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Investigating Teachers' Perspectives of Gifted Students with Specific Learning Disabilities in Saudi Arabia

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INVESTIGATING TEACHERS' PERSPECTIVES OF GIFTED STUDENTS WITH SPECIFIC LEARNING DISABILITIES IN SAUDI ARABIA

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By

Mohamed Aladsani

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ABSTRACT

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December 2020

Dissertation supervised by Ann Huang, Ph.D., Associate Professor

The educational system in Saudi Arabia has been developing since the establishment of the Directorate of Knowledge (currently the Ministry of Education) in 1925. Although the teacher preparation programs in Saudi Arabia have been developed under the Ministry of Education, general education teacher preparation programs in the country do not require teacher candidates to take any special education courses as part of their general education training (Aldabas, 2015). Thus, general education teachers are often not prepared to teach in inclusive settings, which commonly include diverse students such as gifted students, students with specific learning disabilities (SLD), and gifted students with SLD. The purpose of this study was to examine teachers' perspectives of gifted students with SLD in Saudi Arabia. Specifically, this study aimed at examining the relationships between teachers' perspectives and background factors, including years of teaching experience and gender, that might affect the teachers' perspectives. In addition, it investigated the teachers' perspectives about the existence,

identification, and education of gifted students with SLD in different regions in Saudi Arabia. This study used statistical analysis of quantitative data collected from an online survey that was adopted and modified specifically for this study. The study participants included 936 teachers with various backgrounds working in different grade levels in schools in Saudi Arabia. The results of this study indicated that teachers in Saudi Arabia, in general, had positive perspectives regarding the existence, identification, and education of gifted students with SLD. They also revealed that there were no significant differences among teachers' perspectives in Saudi Arabia based on their years of teaching experience nor gender. It was notable that the majority of participants were general education teachers, and around 59% were female. The mean age of the respondents was approximately 31 years old, which could mean 7-9 years of teaching experience. About 50% of participants have not taught students with SLD and about 41% have not taught gifted students. The results of this study should provide a better understanding of teachers' perspectives about gifted students with SLD in Saudi Arabia, which may lead to more attention to their unique needs and create more supportive learning environments in the future.

DEDICATION

This work is dedicated to

My father Sami and my mother Ibtisam

My beloved and soulmate, my wife Maryam

My beautiful children, Mayar and Abdullah

For their unfailing love, support, and prayers throughout the journey of this accomplishment.

I also want to dedicate this dissertation to all individuals with special needs, educators, faculty members, and other stakeholders who work in the field of Special Education.

May God bless you all

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Chapter One

INTRODUCTION

"We're different! We're smart, yet we have some areas that we're not so good at and that's why it's called 'twice-exceptional' because you have two things going on at the same time. You're smart, yet you're a little below average. It's hard to explain". C. N. (a gifted high school student with Specific Learning Disabilities) (Nielsen, 2002)

Overview

In Saudi Arabia, there is no recognized category in Special Education for twice-exceptional students, specifically, gifted students with Specific Learning Disabilities (or SLD; Alsamiri, 2016). As a result, traditional educational pedagogy may not be able to meet the needs of this population. Moreover, it is important to examine teachers' perspectives of this population as this should allow educators, stakeholders, and policymakers to discuss and address issues related to this underserved and often ignored population that does not receive an adequate and appropriate education. Thus, opening the scientific research doors regarding this cohort is essential.

This dissertation aims at examining teachers' perspectives of gifted students with SLD in Saudi Arabia. This chapter includes a general description of gifted students with SLD, a brief review of relevant literature, and an overview of the system of education in Saudi Arabia, followed by an introduction to the current status of gifted and special education in Saudi Arabia. The purpose and significance of this study as well as the research questions were presented at the end of this chapter.

The Education in Saudi Arabia

Education in Saudi Arabia is free to everyone across all educational levels as follows: kindergarten, elementary, intermediate (middle school), secondary (high school), university, and

postgraduate (Al-Kahtani, 2015). All educational institutions, from pre-school until post-graduate, including public and private educational institutions, must adhere to all standards and regulations set forth by the Ministry of Education (Saudi Arabian Cultural Mission in the U.S.A., 1991). However, these educational institutions have the flexibility to determine which language (English and/or Arabic) to be used for instruction. Boys and girls have been separated at all educational levels since the establishment of the educational system in Saudi Arabia since 1925 (Alamri, 2011; Alquraini, 2013). According to Alsamiri (2016), the educational system in Saudi Arabia, in general, is essentially based on rote learning and memorization.

Special Education in Saudi Arabia

Overall, 7.1% of Saudis are categorized as having a disability (General Authority for Statistics, 2019), including not only SLD, but also other disabilities such as autism spectrum disorder and hearing impairment. Based on a recent Saudi national statistics report in 2017, 1,445,723 Saudis (52% male and 48% female) were categorized as having a disability (General Authority for Statistics, 2019).

In regard to the special education system in Saudi Arabia, the Regulations of Special Education Programs and Institutes (RSEPI), which was introduced by the Ministry of Education in 2001, classified disabilities in Saudi Arabia into 10 categories: Cognitive Disability, Learning Disabilities, Autism, Multiple Disabilities, Deafness, Blindness, Gifted, Physical and Health Disabilities, Emotional Disorders, and Communication Disorders (Alquraini, 2013). The attempt to educate students with blindness and deafness in Saudi Arabia in 1958 could be considered as the beginning of Special Education services for individuals with disabilities. Four years later, the Department of Special Learning was established in 1962, in order to offer appropriate educational services to students with the following three disability categories: Blindness, Deafness, and Intellectual Disability (which was called Mental Retardation back then, Afeafe,

2000). Alquraini (2013) reported that the launch of inclusive educational practices involving students with mild disabilities in general education classrooms with other typically developing students started in the city of Alhofouf in 1984 (Al-Mousa et al., 2006).

Since 1995, the field of special education in Saudi Arabia has been progressively improving along with inclusive education (Al-Mousa, 2010; Battal, 2016). Furthermore, Saudi Arabia has been striving to create a homogenous Muslim society in which all belong, including individuals with disabilities in the educational environment (Alanazi, 2012). Students with special needs, including gifted students and students with SLD, receive their education mainly in inclusive classrooms.

Gifted Students with Specific Learning Disabilities

The terms "giftedness" and "Specific Learning Disabilities" are extensively defined and discussed in the Western literature. However, in many circumstances, the two exceptionalities can co-occur, a condition which has been called "twice-exceptional" or "dual-exceptional" (Sumida, 2013), though many educators are unaware of this concept. Researchers have strived to gain educators' attention to the uniqueness and special needs of gifted students with SLD since the 1970s (Nielsen, 2002). Thus, the official beginning of the research on this topic began in the United States after a recommendation at the Johns Hopkins University colloquium in 1981 (Fox & Brody, 1983). However, there is still no unified global definition for gifted students with SLD (Alsamiri, 2016), although extensive research on gifted students with SLD has been conducted in the Western countries (Fox & Brody, 1983; Brody & Mills, 1997; Trail, 2010; Foley-Nicpon, 2013; Chimhenga, 2016; Mayes, 2016; Lovett & Sparks, 2011; Wormald, 2015). Due to the conditions of both exceptionalities, Bailey and Rose (2011) stated that it was difficult to define this population.

Buică-Belciu and Popovici (2014) considered gifted students with SLD, or those often described as twice (or dual) exceptional, as a heterogeneous group of children, whereas Wang and Neihart (2015[a]) considered them a distinctive population. This group of students demonstrates many gifted characteristics and behaviors; simultaneously, they have one or more deficits in academic, social, physical, or psychological domains, such as SLD and Emotional Disorders (Nielson & Higgins, 1992; Silverman, 2009[a]). As indicated in relevant studies, twice-exceptional students are frequently at risk of academic underachievement (Robinson, 1999). Brody and Mills (1997) stated:

> Although students whose strengths and weaknesses are in unrelated areas might be gifted and have a learning disability, it is students whose talents and disabilities overlap and are both in academic areas who are most likely to be misunderstood, underserved, and in need of special services. (p.5)

Furthermore, the characteristics of twice-exceptional students contributed to their feelings regarding many academic, social, and psychological issues (Barber & Mueller, 2011; Baum et al., 2001; Cooper et al., 2004; Dole, 2001; Kuder, 2009; Moon & Reis, 2004; Reis et al., 1997). For example, such psychological issues may include low-academic self-concept, depression or anxiety, and behavioral problems. Besides, other students tend to reject, tease, and exclude their gifted peers with SLD (Zeidner et al., 2005). This might explain why Fletcher et al. (2005) stated that twice-exceptional students exhibit more emotional issues than expected.

Researchers (Baum, 1994; Baum et al., 1991; Fox et al., 1983; Landrum,1989; Starnes et al., 1988) have identified three subcategories of students with twice-exceptionality: 1.) gifted students who are considered as underachievers and their underachievement may be attributed to personality and character development problems, such as lack of motivation; 2.) gifted students with severe SLD who are diagnosed as students with SLD and their giftedness has never been

recognized, and therefore, overlooked; 3.) students whose giftedness and SLD mask each other (masked abilities and disabilities). In other words, gifted students with SLD in the third category remain unnoticed due to the masking between abilities and disabilities. Thus, students in this category are the largest unserved group (Brody & Mills, 1997). Besides, these students may never be referred to have any evaluation done due to their average performance in cognitive functioning (Volker et al., 2006). In brief, the difficulties students with SLD commonly faced include memory problems (Berninger & Abbott, 2013; Gari et al., 2015), information processing issues (Gari et al., 2015; Wormald, 2009; Wong, 2013), and inhibit the achievement of gifted students with SLD, etc. (Bull et al., 2008; Geary, 2011).

Overview of the Literature

After reviewing 20 years of research on gifted students with disabilities, including SLD, Foley-Nicpon et al. (2011) found that identifying these students is a very challenging task. Brody and Mills (1997) stated that these students are rarely identified, thus, they seldom receive necessary assistance in academics or social supports. The twice-exceptional students may be underserved for a long time before their struggles are observed (Trail, 2010). This calls for more research about twice-exceptionality to be conducted in this field.

As the research on twice-exceptionality began in the United States (Fox & Brody, 1983), it is essential to review the Western literature on gifted students with SLD and how this population was identified. In Western countries, considerable research in this area has been conducted and gifted students are usually identified as a cohort in the educational system, so are gifted students with SLD (though at a slow rate) (DeSimone & Parmar, 2006; Geake & Gross, 2008; Hosseinkhanzadeh et al., 2013; Lassig, 2003; McCoach & Siegle, 2007). Brody and Mills (1997) explicitly pointed out that there is still no unified definition of giftedness or SLD. Thus, the implications of the students' comorbid conditions have not been sufficiently studied.

In regard to the Saudi literature, there are limited studies on gifted education (Aljughaiman & Grigorenko, 2013), and studies on gifted students with SLD are even fewer. To better understand the complexity these students experience, Al Hajeri (2015) suggested that giftedness and SLD should be defined separately. To identify gifted students with SLD, Brody and Mills (1997) defined three criteria: "(a) evidence of an outstanding talent or ability, (b) evidence of a discrepancy between expected and actual achievement, and (c) evidence of a processing deficit" (p. 285).

To receive appropriate educational services, Gilman et al. (2013) recommended that twice-exceptional learners should be properly identified first. The process of identifying these students would be varied as there is no one-size-fits-all method. Furthermore, Al-Hroub (2011) stated that the failure to meet the eligibility requirements for either gifted programs or special education services is the main challenge in identifying these students. Reis et al. (2014) stated that whether students with twice-exceptionalities are identified or not, often times they fail to receive any services for both being gifted and their learning isabilities at the same time. In regards to giftedness, for example, the development of talent, according to many researchers in this field, is considerred most critical when educating students with twice-exceptionalities (Baum & Owen, 2004; Hallowell, 2005; McCoach et al., 2001; Neihart, 2008; Nielsen, 2002). Thus, researchers in this field confirmed that access to enrichment activities in the students' areas of interests and strengths is vital. Besides, students who are twice-exceptional also need special education services to address their special needs (Reis et al., 2014). In addition to the lack of appropiate identification for these students, another issue that needs to be addressed is that in which setting (inclusive setting, special education setting, or gifted education setting) services or supports should be delivered to these students and how it should be provided?

Significance of the Study

Although gifted students with SLD have drawn increasing research attention in Saudi Arabia (Alsamiri, 2016), Alfurayh (2016) pointed out that little research has been conducted to examine underachievement among these students. According to Alkhunaini (2013), the literature on gifted students, students with SLD, and gifted students with SLD in Saudi Arabia shows that this topic has not yet been carefully examined. In addition, the literature on teachers' perspectives about gifted students in general and gifted students with SLD is limited. The Cambridge online dictionary defines perspective as "a particular attitude toward or way of regarding something; a point of view" (Perspective, n.d, Noun section). Therefore, in this study, the terms perspectives, attitudes, and perceptions have been used interchangeably (see Appendix G).

Teachers are responsible for identifying their students' strengths and weaknesses (Almakhalid, 2012). Research showed that teachers are the main persons responsible for identifying gifted students (Aljuwaiber, 2013; Al Qarni, 2010). Moreover, teachers' attitudes affect teaching strategies for gifted students (McCoach & Siegle, 2007). Based on Gagné's (2015) model, teachers, peers, and mentors are considered environmental catalysts. Because of this, the teachers' perspectives about gifted students are variables that might impact the identification of those students. Thus, examining the variables associated with teachers' perspectives on the existence, identification, and education of gifted students with SLD in Saudi Arabia is critically important.

Although few studies on gifted students with SLD have been conducted in Saudi Arabia (Abd-elreheem, 2012; Alkhunaini, 2013), there is not a single study that was done to investigate primary, middle, and high school teachers' perspectives about gifted students with SLD. For example, Alsamiri (2016) conducted a study on Saudi primary school teachers' perspectives of

identification and support services for gifted primary school students with SLD. A total of 410 primary school teachers from three cities (Al- Madinah, Jeddah, and Hail) completed a survey and 29 teachers were interviewed. The findings of this study revealed that teachers in general had positive attitudes towards gifted students with SLD. However, there is a need to expand the research on teachers' perspectives about gifted students with SLD in Saudi Arabia.

