
- *Creativity.* As shown in Table 4, participants regarded creativity in schoolwork (85%) as a hallmark of giftedness. Students' creativity was personally observed by the teacher (86.3%) in class. Creativity featured in the teachers' check list of attributes of giftedness in a child (87.5%). In addition, the participants maintained that gifted children's creativity could be advanced through project work (95%) geared at finding solutions to some community problems (82.6%).
- *Is Giftedness Genetic?* Table 4 revealed that teachers believed that giftedness is genetic (or innate) ability (72.5%) basing on their personal observations (86.3%) of family trends among students. Teachers relied on classroom tests and examination grades (83.8%) to identify students who always scored high marks and earned top grades (77.5%). Participants maintained that gifted and talented students could sail through or excel without putting in much effort (80%). A repeat question in guise to check the above assertion that gifted students don't need to work hard/can sail through without putting in much effort was consistently supported (77.5%).
- *Accelerative provision.* Table 4 shows that the acceleration provision for educating rapid learners was acknowledged as follows: special class (72%), grade-skipping option (66.3%) and advanced grade placement (50%). Meanwhile, students deserving acceleration were identified in class through personal observation (86.3%) and comparisons using classroom tests (83.8%).



While teachers maintained that gifted students could sail through without putting in much effort (80%) and that they don't need to work hard (77.5%), they also confirmed that the acceleration of gifted students was not common practice in local schools.

- *Multidimensional identification approach.* The multidimensional approach (i.e., employment of different methods in assessing and ascertaining students' giftedness and talent) was not well acknowledged (58.8%). Table 4 shows multidimensional identification options were limited to; a) psychological testing (by qualified personnel), 75%, b) peer nomination (57.5%) and c) parental nomination (55%). Meanwhile, responses on multidimensional identification approach reflected high percentage of disagrees, missing and neutral responses.

In further analysis, the Kruskal-Wallis Test was applied to check the possible association between teachers' responses and independent variables using the *Chi-Square*. The *null hypothesis (ho)* that there is no significant relationship between teachers' independent variables (e.g., gender etc.) and teachers' perceptions of giftedness among children was tested.

**TABLE IV. Summary of Themes Acknowledged in Gifted Education**

Themes	Responses
<b>Motivation</b> (95%)	Show intense interest in some subjects..... (95%) Research projects in their areas interest.....(95%) Checklist of attributes of giftedness.....(87.5%) Teacher/personal observation.....(86%)
<b>Ability grouping</b> (94.6%)	Giving more challenging work to fast.....(93.8%) Giving more/ or extra work to early finishers... (90%) Curriculum differentiation..... (90%) Comparison by classroom test & grades.....(83.8%) Always score high marks in tests & exams...(77.5%) Psychological/intelligence testing..... (75%)
<b>Enrichment</b> (93.8%)	Research projects in areas of interest..... (95%) More challenging work to fast.....(93.8%) Giving more/ or extra work to early finisher.... (90%) Checklist of attributes of giftedness..... (87.5%) Portfolio assessment..... (83.8%) Comparison by classroom test & grades..... (83.8%) Pairing students with field mentors.....(80%)
<b>Creativity</b> (85%)	Research projects in their areas.....(95%) Checklist of attributes of giftedness..... (87.5%) Teacher/ personal observation..... (86.3%) Show creativity in schoolwork..... (85%) Solving community's problems..... (82.6%)
<b>Genetic giftedness</b> (72.5%)	Teacher /personal observation..... (86.3%) Comparison by classroom tests & grades.....(83.8%) Sail/excel without putting much effort..... (80%) Always score high marks in tests & exams.....(77.5%) Don't need to work hard, can sail.....(77.5%)
<b>Acceleration</b> (66.3%)	Comparison by classroom test & grades.....(83.8%) Sail/excel without putting much effort..... (80%) Always score high marks in tests & exams.....(77.5%) Psychological/intelligence testing..... (75%) Special class placement in math & lang..... (72.5%) Grade-skipping.....(66.3%) Acceleration (adv. grade placement)..... (50%)
<b>Multidimensional identification approach</b> (58.8%)	Psychological/intelligence testing..... (75%) Peer nomination.....(57.5%) Parental nomination/Informed by parents.....(55%)



### B. The results of Kruskal Wallis Test Analysis

The Kruskal-Wallis Test analysis confirmed the *null* hypothesis (*h<sub>0</sub>*) that there is no significant relationship between teachers' responses and independent variables in all items except in the nine items outlined below.