Rationale of the Current Study

Compared to previous relevant studies (for example, Alsamiri's study, 2016), the current study expanded the target population to include not only primary school, but also middle and high school (general and special education) teachers from public and private schools in Saudi Arabia. Since there is not a single study that was conducted to investigate middle and high school teachers' perspectives about gifted students with SLD in Saudi Arabia, this study was critically important to understand the variables associated with the teachers' perspectives about gifted students with SLD. Teachers who are specialized in SLD teach mostly in primary schools in Saudi Arabia (S. Alosaimi, personal communication, February 5, 2020). In other words, currently there are limited special education services provided to students with SLD in middle and high schools (S. Alosaimi, personal communication, February 5, 2020), although several laws and regulations, including the Legislation of Disability, the Provision Code for Persons with Disabilities (2001), RSEPI (2001), and the Disability Law (2000), safeguard the rights of all individuals with special needs, including gifted students and students with SLD, to receive free and appropriate educational services. This study included teacher participants from all five regions of Saudi Arabia (Central, Eastern, Western, Northern, and Southern) to represent the whole teacher population across the country. On the other hand, Alsamiri (2016)'s study only collected data from three cities and focused only on Saudi's primary school teachers, which limited the generalizability of the findings to the whole country.

As mentioned earlier, the purpose of this study was to explore the teachers' perspectives concerning the existence, identification, and education of gifted students with SLD in Saudi Arabia. Almakhalid (2012) stated that "all teachers must be able to identify strengths of different learners while addressing their weaknesses" (p. 74). Due to the limited studies in gifted students with SLD in Saudi Arabia, there is a lack of information regarding whether teachers are competent in meeting the needs of gifted students with SLD within the current educational environments. Thus, the study examined the teachers' perspectives about this population of students in Saudi Arabia.

It was anticipated that this study will support and enhance the education of gifted students with SLD in Saudi Arabia. This study may draw more research attention to the population of gifted students with SLD. Specifically, it will help teachers do a better job in identifying and serving students in need of special education services and gain a better understanding of teachers' perspectives about gifted students with SLD in Saudi Arabia.

According to Almakhalid (2012), all teachers need knowledge on how to work with students with SLD. However, the educational system in Saudi Arabia may not be able to meet the needs of gifted students with SLD yet. This is due to many reasons. As an example, the current educational system lacks official recognition of these students and lack of training in teacher candidates on how to meet these students' educational needs. Thus, investigating variables associated with teachers' perspectives of the existence, identification, and education about gifted students with SLD is fundamental. Finally, and most importantly, this study may draw more research attention to gifted students with SLD in Saudi Arabia and inspire more researchers to continue to conduct more research studies in this area.

Theoretical Basis for the Study

Special education in Saudi Arabia has developed parallel to the general educational system (SACM, 2006). The standards for teacher preparation programs in Saudi Arabia for the last five decades have risen steadily (SACM, 2006). In general, teacher preparation programs in Saudi Arabia have been developed as an integral part of the educational system under the Ministry of Education. In Saudi Arabia, the minimum requirement to teach (including general and special education) at any level is a four-year bachelor's degree (SACM, 2006). However, general education teacher preparation programs in Saudi Arabia do not require students (teaching candidates) to take any special education courses as part of their general education training (Aldabas, 2015). Consequently, general education teachers are often not prepared to teach in inclusive settings, which commonly include students with disabilities and gifted students.

Due to the lack of adequate preparation, general education teachers might not be able to serve students with special needs in inclusive settings, thus gifted students with SLD may underachieve due to lack of supports. Almakhalid (2012) stated that educational environments are directly affected by teachers' attitudes towards students. For example, according to McCoach and Siegle (2007), teachers' attitudes impact teaching strategies for gifted students. Hence, teachers' training background (both pre-service and in-service) can affect their attitudes towards students with special needs. For instance, previous research demonstrates that teacher preparation is the main contributing factor that impacts teachers' attitudes towards teaching students with Autism Spectrum Disorder (Busby et al., 2012; Lambe & Bones, 2006). In other words, lack of appropriate training on how to assist students with special needs (including gifted students with SLD) in general education classrooms in Saudi Arabia may result in teachers' inability to meet their students' individual needs, and thus, impact their attitudes towards their students. In addition, both experience with and exposure to students with special needs have

important roles to play in influencing teachers' perceptions (Akiba, 2011; Brown et al., 2008; Lambe & Bones, 2006), thus teachers' attitudes towards these students may be significantly impacted.

Gagné's Differentiated Model of Giftedness and Talent

According to Alsamiri (2016), the students' underachievement may be linked to environmental catalysts, as stated in Gagné's Differentiated Model of Giftedness and Talent (DMGT). Gagné's DMGT includes environmental catalysts and the individual's chances as significant components of the individual's development (Gagné, 2011). Environmental catalysts can positively or negatively affect an individual's environment, whereas the individual's chances are the likelihood of having a family, teachers, or school that facilitate or hinder their development (Gagné, 2011). The students may underachieve even if they exhibit intelligence in creativity or imagination (França-Freitas et al., 2014). For example, if school administrators or teachers emphasize only on literacy and numeracy, students may underachieve in other subjects.

The environmental catalysts of Gagné's model include teachers, peers, and mentors (Gagné, 2015). These environmental catalysts involve enrichment in curriculum and instruction, as well as grouping and acceleration and other such administrative aspects. Considering this, examining teachers' perspectives in Saudi Arabia allows for a deeper understanding of the factors that might affect teachers' perspectives about gifted students with SLD and how to support them. In addition, this investigation may open the doors for teachers, administrators, educational decision-makers, other stakeholders, and researchers (the environmental catalysts) to know more about this underserved and often ignored student population.

In short, based on Gagné's model, understanding teachers' perspectives about gifted students with SLD as environmental factors and as individuals who may lack adequate training in aiding gifted students or gifted students with SLD, is a significantly important first step. This

exploration may draw more positive attention from all relevant stakeholders and help them understand the important roles they are playing in the student's learning. Gagné's environmental catalysts model provides a template for conceptualizing many individual aspects that affect students' learning and how some aspects can be altered, such as teachers' training, to offer a more holistically enhanced overall environment to gifted students with SLD.

Synthesis and Critical Analysis of the Literature

Teachers' perspectives about gifted students (Greene, 2003; Swanson, 2006) and students with SLD (Bearn & Smith, 1998; Oakland et al., 1990) have been examined in the literature (Bailey & Rose, 2011). There is, however, a significant need for investigating teachers' perspectives about students who experience both exceptionalities (Baum, 2004; Brody & Mills, 1997). In the literature, there are a few studies that provide noteworthy findings regarding twice-exceptional learners; however, there are limited studies that were done to examine teachers' perspectives (Bailey & Rose, 2011). For example, Bailey and Rose (2011) conducted a qualitative study to examine teachers' perspectives about gifted students with SLD by using semi-structure interview approach. The interviewers revealed that there were varying levels of understanding of gifted students with SLD among teachers. Surprisingly, special education teachers appeared to have most difficulty in working with twice-exceptional students. Bailey and Rose (2011) concluded that more attention to gifted students with SLD was needed from educational leaders including principals and school district administrators.

All over the world, due to difficulties in defining gifted students with SLD, meeting these students' educational needs in inclusive classrooms rarely occurs (Lovett & Sparks, 2011; Pepanyan et al., 2018). As a result, general education teachers face severe challenges in accurately identifying and appropriately serving gifted students with SLD (Chimhenga, 2016; Cross, 2013; McKenzie, 2010). In addition, few empirical research studies on the characteristics

and needs of this population have been conducted, thus, relatively few gifted students with SLD are identified as such or given needed services. Considering that teachers' referrals play an important role in the identification process (Renzulli, 2005), the lack of identification could be explained since teachers often tend to focus primarily on their students' learning needs in a specific area (SLD) rather than their gifted abilities (Alsamiri, 2018; Brody & Mills, 1997; Lo & Yuen, 2014; Maddocks, 2018).

In full mainstreaming schools in Saudi Arabia, for example, when general education teachers are not able to teach a specific subject (e.g., math) to students with special needs, the students are typically pulled out from the general education classrooms to special education support programs housed in regular schools, such as a resource room, itinerant teacher programs, and teacher-consultant programs (Al-Mousa, 2010). In other words, general education teachers are responsible for identifying these learners (Almakhalid, 2012). In general, schools diagnosed students with SLD based on the difference between the students' ability (mostly IQ score) and their achievement in a subject area, such as reading and math (Reschly & Hosp, 2004). The students would be considered as having a SLD if a severe discrepancy between their abilities and achievement scores are found (Kavale, 2002). According to Almakhalid (2012), teachers are responsible for identifying their students' strengths and weaknesses, therefore, they play a significant role in identifying and referring students to receive needed education (Renzulli, 2005).

In summary, gifted students with SLD are an important group in school, but not highly recognized. They have unique special educational needs (Buică-Belciu & Popovici, 2014). The primary problem is that the students' abilities (or giftedness) and disabilities could mask each other. When giftedness masks disabilities, according to Beckley (1998), these disabilities may remain unidentified until other challenging behaviors, such as disruptive behaviors, frustration,

and depression, emerge. Trail (2010) stated that "the failure of some of our most creative and brightest gifted students to develop their potential is a national tragedy" (p.viii). Therefore, to increase the probability of these students' success and decrease such challenging behaviors, teachers should strive to meet the students' educational needs.

Problem Statement

In 1994 in Salamanca, Spain, the representative mission of the Saudi Arabian government signed the United Nation Educational, Scientific, and Cultural Organization (UNESCO) Salamanca Statement, which supported Education for All (EFA). EFA is an international initiative or movement aiming to meet the educational needs of all citizens in all societies under the leadership of UNESCO. The UNESCO Salamanca Statement stated that "every child has a fundamental right to education and must be given the opportunity to achieve and maintain an acceptable level of learning [and] those with special educational needs must have access to regular schools" (UNESCO, 1994, p. viii-ix). According to Alanazi (2012), the push towards full inclusion in Saudi Arabia has been more supported after the signing of the UNESCO Salamanca Statement. The full inclusive classrooms in Saudi Arabia include students with mild disabilities, gifted students, students with SLD, and gifted students with SLD. Additionally the Ministry of Education (2002) introduced three (the Fourth, Sixth, and Seventh) out of 11 Articles of the RSEPI that specified responsibilities (such as procedures of assessment and evaluation) of professionals, including teachers, school personnel, and school district administrators, towards students who need special education services, including gifted students and students with SLD.

In Saudi Arabia, gifted education has been receiving increasing attention from various academic and non-academic institutions for the last decade. Therefore, it becomes crucial to support gifted students with SLD as they have been commonly overlooked, and frequently do not receive attention, appropriate education, and supports. Although these students are, according to

Nielsen (2002), being observed by teachers, they are considered underachievers or average learners rather than gifted students. To help better understand this issue, teachers' perspectives about gifted students with SLD must be investigated. Teachers' attitudes, experiences, and previous training received, for example, are factors that impact their perspectives on gifted students with SLD (Alsamiri, 2016).

As recommended by Brody and Mills (1997), gifted students with SLD should receive the needed intervention to achieve their full potential. The teachers' perspectives to be examined in this study provided us with some insights on relevant factors that may affect gifted students with SLD in Saudi Arabia and how to identify, assess, and appropriately teach them. In addition, the Ministry of Education in Saudi Arabia may benefit from this investigation as it could aid them in supporting these students. Hopefully policies, programs/projects may be developed for better identifying, teaching, and supporting gifted students with SLD and their teachers in Saudi Arabia in the future.

Purpose of Study

The purpose of this study was to investigate teachers' perspectives about gifted students with SLD in Saudi Arabia. The minimum target participants of this study were 200 to 400 teachers from five regions in Saudi Arabia. This study investigated multiple variables, which include years of teaching experience and the gender of the teachers (male or female). It is anticipated that these variables could reveal various perspectives about the participating teachers towards this population.

Conducting this study was important for several reasons. Firstly, teachers' perspectives about gifted primary school students with SLD in Saudi Arabia has been partially investigated in the Saudi literature. This study, however, contributed to the field of special education as there were no studies investigating teachers' perspectives with regard to gifted middle and high school

students with SLD. Secondly, this study may help improve service delivery for gifted students with SLD as guaranteed by Saudi Arabian law including Legislation of Disability (1987) the Provision Code for Persons with Disabilities (2001), RSEPI (2001), and the Disability Law (2000). Thirdly, this study provided a unique contribution to the research literature by investigating teachers' perspectives concerning the existence of gifted students with SLD, how they are identified, and in which educational environments these students should be placed. Fourthly, since the educational outcomes are fundamentally affected by educational attitudes (Gottlieb, 1975), it was important to investigate the perspectives about male and female teachers to ensure that gifted students with SLD receive appropriate academic supports in school. Finally, the findings of the study may shed some light on how to further develop special education and related services for gifted students with SLD in Saudi Arabia. As a result, this research may address the issues faced by all twice-exceptional learners, including gifted students with SLD, and provide necessary supports to meet their unique needs. Unearthing some of the variables associated with teachers' perspectives about gifted students with SLD throughout this study hopefully promote more supportive environments to help these students achieve their full potential.

Research Questions

The purpose statement of a research study was narrowed down through research questions or hypotheses (Creswell & Plano Clark, 2017). The proposed research design was quantitative in nature. Data was collected through an online survey that was used to answer the following five research questions:

RQ1: What are the perspectives of teachers in Saudi Arabia regarding the existence of gifted students with SLD?

RQ2: What are the perspectives of teachers in Saudi Arabia regarding the identification of gifted students with SLD?

RQ3: What are the perspectives of teachers in Saudi Arabia regarding the education of gifted students with SLD?

RQ4: What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience?

RQ5: What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender?

Research Hypotheses

Hypotheses, according to Creswell and Creswell (2018), are "numeric estimates of population values based on data collected from samples" (p.136). Typically, hypotheses are chosen based on the literature or previous research, which provides some indication concerning the predicted relationship between the variables (Creswell & Plano Clark, 2018). In order to test the hypotheses, researchers use statistical procedures to draw inferences from a study sample in which supposed to represents the chosen population. In this study, there were two research hypotheses:

H_0. RQ4: There is no significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience.

H_1. RQ4: There is a significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience.

H_0. RQ5: There is no significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender.

H_1. RQ5: There is a significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender.

Study Design

This study employed a quantitative research methodology to investigate teachers' perspectives about gifted students with SLD in Saudi Arabia. The quantitative approach is suitable for looking at attitudes (Shank et al., 2014). Specifically, this study used an online survey to collect information from a large number of participants in Saudi Arabia. The survey design is considered suitable to collect data on individuals' attitudes and beliefs (Cohen et al., 2007). Surveys can be used for many reasons, such as to explain, compare, and describe attitudes, behaviors, and knowledge of a sample population (Rojas & Serpa, 2005). Accordingly, the quantitative methods design was chosen as the most appropriate methodology based on the purpose and research questions of this study.

Chapter Two

LITERATURE REVIEW

Overview

Since the establishment of the educational system in Saudi Arabia in 1925, education from K-12 through post-graduate education (including graduate and undergraduate studies), is free. The higher education sector significantly contributed to the development of special education programs in Saudi Arabia (Al-Mousa, 2010). Teacher preparation programs were developed as an integral part of the educational system under the Ministry of Education. Inclusive classrooms commonly house typically developing students and students with disabilities, as well as gifted students, and have received increasing attention during the last decade. Despite this, general education teacher preparation programs in Saudi Arabia do not require students (teaching candidates) to take any special education courses as part of their educational training (Aldabas, 2015). In other words, general education teachers in Saudi Arabia are often not prepared to teach in inclusive settings. Thus, this encourages the research of their perspectives about students with special needs, including gifted students with SLD.

The primary purpose of this study was to examine teachers' perspectives in regard to the existence, identification, and education of gifted students with SLD. This chapter gives a brief review of the literature related to teachers' perspectives about gifted students with SLD. In addition, the definitions, subcategories, theoretical base, teachers' perspectives, and issues related to identification of gifted students with SLD are discussed. This chapter also presents some important information related to the education of gifted students with SLD, including general and special educational systems, inclusive education, and teacher preparation programs in Saudi Arabia.

Background Information about Saudi Arabia

Location

Saudi Arabia is located in the Arabian Peninsula in the south-west of Asia (Saudi National e-Government Portal, 2014), which occupies a strategic position at the crossroads of three continents: Asia, Africa, and Europe. Saudi Arabia is bordered from the north by Kuwait, Jordan, and Iraq, from the east by Bahrain, Qatar, the United Arab Emirates, and the Arabian Gulf, from the south by Oman and Yemen, and from the west by the Red Sea (World Factbook, 2019). Saudi Arabia, whose capital is Riyadh, is the largest country in the region with an area of about 2,150,000 square kilometers (Ministry of Culture, 2019).

Economy

Six years after the establishment of Saudi Arabia in 1938, oil was discovered; since then, the country has found vast reserves of underground oil (Alamri, 2011). On September 1960, at the Baghdad Conference, Saudi Arabia became one of the founders of the Organization of the Petroleum Exporting Countries (OPEC). Financial supports for all government ministries, including the Ministry of Education, have been significantly increased ever since (Alamri, 2011). Disabilities are considered as a crucial social and health concern in Saudi Arabia (Al-Jadid, 2013) and all costs resulting from related medical expenses and educational service are mainly funded by profits from the oil business.

In the Middle East, Saudi Arabia is considered as one of the major countries for two main reasons. Firstly, Saudi Arabia is one of the largest reservoirs of underground oil in the world; secondly, Saudi Arabia has the leading position in the Islamic world (World Factbook, 2019) because it is the native land of Islam and the home of its two most holy cities (Mecca and Medina), which attract millions of religious tourists to Saudi Arabia every year (Ministry of Culture, 2019). In 2017, for example, over 2,352,122 pilgrims visited Saudi Arabia (General

Authority for Statistics, 2019). Because Saudi Arabia is a fertile land for money making, almost 33% of all people living in Saudi Arabia are non-native Saudis.

Culture and religion

The culture of Saudi Arabia is principally dependent on Islam. Policies in Saudi Arabia are based upon Islamic law, which is called "Sharia." The Sharia constitutes an entire system that governs all aspects of the Saudis' lives, such as dignity and education (World Factbook, 2019). The fundamental sources of Sharia Law are the Holy Qur'an and the Prophetic Sunnah (Al-Ghamdi & Abd-Jawad, 2008). The official language in Saudi Arabia is Arabic, and studying Arabic is required at all educational levels, including post-graduate education, except some professional majors such as medicine and engineering that are taught in English. A few public universities in Saudi Arabia, such as King Fahd University of Petroleum and Minerals (KFUPM) and King Abdullah University of Science and Technology (KAUST), use English as the official language for teaching and administrative procedures.

Population

There are 33,413,660 people currently living in Saudi Arabia (General Authority for Statistics, 2019). More than 62% (20,768,627) of them are Saudis, with a majority (over 67%) being young people under the age of 30 years. Almost half of the population in Saudi Arabia lives in Riyadh and Makkah-AlMokarramah regions. The recent Saudi national statistics report (2017) detailed the percentages of disability prevalence among Saudis by type (with only a few types available, such as visual, hearing, and mobility difficulty), and intensity of difficulty (mild, severe, and extreme). In summary the percentage of Saudis with an official disability diagnosis in 2017 in Saudi Arabia was 7.1% of the total population, with males at a slightly higher percentage (3.7%) than females (3.4%) (General Authority for Statistics, 2019).

The Educational System in Saudi Arabia

In 1925, before the official establishment of Saudi Arabia, the Directorate of Knowledge marked the launch of the first educational system in Saudi Arabia, and this system was the cornerstone of the male educational system in the nation (Ministry of Education, 2017). The powers of the Directorate of Knowledge expanded upon the establishment of Saudi Arabia in 1932. Then, the number of schools significantly increased from four schools to 323 schools within a short time period. In 1950, the Directorate of Knowledge was expanded and became the Ministry of Knowledge, whose functions were to plan and monitor male education across all education levels (Ministry of Education, 2017). Before 1960, only males could receive education, and there was no school for females.

Since the establishment of formal educational system in Saudi Arabia, males and females have always been separated at all educational levels (Alamri, 2011). The education in Saudi Arabia is free to all school age individuals (both Saudis and non-Saudis) living in this country across all education levels. However, higher education is predominately offered to Saudis, and current students are paid stipends for attending higher education. There are public, private, and international schools in Saudi Arabia, and each of them has its own prevailing languages (either Arabic or English, or both), and all of them must adhere to all standards and regulations set forth by the Ministry of Education (Saudi Arabian Cultural Mission in the U.S.A., 1991).

There are six primary levels of public (governmental) and private (non-governmental) education: kindergarten, elementary, intermediate, secondary, university, and postgraduate (Al-Kahtani, 2015). The private schools are entitled to receive a financial contribution from the Ministry of Education, and they must follow the same standards and regulations as public schools. However, private schools can offer extracurricular activities. In addition, there are also

some international schools in Saudi Arabia whose language of instruction is English (Al-Kahtani, 2015).

In general, the educational system in Saudi Arabia, according to Alsamiri (2016), is mostly based on rote learning and memorization. However, Alessa, the former minister of education, indicated that they were planning to eliminate rote learning and memorization and to adopt new learning methods, to improve critical thinking skills (Khalejiatv, 2018). This transformation allows the Ministry of Education in Saudi Arabia to benefit and learn from the educational practices of other international educational systems. Nevertheless, the educational system in Saudi Arabia faces significant challenges compared to developed countries (Alnahdi, 2014). Many attempts have been made by the Ministry of Education to conduct core reforms, however, the focus has only been on changing the contents of the textbooks (Alnahdi, 2014).

Special education in Saudi Arabia

Since the establishment of the Ministry of Education in Saudi Arabia in 1925 and until 1958, most individuals with disabilities had not had any opportunity to receive any type of formal education (Alquraini, 2013). Some families tried to teach their children some basic academic skills, such as reading and writing. Other families sent their children to other Middle Eastern countries (such as Egypt and Jordan) for special education services, offered by special schools there (Al-Mousa, 1999).

In 1958, students with blindness and deafness in Saudi Arabia started to receive education in schools known as scientific institutes, where the Islamic curriculum was taught (Salloom, 1995). In 1962, following this initiative, the Department of Special Learning was established in order to offer an appropriate education to students with the following three disability categories: students with blindness, deafness, and intellectual disabilities (which was called mental retardation back then) (Afeafe, 2000). In 1964, three special schools for these

students were established by the Department of Special Learning in major cities across Saudi Arabia (Ministry of Education, 2008).

In 1984, as a result of continuous progress, a regular school in the city of Alhofouf located in the Eastern Province made the first informal attempt to include students with mild disabilities in a general education classroom for part of the day (Al-Mousa et al., 2006). Although this attempt fell short of the implementation of the critical components of successful inclusion for these students, Alquraini (2013) commented that it was the first introduction of inclusion practice that granted students with disabilities the right to receive education in general education classrooms with their typically developing peers.

Special education law in Saudi Arabia

The special educational programs in Saudi Arabia had received special attention from the Ministry of Education as reflected by several relevant policies and regulations (Al-Mousa, 2010). According to Marza (2002), the commencement of special education in Saudi Arabia had been initiated in the 1960s, and relevant policies and regulations were later adapted by learning from the Special Education laws and system in the United States. Tanaka (2005) stated that copying the same policies from another country whose cultural contexts are distinctly different (such as Saudi Arabia and the United States) can be challenging and may not work well. Nonetheless, Saudi Arabia has adapted Special Education laws and regulations from the U.S.A., including policies related to inclusion.

Despite the national attention towards inclusion, there was a lack of appropriate special education services for individuals with disabilities in Saudi Arabia (Alquraini, 2011; Aldabas, 2015). Establishing specific laws and regulations, Aldabas (2015) believed, can guarantee the privileges of individuals with disabilities and improve special education services in Saudi Arabia. This promotes collaboration between the special education department under the

Ministry of Education and some professionals from special education departments in universities (that are now under the Ministry of Education) in Saudi Arabia to review the special education policies in the United States, such as the Individuals with Disabilities Education Act (IDEA) 2004. Based on this collaboration, the first regulations for students with disabilities in Saudi Arabia were introduced in 2001 as the Regulations of Special Education Programs and Institutes (RSEPI) (Alquraini, 2013). To better comply with local cultural specifics in Saudi Arabia, the RSEPI was adjusted to be more appropriate (Alqraiti, 2005).

The RSEPI includes 11 Articles that present important issues (Ministry of Education, 2002). The First Article includes important definitions used in this legislation for educators such as teachers, administrators, and other service providers who should be familiar with them. The Second Article explains special education services' goals. The Third Article presents the foundations of special education in Saudi Arabia and includes a total of 28 subsections that discuss important issues such as the rights of students with disabilities. The Fourth Article explains the characteristics of 10 categories of disabilities, which are: cognitive disability, learning disabilities, autism, multiple disabilities, deafness, blindness, gifted, physical and health disability, emotional disorder, and communication disorder. Although giftedness is a category that has been included as part of this law, gifted students could be recognized as students with special needs, but they should not be recognized as students with disabilities. In addition, the Fourth Article defines the assessment procedures for each disability category. The Fifth Article describes transition services for students with disabilities. The Sixth Article details the responsibilities and tasks of professionals, including teachers, principals, and other stakeholders who work closely with students with disabilities. The Seventh Article determines the responsibilities of school districts and schools towards students with disabilities and their families. The process of eligibility for special education services, which can be determined by

specific procedures of assessment and evaluation, is described in the Eighth Article. Article Nine describes the importance, aspects, and essential considerations of the individual education plan (IEP) that should be provided each eligible student with. Further, the evaluation process for students with disabilities is explained in Article Ten. Finally, general rules for schools and school districts are explained in Article Eleven. Thus, compared to IDEA (2004) in the U.S, the RSEPI, according to Aldabas (2015), does not include information about Least Restrictive Environment (LRE), services for early interventions, and full inclusion.

However, the RSEPI was not the first regulation that safeguarded the rights of individuals with disabilities in Saudi Arabia. In 1987, the Legislation of Disability was enacted as the first legislation in order to support all individuals with disabilities in Saudi Arabia (Alquraini, 2011). All types of disabilities, assessments, and diagnosis procedures, along with prevention and intervention programs, are defined in this legislation. Additionally, to support the independence of individuals with disabilities, public agencies are obligated by the Legislation of Disability to provide training programs and rehabilitation services (Alquraini, 2011).

In addition to these legislations, the Royal Decree 244 in 11/12/2000 introduced the Provision Code for Persons with Disabilities in Saudi Arabia, which sought to safeguard the rights of individuals in all areas of life (Al-Mousa, 2010). In addition, the provision of additional support services appropriate to the special abilities and needs of persons with disabilities is included in this code (Eastern Province Association for the Disabled, 2001). Also, the Disability Law, which was established in 2000, ensured that each individual with disability could access appropriate and free rehabilitation, educational, and mental health services offered by public organizations. Under this law and through these agencies, people with disabilities have the right to access and receive special education and rehabilitation services (Alquraini, 2011, 2013). Thus,

public facilities and services should be accessible for people with special needs, as part of their rights.

Almost three decades before establishing these policies, in 1974, the government of Saudi Arabia established the Directorate General for Special Education (DGSE) that is responsible for preparing and developing special education programs in Saudi Arabia (Al-Ajmi, 2006). Following the establishment of the DGSE, many legislations and policies have been developed and applied, such as the IEPs as stated in the regulations issued by DGSE (Ministry of Education, 2002). In general, these regulations play a role in providing and advancing special education programs in Saudi Arabia. Thus, the need to provide high-quality special education services to people with disabilities in Saudi Arabia is fundamental (Aldabas, 2015).

Placement options for students with disabilities in Saudi Arabia

Between 1990 and 2000, the educational placement of students with disabilities had been gradually transformed from separate schools to special education classrooms housed in public schools (Al-Mousa, 2010). This transformation to mainstream schools was offered to some students with mild to moderate disabilities, such as students with intellectual disabilities, autism spectrum disorders, and hearing impairments. Based on the special education literature in Saudi Arabia, mainstreaming and inclusion could be considered as synonyms. In Saudi Arabia, mainstream means "educating children with special educational needs in regular education schools and providing them with special education services" (Ministry of Education, 2002, p. 8).

According to Al-Mousa (2010), decision-makers in Saudi Arabia have made intensive efforts to improve inclusive education. In 2000, the Provision Code for Persons with Disabilities was introduced as general legislation safeguarding the rights of individuals with disabilities, including free and appropriate education. In the same year, the Ministry of Education established the Document of Rules and Regulations for Special Education Institutes and Programs. This

document reaffirmed that general education classrooms were the natural environment for educating students with special educational needs (Ministry of Education, 2002).