**TABLE V. KRUSKAL WALLIS TEST RESULTS: ASSOCIATION BY TEACHING EXPERIENCE - QUESTION: 9 AND QUESTION 19**

Experience	Q 9		Q 19	
	N	Mean Rank	N	Mean Rank
Missing	1	16.50	1	12
1 to 5	1	16.50	1	12.00
6 to 10	48	46.58	48	46.64
11 to 15	13	29.96	13	36.77
16 to 20	10	28.20	10	27.00
21 and more	7	42.79	7	32.79
Total	80		80	

(Q 9) *Kruskal Wallis* = *Chi Square* = 12.185 *df* = 5 *p-value* = 0.032 < 0.05

(Q 19) *Kruskal Wallis* = *Chi Square* = 12.431 *df* = 5 *p-value* = 0.029 < 0.05

**TABLE VI. KRUSKAL WALLIS TEST RESULTS: ASSOCIATION BY SUBJECT - QUESTION: 1, 7, 16 AND 25**

Subject	Q 1		Q 7		Q 16		Q 25	
	N	Mean Rank	N	Mean Rank	N	Mean Rank	N	Mean Rank
Missing	2	28.00	2	33.25	2	11.75	2	53.50
Arabic	11	37.09	11	28.14	11	37.68	11	39.23
English	13	38.73	13	30.73	13	54.42	13	31.88
Islamic	1	43.50	1	57.00	1	22.00	1	66.50
Science	4	51.25	4	47.13	4	25.50	4	22.13
Physical Education	10	28.00	10	49.70	10	49.75	10	56.55
Vocational	2	59.00	2	53.00	2	39.25	2	66.50
Social science	11	32.73	11	36.00	11	36.18	11	33.32
Math	2	54.75	2	57.00	2	39.25	2	47.75
Computer	2	28.00	2	73.00	2	67.75	2	29.00
Commerce	9	33.17	9	30.50	9	33.50	9	41.50
Class teacher	7	57.57	7	49.00	7	44.93	7	34.36
Other	6	66.50	6	57.00	6	27.75	6	49.92
Total	80		80		80		80	

(Q 1) *Kruskal Wallis* = *Chi Square* = 23.34 *df* = 12 *p-value* = 0.021 < 0.05

(Q 7) *Kruskal Wallis* = *Chi Square* = 21.154 *df* = 12 *p-value* = 0.048 < 0.05

(Q 16) *Kruskal Wallis* = *Chi Square* = 21.41 *df* = 12 *p-value* = 0.019 < 0.05

(Q 25) *Kruskal Wallis* = *Chi Square* = 24.254 *df* = 12 *p-value* = 0.045 < 0.05

**TABLE VII. KRUSKAL WALLIS TEST RESULTS: ASSOCIATION BY TEACHER'S QUALIFICATION - QUESTION: 16**

Q 16	Qualification	N	Mean Rank
	Missing	2	39.25
	Diploma	1	56.50
	Bachelor	60	41.09
	PGDE	13	29.04
	Post Graduate	4	65.50
	Total	80	39.25

(Q 16) *Kruskal Wallis* = *Chi Square* = 10.001 *df* = 4 *p-value* = 0.04 < 0.05

**TABLE VIII. KRUSKAL WALLIS TEST RESULTS: ASSOCIATION BY TEACHING CYCLE - QUESTION: 18**

Cycle	Q 18		Q 21	
	N	Mean Rank	N	Mean Rank
Missing	2	11.00	2	18.50
Primary Cycle 1	12	46.96	12	52.17
Primary Cycle 2	22	34.93	22	45.18
Intermediate	20	48.72	20	34.10
Secondary	24	37.98	24	37.54
Total	80		80	

(Q 18) *Kruskal Wallis* = *Chi Square* = 3.837 *df* = 4 *p-value* = 0.043 < 0.05

(Q 21) *Kruskal Wallis* = *Chi Square* = 9.392 *df* = 4 *p-value* = 0.052 < 0.05



## 6. DISCUSSION

This study was conducted to explore teachers' perceptions of giftedness and talent among children in Bahraini primary schools. The study employed a questionnaire that sought answers to the following three questions: What do teachers consider to be indicators of giftedness and talent among children in primary schools? How do teachers identify children presumed to be gifted and talented in their schools? How do teachers instruct children presumed to be gifted and talented in their schools? The strength and direction of teachers' perceptions of giftedness were gauged by a consensus of their responses to the questionnaire. In addition, the study tested a *null* hypothesis that there is no association between independent variables (such as gender) and teachers' perceptions of giftedness and talent among children in primary schools.