One of the recommendations of the 3rd International Conference on Disability and Rehabilitation held in Riyadh, Saudi Arabia in 2009, was that the Ministry of Education should continue the extension of special education and gradually move towards inclusive classrooms (3rd ICDR Conclusions and Recommendations, 2009). Before the integration of the Ministry of Higher Education and Ministry of Education in 2015, Al-Mousa (2010) stated that "the higher education sector, through its colleges and universities, contributed to the rapid development of special education programs in the Kingdom" (p. 53).

Cushing et al. (2005) noted that the enhancement of legislation on inclusion is the most important issue in special education policy. It is easy to derive policy goals and objectives in special education development from the general legislation on discrimination. Merging legislation on the social aspect of life at the state and country levels is a first step in the development of policies and educational legislation that will support the inclusion of students with disabilities. This is not merely a process of eliminating discrimination in education, it is one that enhances learning competencies for children with disabilities. Inclusive education supports students with disabilities being a part of their community, and thus, also improves their social, behavioral, and learning abilities (Aldabas, 2015).

According to Al-Mousa (2010), there are two types of mainstreaming in Saudi Arabia, partial and full mainstreaming. Partial mainstreaming (or partial inclusion) means students are educated in self-contained classrooms housed in regular public schools (Al-Mousa, 2010). In addition to school facilities, students with special education needs are encouraged to be mainstreamed with their typically developing peers in some curricula and extra-curriculum activities. The partial mainstreaming programs include, but are not limited to, students who are

blind and/or deaf, students with intellectual disabilities, and students with autism. Again, these students are mostly educated in segregated special schools or self-contained classrooms in regular schools.

Full mainstreaming (or full inclusion) means providing special education support programs in regular education schools (Al-Mousa, 2010). This includes educating children with special needs in resource rooms, itinerant teacher programs, and teacher-consultant programs. In other words, students with special education needs receive their education with their typically developing peers in general education classrooms for most of the school day. Students with disabilities in full inclusion programs are required to meet general education assessment requirements with minor modifications if needed (Al-mousa, 2010; Alquraini, 2011). These students only receive special education services outside of the regular classroom only when general education teachers cannot teach certain subjects (Al-Mousa, 2010). The full mainstreaming programs include gifted students, students with various disabilities such as SLD, physical disabilities, behavioral and emotional disorders, communication problems, hard of hearing, and low vision. According to Battal (2016), inclusion is considered one of the major evolutions of special education system in Saudi Arabia. Such evolution occurred as a result of including several non-traditional categories of exceptionality, such as SLD, gifted/talented, and autism to special education programs (Battal, 2016).

Teacher preparation programs in Saudi Arabia

Teacher preparation programs in Saudi Arabia were developed as an integral part of the educational system under the Ministry of Education. The standards for teacher preparation programs during the last five decades have been rising steadily, parallel to the development of the general educational system in the country (SACM, 2006). To date, all public universities in

Saudi Arabia offer bachelor's degrees in various subjects, such as sciences and liberal arts, and some offer graduate studies.

In 1985, the first bachelor's degree in special education in Saudi Arabia was established in the College of Education at King Saud University as an independent specialization program (Battal, 2016). However, as special education degrees were not available in Saudi Arabia until 1985, general education teachers who would teach students with disabilities were required to have at least a one- to two-year training in special education in addition to a four-year bachelor's degree in education, which was available in other neighboring countries, such as Jordan or Egypt. As the Special Education program at King Saud University was one of the earliest specialization programs in the country, it prompted other universities to establish similar programs (Battal, 2016).

Currently, the minimum requirement for teaching at any level in Saudi schools is a four-year bachelor's degree (SACM, 2006). General education teachers are required to have at least a four-year bachelor's degree, in one of the following areas, such as literacy, religious subjects, linguistics, or sciences, along with education courses. However, general education teacher preparation programs in Saudi Arabia do not require students to take any special education courses as part of their training (Aldabas, 2015). This means that general education teachers are often not prepared to teach in inclusive settings, which has been highlighted in Saudi Arabia since the Saudi government has become one of the signatories to the UNESCO Salamanca Statement in 1994 (Alanazi, 2012).

According to Aldabas (2015), offering professional development opportunities to all in-service teachers that focus on inclusive education and how to communicate with students with disabilities in inclusive classrooms is highly recommended. Al-Mousa (2010) suggested that "current institutes should be transformed into training programs where specialized in-service

training courses are held for all educational personnel including teachers, educational supervisors, and administrators, and simplifying training courses for families as well" (p.47). Furthermore, the number of teacher preparation programs should be increased in universities in Saudi Arabia to produce more highly qualified teacher candidates who are competent in teaching students with disabilities. Adopting inclusion in all schools across Saudi Arabia naturally comes with challenges. Some of these challenges include parents' concerns toward inclusion, lack of accommodations and adaptation in school settings, negative societal attitudes toward persons with disabilities, and special enrollment requirements for students with disabilities to be admitted in inclusive programs (Al-Mousa, 2010).

In 2016, teacher preparation programs were suspended in all universities in Saudi Arabia. The suspended programs include subjects such as sciences, literature, special education, and religious majors. According to Ahmed Alessa, the former Minister of Education, who was interviewed on a TV show by Abdullah Almudaifer on October 22, 2018, all teacher preparation programs, including special education programs, are currently under review and will be re-opened again once a new strategy has been adopted (Khalejiatv, 2018).

In addition to the suspension of these programs, several other issues were identified regarding special education in Saudi Arabia from this interview (Khalejiatv, 2018). These issues include, but are not limited to, high unemployment rate of graduates from teacher preparation programs, unsatisfactory quality of these programs, and lack of school facilities in many regions, especially in small towns (Khalejiatv, 2018). For example, in regard to high unemployment rate of graduates from teacher preparation programs, the interviewer noted that there were thousands of graduates still waiting to be employed by the Ministry of Education (Khalejiatv, 2018). Alessa responded by saying that the Ministry of Education offered 10,000 to 15,000 positions every year to fill the vacancies left by newly retired teachers (Khalejiatv, 2018). In addition, the Saudi

Ministry of Civil Service is the main bureau responsible for establishing new positions. Alessa admitted that there were not sufficient services for students with disabilities in schools, due to lack of special education specialists. On the other hand, thousands of special education specialists who graduated in the last few years blamed the Ministry of Education for not creating adequate teaching positions (Khalejiatv, 2018).

As a new way to resolve this issue, Alessa stated that the Ministry of Education launched an initiative to reform current Colleges of Education in several ways, such as raising the admission criteria to improve the quality of these programs (Khalejiatv, 2018). This initiative requires that, during the course of studying towards a bachelor's degree (in any major), teacher candidates should focus on a particular major (e.g., math or literacy). Before taking any educational pedagogy courses, teacher candidates need to earn an educational diploma or professional master's degree in education in order to be eligible for teaching (Khalejiatv, 2018.)

Alessa also announced that the newly established Sinad City for Special Education started to serve new students for the 2018-2019 school-year. Sinad City for Special Education, located in Makkah of the Westside in Saudi Arabia, is the largest campus offering special education services in the Middle East (Khalejiatv, 2018). In Saudi Arabia, "special education city" means a large gated campus that is constructed specifically to offer services to persons with disabilities. It includes, but is not limited to, educational programs, rehabilitation and treatment centers, in addition to offering housing for staff and students. Furthermore, two more special education cities, similar to Sinad City for Special Education, are expected to be operational soon in the Eastern and Alqassem provinces (Khalejiatv, 2018).

Specific Learning Disabilities

Specific Learning Disabilities (SLD) has been a topic of varying viewpoints. The concept of SLD has not been well defined due to ambiguity of the terminology and existence of

professional disagreements (Bradley et al., 2013; Hays, 2016; Rosetti & Henderson, 2013). In the 2017-2018 school year, seven million children aged between 3-21, or about 14% of all school population in the United States, received special education services (United States Department of Education, 2018). Among them, students with SLD were the largest disability group, accounting for 34% of all students receiving special education services under the Individuals with Disabilities Education Act (IDEA). IDEA is the federal legislation that ensures free and appropriate public education for all children with disabilities in the United States. Section 300.8 (c) (10) in IDEA (2018) defines SLD as:

> A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia. Specific learning disability does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of intellectual disability, of emotional disturbance, or of environmental, cultural, or economic disadvantage (IDEA, 2018)

In Saudi Arabia, there is limited data regarding types of disabilities among school-aged children (Al-Shareef, 2017). Bindawas and Vennu (2018) confirmed that the current number of persons with disabilities in Saudi Arabia is unknown. However, the General Authority for Statistics (2019) in Saudi Arabia reported that approximately 7.1% of Saudis are categorized as having a disability including not only SLD, but also other disabilities, such as autism spectrum disorder and hearing impairment. It is important to clarify that SLD, which is the official term used in the United States by IDEA (2004), refers a specific type of Learning Disability (LD or LDs), which is also the official term used in Saudi Arabia and Saudi literature. In regard to

students with SLD in Saudi Arabia, Al-Hano (2006) believed that approximately 5% of school-aged students had SLD, and the number continues to increase over time (Al-Khateeb & Hadidi, 2010). Due to the absence of a well-defined process for assessing students with SLD in Saudi Arabia, the Ministry of Education (2011) argued that it is difficult to ascertain the existing number.

The services for students with SLD in Saudi Arabia were not offered until 1990 due to the lack of knowledge on this disability category (Aldabas, 2015). The Ministry of Education started establishing programs for students with SLD in 1995 (Al-Mousa, 2010). One year later, the Department of Learning Disabilities under the Ministry of Education launched the Saudi Learning Disabilities Programme (SLDP) (Alnaim, 2015), which is likely to be influenced by similar relevant practices in the United States in this field. According to Al-Hano (2006), this marks the official recognision of SLD as a disability category in Saudi Arabia.

That year, the number of schools in Saudi Arabia that had resource room programs for students with SLD reached 1,245, serving 11,941 students in need. The growing number of such programs, according to Al-Mousa (2010), was dependent on the number of teachers specialized in the field of SLD. Since Saudi Arabia's educational system largely learned from the United States (Alnaim, 2015), the definition of SLD in Saudi Arabia was also adopted from IDEA and slightly modified as follows:

> Disorders in one or more of the basic psychological processes involved in understanding or using spoken and written language which are manifested in disorders in listening, thinking, talking, reading, writing, spelling, or arithmetic and are not due to factors related to mental retardation, visual or hearing impairments, or educational, social, and familial factors (The Ministry of Education, 2013, p. 23)

Students with SLD usually fall into a spectrum of learning disabilities, including dyslexia (difficulty with reading), dyscalculia (difficulty with mathematical concepts), and dysgraphia (difficulty forming letters and spacing) (Dare & Nowicki, 2015; Vaughn et al., 2012). Students with these disabilities may face challenges in storing and processing visual and auditory information (Gari et al., 2015; Wormald, 2009; Wong, 2013), spatial and visual processing (Berninger & Abbott, 2013; Wormald et al., 2015), and short or long-term memory (Gari et al., 2015).

Until recently, most schools diagnosed students with SLD based on the difference between a student's ability (typically IQ score) and his or her actual achievement in a subject area (e.g., reading, writing, math) (Reschly & Hosp, 2004). If a severe discrepancy between the student's ability and achievement scores is found, the student would be considered as having a SLD, which prevented achievement consistent with his or her ability (Kavale, 2002).

Generally, SLD is related to the two main academic domains: numeracy and literacy (Clauscen, 2016; Milburn et al., 2017). A student who has been identified with SLD may have an average or above average performance on an intelligence test (Eggen & Kauchak, 2013). Researchers in the field of special education hypothesized several causes for why individuals could have such disabilities, such as biomedical causes, including brain injuries as a result of an accident or unhealthy pregnancy (Reid et al., 2013).

Giftedness

Lovett and Sparks (2011) stated that there were as many definitions of giftedness as there were researchers in this field. Since the last century, there have been many attempts to define giftedness from conceptual perspectives, which have resulted in little consensus. For instance, many researchers used high intelligence to define giftedness (e.g., Terman, 1925); some researchers defined giftedness as high aptitude in a specific academic area (Stanley, 1976), other

researchers believed that giftedness was defined as the interactions among high ability, task commitment, and creativity (Renzulli, 1986).

Moreover, giftedness means different things in differen cultures (Gari et al., 2015; Harris & Plucker, 2014; Olszewski-Kubilius & Clarenbach, 2014). When defining giftedness, one has to consider social, cultural, and economic influences (Alfuryayh, 2016). For instance, ancient Greek community described giftedness as military skills and physical strength, whereas the Romans saw it as the capability to excel at architecture, law, and engineering (Davis et al., 2011). The Chinese viewed giftedness as the ability to invent, whereas Europeans viewed giftedness as the ability to perform as they value architects, artists, and intellectuals (Colangelo & Davis, 2003; Davis et al., 2011).

Furthermore, different generations might view giftedness differently within the same culture. For example, the Indigenous youth in Australia considered giftedness as purely intellectual abilities (Vasilevska, 2005), while their parents believe giftedness should be defined based on tradition-oriented skills, such as bush skills, which include intellectual performance and creativity. Thus, each community defines giftedness based on their values, and the differences in these values make it difficult to reach a universal view of giftedness.

Elhoweris (2014) stated that there was no global consensus regarding the definition of giftedness. Every country has its own definition of giftedness, identification procedures, and gifted programs (Elhoweris, 2014). Sometimes, giftedness is defined differently in different provinces even in the same country (Alfuryayh, 2016). In Canada, for example, the definitions of giftedness between the Ministry of Education of British Columbia and the Ministry of Education and Training for the province of Ontario are different. In some countries, such as Mexico, where giftedness programs and services are relatively new, the definition of giftedness was borrowed from the U.S.A. (Matthews & Castellano, 2014). Other countries, such as Slovenia, described

gifted students as students with special educational needs, whereas others, such as the United Kingdom, still had vague definitions of giftedness (Alfuryayh, 2016). In Japan, there was no formal educational system for gifted students locally, although there were many national programs for gifted students (Sumida, 2013). In Saudi Arabia, the definition of giftedness is as follows:

> a male or female student possessed of special aptitude, unusual capabilities, or distinguished performance; these merits together make him/her unique among his/her peers in one or more domains appreciated by the community and bear special relevance to fields such as mental superiority, educational attainment, creativity, innovation, and special talents and capabilities (Aljughaiman, 2005, p. 76)

Although many researchers have emphasized the essential need for a global definition of giftedness (Barrington, 2014; Baudson, 2016; Chowdhury, 2016; Gagné, 2011; Gross, 2015; Wellisch, 2016), the different conceptions of giftedness can be measured based on different instruments, such as IQ tests and academic achievement tests (Renzulli, 2000). Renzulli's schoolhouse concept of giftedness is frequently used to place students into suitable programs (Renzulli, 1999). Cohen (2011) identifies creative giftedness and innovative giftedness as being equally significant.

In regard to the ideas of giftedness and talent, Marland uses the terms gifted and talented interchangeably (Sternberg & Davidson, 2005). However, Gagné defines giftedness as the use of exceptional natural abilities that an individual has, whereas talent is defined as the development of abilities in human activity to the extent that places the individual among the top 10% of peers in a specific area (Alsamiri, 2016). Trail (2010) acknowledged that there were significant cognitive discrepancies in abilities among gifted students.

There are many characteristics commonly associated with gifted students. Gifted students usually have, for example, high ability in a particular academic area, such as numeracy and literacy (Chamberlin et al., 2007; Carter, 2013; Wormald, 2009). They also have vast vocabulary, keen powers of observation, good recall of information, intellectual curiosity, extraordinary imagination, and interest in existential questions (Chamberlin et al., 2007; Carter, 2013; Wormald, 2009). In addition, they are commonly great readers and fast learners. In order for these characteristics to emerge, it is necessary to support these students (Berninger & Abbott, 2013; Foley-Nicpon, 2013; Mayes et al., 2016). However, like any other cohort, gifted students are diverse as they fall into a spectrum of differences among students who have a combination of superior strengths along with specific weaknesses in learning (Bailey & Rose, 2011).

Beverly Trail, throughout her journey in teaching, consulting, and training gifted students, realized that some gifted students were not achieving as well as their peers in school (Trail, 2010). They might be able to solve a complex mathematical problem accurately with ease: however, it might be hard for them to learn a more fundamental mathematical concept, such as the multiplication tables. Another example is, some gifted students with exceptional expressive language skills, may encounter difficulties in putting down their thoughts into writing. In addition, they may not be able to complete assignments or tests on time, although their knowledge is well beyond their ages (Trail, 2010). These gifted students, according to Brody and Mills (1997), are identified as students who possess an outstanding gift or talent and have high capabilities in performance, but also have SLD, which makes some academic tasks challenging for them.

Gifted Students with SLD

Many people have difficulty understanding that an individual can be gifted and have SLD at the same time (Brody & Mills, 1997). In 1981, Johns Hopkins University organized

a colloquium on children who were gifted and had co-ocurring SLD. They invited experts from gifted education and special education across the country to address this issue (Fox & Brody, 1983). At the time, there was evidence on many levels suggesting interest in meeting the needs of gifted and talented students, as well as students with SLD. However, students who manifested characteristics of both exceptionalities often received little notice. At the colloquium, participating researchers and experts agreed that characteristics of both exceptionalities were exhibited and existed in some students who were often overlooked. Thus, researchers attending the colloquium recommended gifted students who also had SLD should be considered as a distinct population with unique characteristics and needs that were different from other students (Fox et al., 1983). This was considered as the official start of research in the field of twice-exceptionality (Fox & Brody, 1983).

Since the colloquium, more relavent research studies have been conducted in the field, and new methods and instruments have been created to identify such students. Other research has been conducted on how to meet the unique needs of this population and serve them better (cf. French, 1982; Fox & Brody, 1983; Sutter & Wolf, 1987; Boodoo et al., 1989; Baum et al., 1995; Baum et al., 2001; Baum, 2004; Kalbfleisch, 2013). Among various types of twice-exceptional students, including gifted students with physical disabilities, gifted students with Attention-Deficit/Hyperactivity Disorder (ADHD) (National Education Association, 2006), and gifted students with LD (known in this paper as gifted with SLD) form the largest group of twice-exceptional students (Alotaibi, 2017). This has expanded the field of twice-exceptionality to cover any type of disability that co-occures with giftedness. That is why researchers agree that gifted individuals need enrichment programs, while individuals with learning disabilities require individualized educational programming or attention. Gallagher (2004) first used the term “twice-exceptional” to set apart a new overlaping category of talented and/or intellectually gifted

students who, at the same time, had disabilities. Since then, this term has been commonly used in the literature to refer to gifted students with a disability (Coleman et al., 2005).

The most frequently and globally recognized definition of gifted students with SLD, including by the United States Department of Education (1993), is students who have one disability (or more) that co-occurs with giftedness (Al-Hroub, 2013; Beckley, 1998; Brody & Mills, 1997). This definition, unfortunately, includes no indication of how these two exceptionalities (giftedness and disability) intersect or the possibility of masking the effect of these overlapping attributes (Alamer, 2017; Moody, 2014; Nicpon et al., 2011). McCallum et al. (2013) stated that gifted students who have SLD demonstrate strengths in their area of cognitive giftedness, whereas weaknesses in the area of their SLD. For example, students who are gifted in the intellectual domain may excel in literacy tests but achieve poorly in mathematics because they struggle with dyscalculia (Alsamiri, 2016). In other words, even though these learners have strengths in some aspects, they might have mild to moderate SLD in another area. Moreover, they encounter challenges in learning, and they might have difficulty in social interaction with peers (Barber & Mueller, 2011).

Students who are twice-exceptional usually experience many issues in school, such as "poor academic self-concept" and frustration (Yssel et al., 2005, p. 45). Many studies (e.g., Foley-Nicpon et al., 2012; Strop & Goldman, 2002) indicated that students who are twice-exceptional typically have social-emotional issues, such as anger, fear of failure, and low self-esteem due to underachieving academically (Robinson, 1999). Thus, Johnsen and Kendrick (2005) believed that gifted students are disadvantaged throughout their school years due to the absence of supports to help them reach their full potential (Wellisch & Brown, 2012). When their potential remains ignored, they may never be considered for special services. Typically, most gifted students with SLD function at grade level (Brody & Mills, 1997). As a result, they are not

recognized as having SLD or needing special education services; thus, they are not offered supports needed by schools on tight budgets (Brody & Mills, 1997).

Brody and Mills (1997) recommended that gifted students with SLD should receive the needed interventions in order to achieve their full potential. However, the intervention approaches tend to focus on the issues of students' learning disabilities and overlooked their giftedness (Ruban, 2005). Although few of these students are identified and their needs are met, the majority fall through the cracks of the educational system (Brody & Mills, 1997). Nielsen (2002) believed that many of these students remained unidentified in the general education classroom, instead being considered as underachievers or average learners.

Sub-categories of gifted students with SLD

There is a consensus in the literature of the field of twice-exceptionalities that there are at least three sub-categories of children whose twice-exceptionalities remain unrecognized (Baum, 1990, 1994; Baum et al., 1991; Fox et al., 1983; Landrum,1989; Starnes et al., 1988; Beckley, 1998; Brody & Mills, 1997; McCoach et al., 2001). The first group includes gifted students who are considered underachievers and their underachievement may be attributed to personality and character development problems, such as poor self-esteem, lack of motivation, or even some less favorable characteristics, such as being lazy (Silverman, 1989; Waldron et al., 1987; Whitmore, 1980). Eventually, these students significantly fall behind their peers and they are suspected of having a disability.

The second group includes gifted students with severe SLD who are diagnosed as students with SLD, and their giftedness is never recognized, or being overlooked (Brody & Mills, 1997). These students are enrolled in special education programs that are designed for students with SLD. This group of students may be larger than many people realize (Brody & Mills, 1997). As many as 33% of students who are identified with SLD, according to Baum

(1985), had superior intellectual abilities. However, they are rarely referred for gifted services due to this underestimation, which was caused by inflexible identification and/or high expectations in the gifted programs (Brody & Mills, 1997).

The third group includes students whose giftedness and SLD mask each other. Masking, in the gifted/SLD literature, is a prominent measurement problem (McCoach et al., 2001) where the intellectual giftedness and processing weaknesses of a child effectively mask each other. Masking leads to the child neither being identified as gifted nor as having SLD (Volker et al., 2006). This group, according to Brody and Mills (1997), is considered as the largest group of unserved students. As their particular configuration of cognitive strengths and weaknesses leads to near average achievement, these children, in a number of cases, may never even be referred for any evaluation (Volker et al., 2006). Due to this "mutual compensation" (Brody & Mills, 1997, p. 282), these students remain in general education classrooms as they are not qualified for any special education services or gifted educational programs due to average abilities or academic performance (Brody & Mills, 1997).

Identification issues

The journey towards the identification of twice-exceptional students (e.g., gifted students with SLD) can take years before their struggles are perceived (Trail, 2010). This increases the pressing need for early identification of these students to accommodate their specific needs. Foley-Nicpon et al. (2011) reviewed 20 years of research on gifted children with several disabilities, including SLD, and found that that gifted students could have co-existing disabilities, the challenge was on how to identify this population.

Although there are numerous approaches to identifying gifted students with SLD (Cavendish, 2013; Chimhenga, 2016; Gardner & Mayes, 2013; Mayes et al., 2016; McCallum et al., 2013; Pfeiffer, 2015; Scott, Hauerwas & Brown, 2014), there is a lack of consensus regarding

how to identify giftedness and/or SLD (even as independent categories) (Lovett & Sparks, 2011). Examining the discrepancy between the students' academic performance and their intelligence (Brody & Mills, 1997), was the approach to identify gifted students with SLD before the interdiction of the Response to Intervention model. In particular, many researchers (e.g., Baum et al., 1991; Kaufman, 1979) in this field had attempted to use intellegence tests (e.g., Wechsler Intelligence Scale for Children-Revised [WISC-R]) score patterns. However, no consistent pattern results had been found from these attempts. Therefore, using IQ versus academic achievement discrepancy to identify these students, according to Alsamiri (2016), is questionable. Many researchers (e.g., Vaughn et al., 2003) in this field also critiqued that approach.

The assessments

Inadequate assessments and/or depressed IQ scores frequently lead to underestimation of intellectual abilities in gifted students with SLD (Brody & Mills, 1997). For example, memorizing facts in a given timeframe is usually the main way to answer many academic questions or in testing (e.g., Common Core State Standards). According to Gari et al. (2015), gifted students with SLD often times have difficulty "learning by heart and low achievement in activities with time restriction" (p. 273). As for written assessments, they often feel rushed due to time restriction given in these circumstances, this makes their handwriting hard to recognize (Gari et al., 2015), which may result in less satisfactory performance. Moreover, if they have a learning disability in reading, they may not be able to understand what is required in the assessments (Gari et al., 2015). Based on the intellectual abilities of these students, their academic performance is often significantly lower than expected (Alsamiri, 2016), but the giftedness aspect allows them to academically perform somehow better than regular students with SLD (Barber & Mueller, 2011).

Foley-Nicpon et al. (2011) recommended multi-domain measures, including developmental, academic performance, psychometric, and sociometric measures, should be involved in the ability and achievement tests. It can be very useful in recognizing giftedness in students who are already diagnosed with SLD (Assouline et al., 2010). However, when giftedness and SLD merge, achievement tests and academic performance usually cannot reflect their actual abilities (Gilman et al., 2013; Haldimann & Hollington, 2004; Willard-Holt et al., 2013).

The lack of consensus definitions

Brody and Mills (1997) explicitly recognized that a lack of consensus is conspicuous in giftedness or SLD's definitions, and the implications of their conditions overlapping have not been sufficiently studied. For instance, in the giftedness definitions, including the broad-based federal definitions, many factors in students' abilities are considered. Accordingly, students may be labeled gifted and qualify for services when they exhibit talent in a non-academic area (e.g., leadership or sport) but not in academics (e.g., math). If these students also have an SLD, they might be considered as having both exceptionalities. Another example is that a student might have different abilities and needs in art and science. Thus, it is not uncommon when such cases are not recognized by educators (Brody & Mills, 1997) since academic and non-academic performances are not assessed together.

However, many educators consider it problematic when both exceptionalities lie in academic-related domains (Brody & Mills, 1997). For example, when a student's reading and writing are well above their grade level, but at the same time, they have great difficulty with math, many educators consider it problematic. The definitions of giftedness and SLD used in most schools exclude many academically talented students with learning problems as they rarely meet the rigorous cutoff point of most identification procedures. Thus, they are seldom referred

to gifted or special education programs at the same time (Fall & Nolan, 1993). Often times, school systems consistently consider gifted students with SLD as having only SLD, and overlook their giftedness (Adams et al., 2013; Hays, 2016; Wellisch & Brown, 2012).

The teachers' recognition

Renzulli (2005) believed that teachers' referrals play a significantly important role in identification procedures. As mentioned previously, many studies have found that gifted students with disabilities are typically recognized for their disabilities but not their giftedness (e.g., Alkhunaini, 2013; Coleman & Cross, 2001; Rimm et al., 2018; Silverman, 2003; Wormald, 2009), since disability is more likely to gain the teachers' attentions than giftedness. Teachers and administrators tend to treat gifted students with SLD as regular students (Dai & Chen, 2013). The referral process is dependent on the referrers' perceptions of those students. For example, teachers specialized in giftedness or SLD have different perceptions of their students than general education teachers (Alkhunaini, 2013; Bianco & Leech, 2010; Coleman & Gallagher, 2015). Thus, teachers, as referrers, play a significant role in determining these students' educational placements.

Teachers' Perspectives about Gifted Students with SLD

Perspective is defined in the Cambridge online dictionary as "a particular attitude toward or way of regarding something; a point of view" (Perspective, n.d, Noun section). The perspectives of teachers are influenced by several factors, such as their training background, beliefs, stereotypes, and previous experiences (Alsamiri, 2016). Fundamentally, educational outcomes are affected by educational attitudes (Gottlieb, 1975). Attitudes, according to Boone and Kurtz (2002), are "a person's enduring favorable or unfavorable cognitive evaluations, emotional feelings, and action tendencies toward some object or data" (p. 281-282). Similarly, perception is defined by the Cambridge online dictionary as "a thought, belief, or opinion, often

held by many people and based on appearances" (Perception, 2008, Noun section). Because many studies in the field of special education (e.g., Aljuwaiber, 2013; Almakhalid, 2012; Alanazi, 2012; Alquraini, 2011; Alamer, 2010; Al-Ahmadi, 2009; Alsamiri, 2016; Lopes et al., 2004) use these terms (perspectives, attitudes, and perceptions) interchangeably, these three terms and others (e.g., views and opinions) are used in this paper.