As revealed in this study, where participants seemed to be unfamiliar with the discourse/concept asked, or where they seemed to lack confidence in their responses, neutral responses were reflected in higher percentages than in their other responses. Further, consensus was doubtful where neutral cases either outnumbered Disagree cases or when both Disagree and Neutral cases were significantly high (at least <10% each).

According to the analysis of teachers' responses in this study, teachers identified the following attributes as the key hallmarks of giftedness they observed among children in primary schools: motivation, creativity or ability to solve problems, excelling with minimum effort, quickness to grasp and excellence in class. As revealed by teachers' responses in the study, a gifted child is one who demonstrates exceptional motivation and creativity, grasps concepts or masters skills quickly and excels in tests and examinations with minimum effort. The attributes of giftedness thus revealed by Bahraini teachers are consistent with the findings in other studies (e.g., Coleman & Gallagher, 1992; Ngara, 2002). In these studies teachers' perceptions of giftedness among children focused mostly on scholastic excellence. However, despite the criticisms leveled against the limitations of teachers' perceptions of giftedness (e.g., Speirs Neumeister et al., 2007), the attributes of giftedness identified by teachers in this study are consistent with Renzulli's (1978, 1986) Three Ring definition of giftedness. Renzulli's Triad model definition of giftedness proposes that giftedness is an interaction of three basic traits, that is, above average ability (capacity to excel with minimum effort), high levels of task commitment (motivation), and high levels of creativity (creativity or ability to solve problems). On that score, teachers sampled in this study showed that they basically understood the rudiments of giftedness and talent among students.

This study revealed that teachers relied on anecdotal observation and comparisons of students through classroom testing to identify gifted and talented students in their schools. In this context, non-academic domains of giftedness were only acknowledged by a few teachers. To the contrary, in Guskin, Peng and Majdi-Jabbari's (1998) study, both experienced and prospective teachers conceptualised giftedness as multidimensional corroborating Gardner's (1983, 1993, 1999) theory of multiple intelligences. This study also showed that teachers sampled tended to over rely on ability group teaching and some limited forms of enrichment provision to educate gifted students in their schools. According to the teachers, they enriched gifted students' learning by giving extra or more challenging work to rapid learners in their classes. In addition, brightest students were assigned projects to develop their interests and enable them to express their creativity. Although the teachers were familiar with the accelerative provision option, they only acknowledged the grade-skipping option that was also used rarely in a few exceptional cases of brilliant students as the standard procedure for educating the brightest students. On analyzing what was consistent across the teachers' responses to the study's major questions, the study revealed the following themes presented here by order of consensus strength: motivation, ability grouping, enrichment, creativity, genetic ability, acceleration and multidimensional identification. The multidimensional identification approach, despite receiving the least acknowledgement among the teachers sampled, is recommended elsewhere in research for improving the identification of gifted and talented students in schools (e.g., Ambrose & Machek, 2014; Ford & Grantham, 2003).

In further analysis of data using the Kruskal Wallis *Chi-Square* Test to check the *null* hypothesis that there is no relationship between teachers' perceptions of giftedness and independent variables (gender, teaching qualification, teaching experience, teaching cycle, and subject taught), the study revealed some intriguing results. Of the 30 items included in the study, only nine items showed significant associations between independent variables and teachers' responses. Significant associations noted in this study were rather few and inconsistent (i.e. Teaching Experience: 2, Subject Taught: 4, Teacher's Qualification: 1, and Teaching Cycle: 2). Most significant associations noted were by subject taught. That might mean that teachers of different subjects may view giftedness and talent in children in different ways. Consistent with the findings in Ngara's (2002) study that used a similar instrument, gender showed no relationship with teachers' responses. Also consistent with Ngara's (2002) study, the study confirmed that both teachers' qualification and experience appeared to have some influence on teachers' understanding of giftedness and talent among students. This might mean that teachers who are better trained and/or more experienced show a better



understanding of giftedness and talent among students. This study also noted the most significant associations between teaching cycle and teachers' responses. This might imply that teaching at different cycles influences how teachers understand and develop children's gifts and talents in schools.