According to Almakhalid (2012), teachers' attitudes directly impact the students' educational environment. Furthermore, teaching strategies for gifted students, for example, are affected by the teachers' attitudes (McCoach & Siegle, 2007). Almakhalid (2012) emphasized that identifying and addressing different learners' needs are responsibilities of the teachers. Indeed, teachers play a significant role in making a referral, identifying and educating, students with special needs. Many teachers believe that teaching students with special needs is "difficult, time-consuming, and frustrating" (Lopes et al., 2004, p. 413). As a result, students with special needs pose significant challenges to their teachers. Since teachers frequently spend more time to extensively plan, accommodate, and modify lessons for students with special needs, some of them might exhibit negative attitudes toward these students considering the amount of extra work (Lopes et al., 2004), which can significantly impact students' educational environments.

In Saudi's schools, although gifted students and students with SLD are usually educated in general education (inclusive) classrooms (Al-Mousa, 2010), gifted students with SLD are still not highly recognized or understood by educators. Twice-exceptional students (including gifted students with SLD) are not yet acknowledged as an independent disability category in Saudis special education system (Alsamiri, 2019; Alsamiri, Smith, & Strnadová, in press). There is also no formal process to identify and support gifted students with SLD in Saudi Arabia (Alsamiri et al., in press). In addition, little research has been conducted to investigate teachers' perspectives about gifted students with SLD in Saudi Arabia. It means this area has not yet received enough

research attention. Such investigation is key to understanding how teachers refer to, identify, and educate (if needed) gifted students with SLD for suitable educational placements.

Recently, Alsamiri (2016) conducted a study on primary teachers' perspectives about the identification and support of primary students with giftedness and learning disabilities. The study had 410 teacher participants from three different cities (Al- Madinah, Jeddah, and Hail) in Saudi Arabia. They completed a survey along with sharing their thoughts on several open-ended questions. In addition, the researcher also interviewed 29 teachers (using semi-structured interviews) to gain a deeper understanding. Although findings of this study revealed that teachers generally had positive attitudes towards gifted students with SLD, they did not know much about these students or how to identify them due to lack of training background (expertise) on this topic and absence of professional development opportunities. Schools also do not have funding to offer special programs to support these students. Due to lack of training in either giftedness or special education in general education teachers, the researcher found that there was a negative correlation between standard teaching qualifications and the teachers' ability to identify and support those students. Alsamiri's (2016) study highlighted several important issues in the field, including pressing need for assessment systems, identification processes, supportive learning environments, special training, official acknowledgment, and policies regarding this group of students. To provide needed support to gifted students with SLD, Alsamiri (2016) stressed the importance of offering special training to general education teachers to improve skills and resources.

Two years later, Alsamiri (2018) conducted a qualitive study and interviewed nine SLD teachers to examine how they defined gifted students with SLD. The findings of Alsamiri's (2016) study were similar to the results of this qualitative study (Alsamiri, 2018). Due to the lack of understanding of the characteristics of this population, teachers definitions of gifted students

with SLD were quite far from the offical one (Alsamiri, 2018). Alsamiri found that even special education teachers do not have enough knowledge on these students. Thus, this study called for more research in this area (Alsamiri et al., in press).

The lack of knowledge causes teachers to unintentionally ignore any existing helpful resources. For example, Alamer (2017) indicated that although there were some existing procedures for referring gifted students with SLD for evaluation and offering supports, teachers reported that they were unaware of those. Also, due to their lack of knowledge on this topic, many teachers learned inaccurate information or misunderstanding of gifted students with SLD, not to mention how to educate them. For example, a significant number of teachers believed that students receiving special education services cannot benefit from gifted programs (Alamer, 2017). In addition, Alamiri and Faulkner (2010) found that general education teachers in Saudi Arabia did not understand terminologies used by special education (e.g., ADHD) or gifted education (e.g., creativity), and are unable to distinguish them. This indicated that general education teachers are often not prepared to teach in inclusive settings, which commonly include students with special needs, including gifted students with SLD.

Factors that affect teachers' perspectives

There are several factors that commonly affect teachers' perspectives about gifted students with SLD. According to Alsamiri (2016), factors addressed by previous research include: teaching position level of education, previous training received, gender, and years of teaching experience. This study specifically investigated the impact of the following two factors: years of teaching experience and gender.

Years of teaching experience. Years of teaching experience is also an important factor often examined in research literature with controversial findings. For example, in previous studies examining the relation between years of experience and self-perceived efficacy in

teachers, Campbell (1996) found that experienced teachers in Scotland and the United States showed significantly higher efficacy beliefs than teaching candidates. On the other hand, Gorrell and Dharmadasa (1994) reported that teacher candidates had higher efficacy in implementing new instructional methods, while experienced teachers had higher efficacy in classroom management, organization of instruction, and impact on students. Interestingly, Wolters and Daugherty (2007) reported opposite findings in their study when they examined self-efficacy in instructional approaches and classroom management in teachers. They found more experienced teachers self reported significantly higher efficacy than first-year teachers.

Similarly, in Saudi Arabia, years of teaching experience is also a debatable topic in existing literature. For example, Al-Ahmadi (2009) examined Saudi teachers' views on the inclusion of students with SLD in general education classroom and they found that there was no significant difference between experienced teachers or new teachers. However, other researchers (Abd-elreheem, 2012; Alkhunaini, 2013) reported different results. They found that there was a positive relation between more years of teaching experience and awareness of SLD and giftedness.

Gender. Gender has been widely considered as a critical factor in social science studies. For example, when examining teachers' attitudes toward gifted students, many studies have found significant differences between male and female participants (Westling Allodi & Rydelius, 2008; Cooley et al., 1984). Education in Saudi Arabia is segregated based on gender (Aljughaiman & Grigorenko, 2013), this may affect teachers' perspectives from their own educational background and from teacher preparation programs. Alsamiri (2016) affirmed in his study that gender is likely to play a significant role in influencing the experiences and perspectives of Saudi teachers. Additionally, other researchers (Al-Ahmadi, 2009; Alghazo & Gaad, 2004) also believed gender is a critical factor as female teachers had less opportunity to

receive in-service training or professional development compared to their male counterparts (Alsamiri, 2016). For example, Alamer (2010) interviewed 12 teachers and found that there were different perceptions of the traits of gifted children in Saudi Arabia amongst male and female participants based on the participants' genders.

It is not only the gender of teachers that could influence the education of students with special needs. For example, the percentages of students with disabilities receiving special education services varied by gender. In Saudi Arabia, Al-Mousa (2010) stated that more boys received special education services under the category of SLD than girls. In contrast, the United States Department of Education (2018) reported that female students with SLD (44%) under IDEA are significantly more than males (34%). These examples indicate that gender is a critical factor because there is not a consensus in social sciences about how gender is associated with SLD. In sumary, although the above studies do not specify gifted students with SLD, they revealed what important roles years of teaching experience and gender could play in affecting teachers' perspectives.

Theoretical Models

Since 1982, Gagné's Differentiated Model of Giftedness and Talent (DMGT) has been used in educational psychological field as a model to distinguish giftedness and talent--both are essential to the child's development (Alsamiri, 2016). According to Gagné (2011), there are three components in his DMGT: giftedness, talents, and learning practices. He believed that turning giftedness into talent is influenced by intrapersonal catalysts, environmental catalysts, and chance.

Gagné (2009) identified various domains of giftedness. The first component is giftedness (natural abilities), which includes intellectual/cognitive, creative, socio-affective, and sensorimotor skills. Talent, the second component, is the development of giftedness. Finally,

learning practices include substantial activities that help turn giftedness into talent. The intrapersonal catalysts, which are psychological and physical factors that include personality, motivation, and physical characteristics, may affect these genetic attributes, in a positive or negative way. Finally, chance refers to the individual's possibility of having a supportive family or a school (or a teacher) that facilitates their development. Gagné's model focuses on the impacts of both personality and environments on turning a person's giftedness into talents. The developmental process components of the model refer to the activities and crucial factors for this development, such as effort, money, time, access, and energy (Gagné, 2009). Gagné's model also includes environmental provisions (EP), or environmental catalysts that include teachers, peers, and mentors (Gagné, 2015) and can affect an individual's learnings environment.

For the purpose of this research, Gagné's model was used as a foundation for investigating teachers' perspectives and how they affect the development of gifted students with SLD. The purpose of this study was to examine the perspectives of various teachers in Saudi Arabia, using Gagné's model on environmental catalysts. In addition, this study also explored how gender and years of teaching experience affect participants' perspectives about gifted students with SLD. If teachers are aware of the important roles they play in identifying and supporting these students, they may have better chance to succeed in school.

Based on a few studies conducted in Saudi Arabia (as previously discussed in this chapter), there is a lack of research on teachers' perspectives about gifted students with SLD. Previous studies only surveyed primary school teachers' perspectives about gifted students with SLD, no middle school or high teachers were involved. In addition, participants came from only a few cities in Saudi Arabia, so they could not be representative of the diverse teachers in Saudi school settings. Thus, this study enriched Saudi's current research on teachers' perspectives

about gifted students with SLD and strives to draw more societal attention to help this population of students reach their fullest potential in school.

Summary and Conclusion

This chapter gives a brief review of the literature related to teachers' perspectives about gifted students with SLD in Saudi Arabia. This chapter covers general information about Saudi Arabia, including the past and current general education and special education systems. In addition, this chapter introduces gifted students and students with SLD, and students considered "twice exceptional" (i.e., gifted students with SLD). Furthermore, issues related to the definitions, sub-categories, teachers' perspectives, theoretical bases, and identification of gifted students with SLD are presented. This chapter also discusses some aspects regarding gifted students with SLD in inclusive classrooms in Saudi Arabia, such as the qualification requirements to teach in Saudi Arabia.

Brody and Mills (1997) thought that the conception of giftedness and SLD co-occurring in the same individual has become commonly accepted in recent years. There are many books that have been written on this subject, numerous articles have been published in journals, and many educational conferences on SLD or giftedness include research on twice-exceptionalities. It has become clear, as Brody and Mills (1997) believed, that high ability and learning disorders can both exist in the same individual.

Gifted students with SLD need help to accommodate their limitations as course work has become more demanding in recent years (Brody & Mills, 1997). If this help is not provided, the academic difficulties of those students usually worsen to the point where a learning disability may be suspected, which makes their true potential unrecognized (Brody & Mills, 1997). Otherwise, a gifted student's underachievement is frequently attributed to a lack of effort, which unfortunately causes disciplinary procedures to be applied (Trail, 2010). Hence, to support the

recognition and education of these students, nations should implement various assessment techniques.

Gagné's model was the theoretical base of this study. As one of the main environmental catalysts in Gagné's model is the teacher, the enrichment provisions for curriculum, pedagogy, and administrative factors could be included (Gagné, 2015). Gagné's (2011) model is complemented by Vygotsky's social constructivist theory (specifically the zone of proximal development [ZPD]), which focuses on what students may achieve with the assistance of other knowledgeable individuals, including adults (e.g., teachers) and same-age peers (Vygotsky, 1978). In the current study, the quantitative methods design generated data on participating teachers' perspectives in general, and in regarding the existence, identification, and education of gifted students with SLD that is relevant to the developmental phase of Gagné's model.

This study could contribute to the literature concerning some aspects related to supporting gifted students with SLD in Saudi Arabia. Using the quantitative methods design, the researcher investigated the teachers' perspectives about gifted students with SLD in Saudi Arabia. Specifically, the researcher, based on previous literature reviewed in this chapter, adopted a survey and modified it to explore the factors that affect teachers' perspectives about this population of students. The rationale of choosing quantitative methods as the research design, participants' sample and recruiting, measures, data collection, procedures, and data analysis are discussed in chapter three.

Chapter Three

METHODOLOGY

Overview

This chapter describes the research method used in this study. This is a quantitative study that employs an online survey to collect data. The researcher invited 1469 teachers to participate in the study to complete the online survey. Data were analyzed using the Statistical Package for Social Science (or SPSS, version 27) software. This chapter first provides an overview of the research questions and hypotheses, as well as introduction to the chosen research design, followed by description of participants and the online survey. Then, data collection and data analysis procedures are detailed. Finally, ethical considerations and limitation are addressed.

Research Questions and Hypotheses

The purpose of the current study was to investigate the perspectives of teachers in Saudi Arabia towards gifted students with SLD. The study was conducted to investigate the following five research questions:

RQ1: What are the perspectives of teachers in Saudi Arabia regarding the existence of gifted students with SLD?

RQ2: What are the perspectives of teachers in Saudi Arabia regarding the identification of gifted students with SLD?

RQ3: What are the perspectives of teachers in Saudi Arabia regarding the education of gifted students with SLD?

RQ4: What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience?

RQ5: What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender?

This study included two null and alternative hypotheses:

H_0. RQ4: There is no significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience.

H_1. RQ4: There is a significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience.

H_0. RQ5: There is no significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender.

H_1. RQ5: There is a significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender.

Participants

As the researcher uploaded the online survey to Qualtrics (an electronic survey platform), teachers from various regions in Saudi Arabia can have access to participate in this study. The researcher, as suggested by the G*Power (more details will follow in Sample Size section) and based on previous literature reviews on this topic, invited 1469 teachers from primary, middle, and secondary grades in public and private schools to complete the online survey. Participants shared their general perspectives towards gifted students with SLD in terms of the existence, identification, and education of this population.

To complete the online survey, participants had to meet the following criteria: 1.) they need to be teachers (during completing the survey) employed in private or public schools; 2.) they had to be general education or special education teachers (including SLD teachers, gifted teachers, and enrichment programs teachers); 3.) they have any years of teaching experience; 4.) they did not need to have taught gifted students or students with SLD; 5.) they could be from various educational backgrounds.

There were several exclusion criteria to keep teachers who were not qualified from participating in this study. 1.) teacher candidates who were enrolled in teacher preparation programs; 2) teachers who were already retired; 3) teachers whose main roles were not teaching (e.g., teachers who were mainly do administrative works). To ensure that only teachers who meet the above inclusion criteria could participate in the online survey, participants must click "yes" on a statement that clearly states they meet all criteria (see Appendix A) so they could proceed to the survey. For those who did not meet the criteria, they had to click the "Exit" button to leave the survey.

Research Design

This study employed a quantitative research methodology to investigate teachers' perspectives about gifted students with SLD in Saudi Arabia. Shank et al. (2014) stated that the quantitative approach is suitable for looking at attitudes. Specifically, this study used an online survey to collect information from a large number of participants. The survey design is considered suitable to collect data on individuals' attitudes and beliefs (Cohen et al., 2007). The survey design, according to Creswell and Creswell (2018), "provides a quantitative description of trends, attitudes, and opinions of a population, or tests for associations among variables of a population, by studying a sample of that population" (p. 147).

According to Rojas and Serpa (2005), surveys can be used for many reasons, such as to explain, compare, and describe attitudes, behaviors, and knowledge of a sample population. If a researcher plans to measure different characteristics, such as beliefs, values, feelings, thoughts, and perspectives, surveys are suggested as an effective tool (Johnson & Christensen, 2008), and they are the most suitable method for this type of data collection (Rojas & Serpa, 2005). Accordingly, the quantitative methods design is chosen as the most appropriate methodology based on the purpose and research questions of this study.

Operational definition of variables

Dependent variable. The dependent variable for this study was teachers' perspectives of gifted students with SLD. This dependent variable was measured by teachers' responses to 24 items using a seven-point Likert scale format. More specifically, the dependent variable was measured by the overall mean scores of teachers' responses to the items in the Teachers' Perspectives Questionnaire (TPQ) (Alsamiri, 2016).

Independent variables. This study included two independent variables: years of teaching experience (five categories; 0-6, 7-12, 13-19, 20-26, 27 and over) and gender (male and female). The purpose of these specific categories is that the Ministry of Education in Saudi Arabia launched new policies for teachers in 2019 which divided them into this somewhat complex system, and most of the teachers fit in these five categories. These variables were measured using two items of the demographic section (Part A of Appendix A) of the survey.

Measures

To answer the research questions of this study, the Teachers' Perspectives Questionnaire (or TPQ; Alsamiri, 2016), in a seven-point Likert scale format, was adopted and modified (the TPQ-Revised) to measure the teachers' perspectives about gifted students with SLD in Saudi Arabia. Likert scale is one of the most widespread scaling techniques to measure attitude (Bradburn et al., 2004). It was "named after Rensis Likert, a pioneer in the field of attitude measurement" (p. 126). Berghmans et al. (2015) stated that the use of Likert scale as a measure of attitude is valid, useful, effective, and reliable. Participants indicated the extent to which they agree, disagree, or were neutral regarding the statements (a total of 24 item questions) using a seven-point Likert scale in the TPQ-Revised.

After reviewing several online databases (e.g., ERIC, ProQuest, Google Scholar), the instrument that has been found the most appropriate for this study was the TPQ. Based on the

unique educational status concerning gifted students with SLD in Saudi Arabia, Alsamiri (2016) developed the TPQ based on several factors including "a comprehensive literature review, participant evaluation, recommendations from a panel of experts, and some initial validity and reliability testing" (p. 135). The TPQ was developed to fulfill the thesis requirements for the degree of Doctor of Philosophy in special education. Thus, to the extent of the researcher's knowledge, there was no previous study that offers a psychometric-based instrument and fits the purpose of this study better than Alsamiri's (2016) study.

The use of unpublished research resources, including reports, articles, or theses, such as Alsamiri's (2016), in a scientific paper is justified by the publication manual of the American Psychological Association (2010) (well-known as the APA manual, 6th edition). This manual offers access to five databases for users, including books, journals, and quality gray literature. Gray literature, according to the American Psychological Association (2010), is "a part of a body of literature" (p. 205) although it might not be peer-reviewed. Gray literature includes tons of resources, such as research and project reports, conference proceedings, technical reports, and theses ("GreyNet International," n.d.*)*. Gray literature, according to the publication manual of the American Psychological Association (2010), can positively contribute to formal publication and includes supplementary resources and general experimental techniques and methods ("Gray literature" 2006). Accordingly, the researcher adopted the TPQ after receiving official consent via email from the developer and modified it (TPQ-Revised) to fit the purpose of this study (see Appendix E).

Teachers' Perspectives Questionnaire (TPQ)

A rigorous process of evaluation has been conducted to determine the appropriateness and efficiency of the TPQ-Revised to be used as the data collection instrument. A panel of experts in quantitative methodology, teachers, and professional translators thoroughly reviewed

the TPQ-Revised (both Arabic and English versions) and suggested minor modifications. For example, to be more accurate, instead of asking, “what is your region,” it was changed to, “what is the region of your school.”

The modified TPQ (it has been known in this paper as TPQ-Revised) included a total of 24 item questions, 20 of which were adopted and modified from the original TPQ. Four items (items 1-4) were created by the researcher to answer the first research question. Furthermore, the researcher adopted and modified an additional 10 items in the demographic section (Part A in the Appendix A) to ensure all research questions are answered. After making the necessary modifications to the TPQ, the experts agreed that all revisions on the current TPQ-Revised were considered minor revisions.

The item questions of the TPQ-Revised investigated the participants’ perspectives towards gifted students with SLD in Saudi Arabia. More specifically, these questions examined teachers’ perspectives of the existence, identification, and education of gifted students with SLD. For example, the participants shared their perspectives regarding the following statements: “Learning disabilities teachers are better equipped to teach gifted students with SLD than general classroom teachers” and “General education teachers have sufficient training to identify gifted students with SLD.”

To answer these questions quantitatively, the TPQ-Revised was divided into two parts. The first part (Part A) was designed to collect demographic information about the participants. This part included 10 item questions, collecting demographic information such as teachers’ gender (male or female), regions (Eastern, Western, Center, Northern, Southern), years of teaching experience (0-6, 7-12, 13-19, 20-26, 27 or more), types of teachers (general education teacher, SLD teacher, enrichment program teacher, and other special education teacher), highest degree (Intermediate diploma, Baccalaureate, Higher Diploma, Master’s Degree, doctorate),

school type (public or private), and other information regarding teaching and school. All items were applicable to all participants (Part A in the Appendix A).

The second part (Part B) investigated the teachers' perspectives about gifted students with SLD in Saudi Arabia. Specifically, 24 item questions of Part B investigated the teachers' perspectives of the existence, identification, and education of gifted students with SLD. This part was divided into three domains: existence, identification, and education of gifted students with SLD (Appendix A). The first domain (item questions 1-4) investigated the teachers' perspectives of the existence of gifted students with SLD in schools in Saudi Arabia. These items were created by the researcher and have been carefully evaluated by a panel of experts in quantitative methodology, including teachers and professional translators. For example, the participants share their perspectives of the following statement: Gifted students with SLD do exist in the general education classroom. The second domain (item questions 5-15) investigated the identification of gifted students with SLD in schools in Saudi Arabia. For example, the participants shared their perspectives of the following statement: It is difficult to identify gifted students with SLD in the general education classroom. The third domain (item questions 16-24) investigated the education of gifted students with SLD in schools in Saudi Arabia. For example, the participants shared their perspectives of the following statement: Gifted students with SLD should receive special education services in the resource room along with their education in a regular education classroom.

The Arabic version of the TPQ-Revised (Appendix B) was uploaded on a web-based platform called Qualtrics to easily allow invited teachers to participate in this study. Participants must share their perspectives on all items on a seven-point Likert scale instrument to answer the research questions. The rating scale that was used in the TPQ-Revised is: Strongly Disagree = 1, Moderately Disagree= 2, Slightly Disagree= 3, Neutral= 4, Slightly Agree= 5, Moderately

Agree= 6, and Strongly Agree= 7. This survey was anticipated to take approximately six to eight minutes to complete (Appendix A).

Validity and reliability of the TPQ. The validity of a scale is defined as the degree to which it measures what it intends to measure (Gay et al., 2009; Twycross, 2004). In other words, validity concerns whether the instruments measure the phenomenon that is supposed to be measured (Hesse-Biber, 2010). Several significant types of validity, including content validity, face validity, and construct validity, should be tested. Content validity asks if the assessment instruments represent the construct being measured (Groth-Marnat, 2009). Face validity, as a form of content validity, requires the respondents to review the survey's content. It basically refers to the degree to which participants believe that the surveys are measuring what they are intended to measure (Gay et al., 2009). This type of validity can be reviewed for item clarity and/or for the amount of time taken to complete the surveys. Construct validity asks to confirm the measurement of the concept's theoretical construct.

Regarding reliability, it can be defined as the ability of an instrument to produce similar findings when used again under similar conditions (Field, 2009). In other words, reliability asks if researchers use the same measure today and repeat it on the same population shortly thereafter in different situations, will they obtain the same results (Hesse-Biber, 2010). The most widely used assessment of internal consistency is Cronbach's alpha coefficient (Barbaranelli et al., 2015). If the Cronbach's alpha value is .70 or higher, which is considered adequate for reliability (Kline, 2010), then, the questionnaire is considered sufficiently reliable.

Alsamiri (2016), the developer of the TPQ, assured that the required validity tests (content validity, face validity, and construct validity) and reliability tests (reliability coefficients and internal consistency reliability) were conducted on the TPQ, and he confirmed that the TPQ has been proven as a valid and reliable questionnaire. For example, regarding the internal

reliability of the TPQ, Alsamiri (2016) reported that the Cronbach's alpha values of three factors (characteristics, identification, and proficiency support) of the TPQ were higher than 0.70 (.81, .84, and .79, respectively). This indicated the high internal consistency of each scale (factor) instrument. The last factor (the administrative supports) had relatively lower reliability (Cronbach's α= .63) but is still acceptable (Field, 2009). Accordingly, the TPQ was reported to be sufficiently reliable. In addition, the Arabic version of the TPQ was also considered valid and reliable (Alsamiri, 2016). Finally, although the developer of the questionnaire has ensured that all related validity and reliability have been confirmed (Alsamiri, 2016), the researcher of the current study re-measured the questionnaire's reliability after collecting the data and reported the Cronbach alpha scores in the beginning of Chapter Four.

Procedures

The quality of social research is based on the appropriateness of three factors: methodology, instrumentation, and sampling strategy (Cohen et al., 2007). To recruit individuals from a population of interest, and based on the circumstances of the researcher, convenience sampling, as one of the non-probabilistic sampling forms (Creswell & Plano Clark, 2017), is selected. Convenience sampling, according to Shank et al., (2018), is "a sample from the larger population that is conveniently available to the researchers" (p. 67). This type of sampling, according to Shank et al., (2014), is created for participants, such as teachers, who are easily accessible. The form of sampling is perfectly legitimate if a study is short in budget and time. In other words, due to the fact that data collection is often expensive and time-consuming (Shank et al., 2018), the choice of this sort of sampling is justified and often used, though it is less desirable (Creswell & Creswell, 2018).

In this study, the researcher recruited participants using various methods. Firstly, the survey was distributed using several online social media platforms such as Twitter and

WhatsApp. Gelinas et al. (2017) indicated that there is an increase in the use of social media as a recruitment tool for research with humans. Online recruitment, according to Batterham (2014), has considerable potential for some specific research designs as it is efficient, flexible, and cost-effective. Secondly, when recruiting hard-to-reach populations, such as those who are hesitant to meet face-to-face with the researcher, online surveys tend to be more successful (Batterham, 2014). In this study, the researcher used his connections to distribute the survey across five main regions in Saudi Arabia.

Sample size

As the power of any statistical test depends on the alpha level, sample size, and the effect size, the researcher used G*Power Software to determine the minimum size of the participants for this study. G*Power, according to Faul et al. (2009), is "a free power analysis program for a variety of statistical tests" (p.1149). Many statistical tests that are commonly used in scientific research fields, such as social, behavioral, and biomedical sciences, use G*Power (Faul et al., 2007). For this type of study, 0.05 of alpha error, 0.80 of power, and 0.25 as a medium effect size were suggested (Cohen, 1988) and considered adequate (Murphy et al., 2014). To determine the minimum suitable sample size for this study, the researcher inputted the following in G*Power: F test, ANOVA: Fixed effects, omnibus, one-way, the effect size f = 0.25, alpha error = 0.05, and the power = 0.80. G*Power suggested the researcher should invite a minimum of 200 participants to complete the online survey for this study.

Sometimes in survey research, the determination of sample size by researchers is based on typical past studies (Creswell & Creswell, 2018). Based on previous research studies on this or similar topics, the number of participants for this kind of study, as minimum, is between 200 to 400 participants. For example, in 2009, a mixed-methods study was conducted by Al-Ahmadi to examine teachers' perspectives and attitudes towards integrating students with SLD in regular

Saudi public schools. A total of 251 Saudi special and general education teachers completed a survey. Similarly, Alrubaian (2014) investigated attitudes and knowledge of evidence-based practices, and perceived skills among male general education teachers related to students with SLD in Saudi Arabia, as his dissertation. He employed a mixed-methods research design inviting 278 general education teachers to participate in completing the survey. In addition, Alsamiri (2016) also examined teachers' perspectives of the identification and support of primary school students with giftedness and learning disabilities as his dissertation research, and successfully invited a total of 410 teachers from three different cities in Saudi Arabia to complete his online survey. In summary, considering the average number of participants in similar studies mentioned above in Saudi Arabia, the researcher of this study targeted at least 200 to 400 participants to complete the survey.

Data Collection

Fowler (2014) identified several types of data collection tools for survey, including mail, telephone, personal interviews, group administration, and the internet. However, Bradburn et al. (2004) pointed out that there had been significant changes in the use of data collection tools. In regards to the internet, for example, an extensive discussion in the literature (Nesbary, 2000; Sue & Ritter, 2012) has shown that there is an increase in conducting surveys using computer assistance, such as web-based surveys and the use of emails instead of traditional methods, such as over the telephone or in-person with paper and pencil. Nesbary (2000) argued that "the web has made time-consuming and tedious tasks, such as academic research, submitting job applications, and communicating, relatively simple and efficient" (p. 17). Thus, in this study, the internet was used as the primary data collection channel for online surveys. More specifically, the researcher used Qualtrics as a platform to collect data for this study. Using industry best

standards, Qualtrics emphasizes protecting all clients' data. Moreover, Qualtrics' security system has been proved by achieving the ISO 27001 certification (Qualtrics, 2020).