It was beyond this study's scope to pursue the degree to which the independent variables influenced teachers' understanding of giftedness and talent among children in schools. It was also beyond this study's scope to determine how each teaching cycle and subject area influenced teachers' perceptions of giftedness and talent among students. Besides, the sample used in the study was not large enough to make conclusive statements about the associations established. Hence, these results need to be regarded with caution.

## 7. CONCLUSIONS AND IMPLICATIONS OF THE STUDY

As an exploratory study, this study revealed some important insights on how the Bahraini teachers sampled understand and develop students' giftedness and talent in their schools. Consistent with findings in other studies (e.g., Ngara, 2002, Guskin et. al, 1998), the Bahraini teachers tended to rely heavily on classroom testing and anecdotal observations to identify gifted students in their schools. Despite their awareness that giftedness and talent emerge across domains, the study showed that teachers sampled basically considered giftedness as academic excellence. Consistent with the traditional mystery model of giftedness that "gifted children are special, superior to others in an innate, categorical and global way" (e.g., Matthews & Folsom, 2009, p.18), teachers sampled asserted that gifted students could sail through their learning programs with little or no effort at all. In this context, Claxton and Meadows (2009) challenged the innate ability attributions as contributing to student neglect by some teachers who believe that if a child does not have it (giftedness), then nothing else can be done about the child. In this context, alternative thinking in research advocates shifting the paradigm from the mystery model of testing and labeling students as gifted or not gifted to emphasizing improving all children's learning conditions so that students with potential for giftedness and talent can show it (e.g., Balchin, Hymer, & Matthews, 2009; Barab & Plucker, 2002; Porath, 2014).

While the acceleration provision was not well acknowledged and the teachers showed a limited knowledge of acceleration options, Colangelo, Assouline and Gross (2004) insisted that, "The way to promote excellence is to help it advance" (p.3). According to Colangelo et al., acceleration is the major programming option for highly able students. Hence, teachers in this study showed significant gaps in understanding current theory and practice in teaching high able students in local schools. The teachers also included some common stereotypes and myths in their understanding of the construct of giftedness (e.g., gifted children always obtain

excellent grades; they can sail through with little or no effort). In addition, the low response consensus noted in certain items on identification strategies and programming for gifted and talented students seems to suggest lack of familiarity with the discourse of gifted education. Who can blame the teachers? Colangelo et al. (2004) observed that teacher candidates are usually not offered comprehensive training on gifted programming at college. Training may occur after graduation through in-service and/or graduate courses. As significant associations were noted between teachers' responses and teaching qualification and also between teachers' responses and teaching experience in this study, there is hope that with properly organized and well-coordinated in-service training on educating highly able students, the gap in teachers' knowledge about theory and practice in gifted programming may be filled.

In light of the findings in this study, the researchers recommend a more comprehensive needs-based approach to in-service training of teachers on educating highly able students. There is the need to organize well structured, properly coordinated and well remunerated staff development courses focused on developing serving teachers' understanding of theory and practice in gifted education. There is a need to enlist the services of qualified consultants to advise both the MOE and Bahrain Teachers' College on improving teachers' knowledge of theory and practice in gifted education. This exploratory study can be useful in revealing some of the training needs of serving teachers in the pedagogy of giftedness. In addition, the researchers recommend close collaboration between Bahrain Teachers College and the MOE focused on introducing high ability studies in the preparation of pre-service teachers in Bahrain.

This study confirmed the assumptions that teachers' perceptions of giftedness are consistent with the strategies they adopt to identify and encourage the development of students' giftedness and talent in primary schools. Hence, teachers' perceptions of giftedness and talent cannot be overlooked both in identifying and educating highly able students in primary schools. While the results of this study are insightful and informative, its findings are not conclusive. There is a need for a follow up study to confirm these findings using a larger sample of teachers drawn across the kingdom of Bahrain.

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### Appendix 1: The Questionnaire

#### Teachers' Perceptions of Giftedness and Talent among Students in Bahraini Schools

**Demographic Details: Check the appropriate box with a tick  $\checkmark$**

1) **Gender:** Male  Female

2) **Teaching Experience:**

1-5 yrs.	6-10 yrs.	11-15 yrs.	16-20yrs	21yrs+
<input type="checkbox"/>				

3) **Qualifications**

Dip. Ed.	B. Ed./BA/B. Sc.	PGDE	M.Ed./MA/M. Sc.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4) **Subject**

Subject	
<input type="checkbox"/>	Arabic
<input type="checkbox"/>	English
<input type="checkbox"/>	Islamic
<input type="checkbox"/>	Science
<input type="checkbox"/>	Physical Education
<input type="checkbox"/>	Vocational
<input type="checkbox"/>	Social science
<input type="checkbox"/>	Math
<input type="checkbox"/>	Computer
<input type="checkbox"/>	Commerce
<input type="checkbox"/>	Class teacher

5) **Teaching Cycle**

Cycle	
<input type="checkbox"/>	Primary Cycle 1
<input type="checkbox"/>	Primary Cycle 2
<input type="checkbox"/>	Intermediate
<input type="checkbox"/>	Secondary

#### Instructions to the Respondents

Please answer all the questions in the three sections of the questionnaire in the order they are asked without first trying to read ahead. These questions seek information on your understanding of gifted and talented students and how you provide for their learning needs in your school.

#### Section 1: Attributes/Characteristics of Giftedness

1. As a teacher, you have encountered/ or taught children whom you believed to be gifted and talented. From your experience, briefly explain why you thought that those children were gifted?

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Below, you are provided with a scale from **Strongly Agree**, **Agree**, **Neutral**, **Disagree** and **Strongly Disagree**; please check the appropriate box for each statement based on what you know about the characteristics of gifted students you have taught in your school.



Characteristics of Gifted children_____		SA	A	N	D	AD
1	always score high in tests and examination					
2	excel in academic/intellectual subjects (math, languages, science and content?)					
3	do not need to work hard, can easily sail through with little effort					
4	are quick to grasp concepts/finish class assignments?					
5	excel in nonacademic areas such as sports, drama, art, music					
6	show intense interest in some subjects					
7	excel in both academic and nonacademic areas					
8	can excel without putting effort					
9	are born with the inherent/ innate /- have natural exceptional abilities gifts					
10	do not need special modifications of school curriculum					
11	show creativity in their school work					

Would you like to know more about the characteristics of giftedness and talented students?

Yes  No

### Section 2: Identification of Gifted and Talented and Talented Students

Briefly explain how you and/ or your school identify students with giftedness?

#### Identification Methods

Gifted Students can be identified by___		SA	A	N	D	SD
12	comparison through classroom tests and examination grades					
13	checklists of gifted characteristics/ or attributes of giftedness					
14	peer nomination (informed by other students)					
15	parental nomination/Informed by parents					
16	amassing portfolios of students' work i.e. putting together the student's work					
17	personal observation (Specify what you observe & how)					
18	assessing the level of motivation, hard work and perseverance					



19	self-nomination i.e. a student tells you of his/her giftedness or learning needs requiring special programs					
20	parental nomination/ Parents inform you that their child is gifted					
21	psychological testing by qualified personnel (e.g. school psychologist)					
22	a combination of methods/ multidimensional methods- Name any four of those methods below:-					
	a----- b----- c----- d-----					

Would you like to know more about how to identify gifted and talented students in your class?

Yes  No

**Section 3: Programming for Gifted Students**

Briefly describe how you/ and or your school provide for the learning needs of children you believe to be gifted in your class or school.

-----  
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Gifted students' learning needs are provided for ____	SA	A	N	D	SD
23. By giving them more/or extra work					
24. By acceleration. <u>List types of acceleration programs here</u>					
25. Through advanced grade placement: <u>Explain how-</u>					
26. Through curriculum differentiation Explain how-					
27. By giving more challenging work to early finishers/fast students					
28. Through research projects in their areas of strength					
29. Through enrichment programs that develop skills, attitudes and interests: Name the programs e.g.					
30. Through special class placement in math, science and language and regular classroom placement for all other subjects					
31. By involving students in solving their community's problems					
32. By pairing students with mentors to develop high skills in their areas of interest					
33. Through ability grouping					

Would you like to know more about how to instruct giftedness and talented students at your school?

Yes  No

**The End! Thank you for your cooperation and contribution in this study.**

*Shokran*