Data collection procedures

In this study, the researcher uploaded the Arabic version of the TPQ-Revised (Appendix B) on Qualtrics. After all survey questions were uploaded, the researcher sent the link of the survey to several individuals to tryout as a pilot. They were prompted to access the link to the survey through smart phones (including IOS and Android operating systems) and computers (including Mac and Windows operating systems). As some technical issues raised, the researcher was notified and immediately fixed them up before launching the survey officially on social media.

The researcher posted the link to the survey on many social media platforms such as Twitter and WhatsApp, using convenience sampling procedures. Salkind (2011) stated that there is no question that social media can be used productively as a tool in the research process. The researcher asked for help from a public social media account that has few thousands of teachers as followers to help distribute the link to this online survey.

To ensure including equal or similar numbers of participants from each region across the whole Kingdom, the researcher used his personal social connections to share the link to the survey to all teachers in five regions in Saudi Arabia since the researcher used to be a teacher under the Ministry of Education in this country. Furthermore, the researcher asked for further support from people who work in the Ministry of Education to help him connect with hard-to-reach teachers who do not often use social media. After reaching the target number of responses, the researcher examined the demographic data first to see if the participants were proportionately representative of all five regions across the whole Kingdom.

Consideration of human subjects' approval and ethics precautions. A request to conduct this research was submitted to the Institutional Review Board (IRB) at Duquesne University and it was granted (approved) with minor revisions (see Appendix F). This research complied with the Principles of Respect of Persons, Beneficence, and Justice defined by Duquesne University's IRB for the protection of human subjects involved in this research. Teacher participation in this study was completely voluntary. The inclusion and exclusion criteria for participating in this study were clearly stated prior the beginning of the online survey. Once teachers read the criteria, they must give informed consent to proceed to complete the survey, which took on average six to eight minutes. Finally, the subject's voluntary participation in this study, privacy rights, possibility to withdraw from the survey, and protections of identifiable information were clearly stated in the introduction of the survey (Appendix A).

Data Analysis

The research questions were examined, and data collected were analyzed using the SPSS software. In general, teachers' responses to the TPQ-Revised were analyzed using SPSS with a significance value of $p = < .05$. Teachers' perspectives were measured by calculating the overall mean score in the TPQ-Revised. More specifically, since the mean score was 3.5, a higher than 3.5 mean score was hypothetically considered as teachers' positive perspectives, and a less than 3.5 mean score was hypothetically considered as teachers' negative perspectives. Data from questions one, two, and three were analyzed using overall means, standard deviation, frequency, and percentages. Data from question four was analyzed using one-way ANOVA with more than two levels. Data from question five was analyzed using the independent t-test to compare the results between two different groups.

The first research question was: What are the perspectives of teachers regarding the existence of gifted students with SLD in Saudi Arabia? This question investigates the

participants' perspectives if they believe that gifted students with SLD exist. The overall means, standard deviation, frequency, and percentages of item questions 1-4 were addressed (see Chapter Four). Specifically, the teachers' perspectives regarding the existence of gifted students with SLD was measured by the overall mean of teachers' responses to these four item questions in the TPQ-Revised. While the minimum overall mean of the items was one, the maximum overall mean was seven. If the overall mean is smaller than 3.5, this indicates that teachers' perspective is negative, in other words, they do not believe gifted students with SLD exist. On the other hand, if the overall mean is larger than 3.5, it indicates that their perspectives is positive, meaning they believe gifted students with SLD do exist.

The second research question investigated the teachers' perspectives of the identification of gifted students with SLD in Saudi Arabia. This question was analyzed using overall means, standard deviation, frequency, and percentages. Specifically, the teachers' perspectives regarding the identification of gifted students with SLD were measured by the overall mean of teachers' responses to the item questions 5-15 in the TPQ-Revised. While the minimum overall mean of the items was one, the maximum overall mean was seven. An overall mean smaller than 3.5 indicates that teachers' perspectives towards the identification of gifted students with SLD are negative, whereas an overall mean larger than 3.5 indicates that their perspectives towards the identification of gifted students with SLD are positive.

The third research question investigated teachers' perspectives of education of gifted students with SLD, such as in what settings are considered as the most suitable to educate them and who should teach them. This question was analyzed using overall means, standard deviation, frequency, and percentages. Specifically, the teachers' perspectives regarding the education of gifted students with SLD were measured by the overall mean of teachers' responses to the item questions 16-24 in the TPQ-Revised. While the minimum overall mean of the items was one, the

maximum overall mean was seven. Less than a 3.5 overall mean indicates that teachers' perspectives towards the education of gifted students with SLD are negative, whereas higher than a 3.5 overall mean indicates that their perspectives towards the education of gifted students with SLD are positive.

The fourth research question investigates whether the perspectives towards gifted students with SLD in teachers in Saudi Arabia differ based on their years of teaching experience. The independent variable for this question is years of teaching experience. Specifically, the one-way ANOVA with more than two levels is used to determine the significance of the factor for various average responses based on the years of teaching experience of the participants (comprised of five levels; 0-6, 7-12, 13-19, 20-26, 27 or more). In addition, participants were asked to write down the exact number of years teaching in the field, as there might be a correlation between this and the teachers' responses (perspectives). One-way ANOVA was used to determine whether there were statistically significant differences between the means of these groups. The dependent variable for this question was teachers' perspectives towards gifted students with SLD, which were measured by the overall mean of teachers' responses to all item questions (1-24) in the TPQ-Revised. While the minimum overall mean of the items was one, the maximum overall mean was seven. An overall mean smaller than 3.5 indicates that teachers' perspectives towards gifted students with SLD are negative, whereas larger than 3.5 indicates that their perspectives towards gifted students with SLD are positive.

Finally, the fifth research question investigates whether the perspectives about gifted students with SLD in Saudi Arabia differ among participants based on teachers' gender. The independent variable for this question is teachers' gender. An independent t-test was used to answer this question to find out whether there were statistically significant differences between the means of two groups (male and female). The dependent variable for this question was

teachers' perspectives towards gifted students with SLD, which were measured again by the overall mean of teachers' responses to all item questions (1-24) in the TPQ-Revised. While the minimum overall mean of the items was one, the maximum overall mean was seven. An overall mean smaller than 3.5 indicates that teachers' perspectives towards gifted students with SLD are negative, whereas larger than 3.5 indicates that their perspectives towards gifted students with SLD are positive.

Before data analysis, statistical assumptions for the independent t-test and one-way ANOVA were checked. For example, the outliers of the data and normality assumptions were checked using multiple tests, such as a histogram and QQ plot. In addition, the homogeneity of variance assumption was also checked using Levene's test. Furthermore, the participants in this study were provided with specific instructions before participants complete the online survey. For example, to ensure independence assumptions, participants were informed to respond independently to the survey.

The responses were coded as follows: The rating scale was: Strongly Disagree = 1, Moderately Disagree= 2, Slightly Disagree= 3, Neutral= 4, Slightly Agree= 5, Moderately Agree= 6, and Strongly Agree= 7. All analyses were conducted by using the common default level (significance value) in the education of statistical significance ($p < .05$). In addition, all relevant statistical evidence tables were provided in Chapter Four and the rest in the appendix section at the end of this study (see Appendix C and D). Descriptive statistics, including demographic information, such as gender, years of teaching experience, and level of education (highest degree), are addressed in Chapter four. The descriptive statistics included information of the frequencies and percentages of participants responding to each category. Thus, a number of statistical techniques, including tests of normality, homogeneity of variance, Levene's test, and

reliability analysis for internal consistency, were conducted before analyzing the data. Table 1 summarizes the procedures of the data analysis of this study.

Table 1

Statistical Analysis for Research Questions

N	Research question	Survey	Data analysis
1	What are the perspectives of teachers in Saudi Arabia regarding the existence of gifted students with SLD?	(Items 1-4)	Overall means, standard deviation, frequency, and percentages
2	What are the perspectives of teachers in Saudi Arabia regarding the identification of gifted students with SLD?	(items 5-15)	Overall means, standard deviation, frequency, and percentages
3	What are the perspectives of teachers in Saudi Arabia regarding the education of gifted students with SLD?	(items 16-24)	Overall means, standard deviation, frequency, and percentages
4	What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience?	(items 1-24)	One-way ANOVA with more than two levels
5	What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender?	(items 1-24)	Independent t-test

Summary

The quantitative methods design was chosen to investigate the perspectives of teachers towards gifted students with SLD in Saudi Arabia. This chapter included the research questions and hypotheses, participants, research design, measures, procedures, data collection, and data analysis. The researcher invited 1469 teachers from five regions in Saudi Arabia to participate in the study. The online survey (the TPQ-Revised) was employed as the primary data collection

tool for this study. Furthermore, several statistical techniques (e.g., descriptive analysis, independent t-test, and one-way ANOVA) were conducted to analyze the quantitative data using SPSS software. Finally, the results of this study were presented in chapter four and further discussed in chapter five.

Chapter Four

RESULTS

Introduction

This study examined teachers' perspectives about gifted students with specific learning disabilities (SLD) in Saudi Arabia. This study also aimed at examining the relationships between teachers' perspectives and two factors: years of teaching experience and gender. In addition, it investigated variables associated with teachers' perspectives about the existence, identification, and education of gifted students with SLD in different regions in Saudi Arabia.

As described in Chapter Three, the research method used in this study was quantitative research design, and an online survey (the TPQ-Revised) was employed to collect data through several social media platforms such as Twitter and WhatsApp. In addition, to collect the needed data for this study, participants' sample size, criteria of participating in this study, and recruiting plan were determined. Furthermore, the data collection procedures, data analysis, and ethical considerations were discussed (see Chapter Three).

Description of the Sample

This chapter provides a description of the sample from which the data were obtained, and the results of the statistical analysis done to address the research questions. Of the 1469 of teachers who were invited to the survey, 936 completed the TPQ-Revised with a response rate of 63.7%. The mean age of the respondents was 30.77 years (SD = 8.34). The demographic information about the participants in this study was presented in Tables 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12. Data from 936 teachers were analyzed using SPSS version 27.

Research Questions and Hypotheses

Data were collected through the TPQ-Revised that was used to answer the following five research questions:

RQ1: What are the perspectives of teachers in Saudi Arabia regarding the existence of gifted students with SLD?

RQ2: What are the perspectives of teachers in Saudi Arabia regarding the identification of gifted students with SLD?

RQ3: What are the perspectives of teachers in Saudi Arabia regarding the education of gifted students with SLD?

RQ4: What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience?

RQ5: What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender?

Research Hypotheses

In this study, there were two research hypotheses:

H_0. RQ4: There is no significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience.

H_1. RQ4: There is a significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience.

H_0. RQ5: There is no significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender.

H_1. RQ5: There is a significant difference in the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender.

Data Screening

Prior to conducting the primary analyses, the data were screened for missing values and violation of some statistical assumptions for the independent t-test and one-way ANOVA – the two analytic techniques used in the current study. First, missing value analysis indicated that

there were no missing values for any of the survey items completed by 936 participants. Second, data for the main dependent variable namely perspectives of teachers towards gifted students with SLD were screened for normality and outliers using a histogram and Q-Q plot (Figures 1 & 2) as well as Kolmogorov-Smirnov[a] and Shapiro-Wilk (see Table 2).

Figure 1 shows the histogram of the overall score for perspectives of teachers towards gifted students with SLD (M= 5.23, SD= .498, *n*= 936) and it seems that data were positively skewed with slight deviations from normality. There were also some outliers in the data. However, although all outliers had been removed (*n*= 926 and *n*=916), there were no notable changes in the normality tests. Due to this reason, the researcher could not justify removal of the outliers.

Figure 1.

Normality Test (Histogram for Overall Mean Score of Perspective of Teachers)

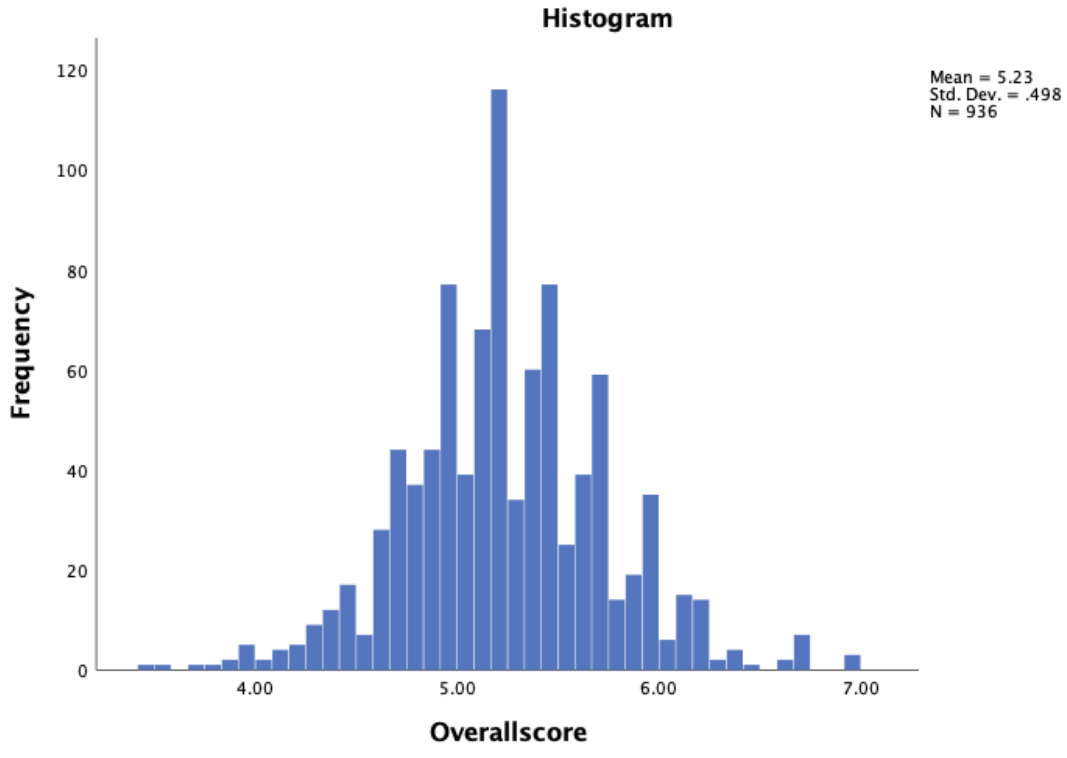
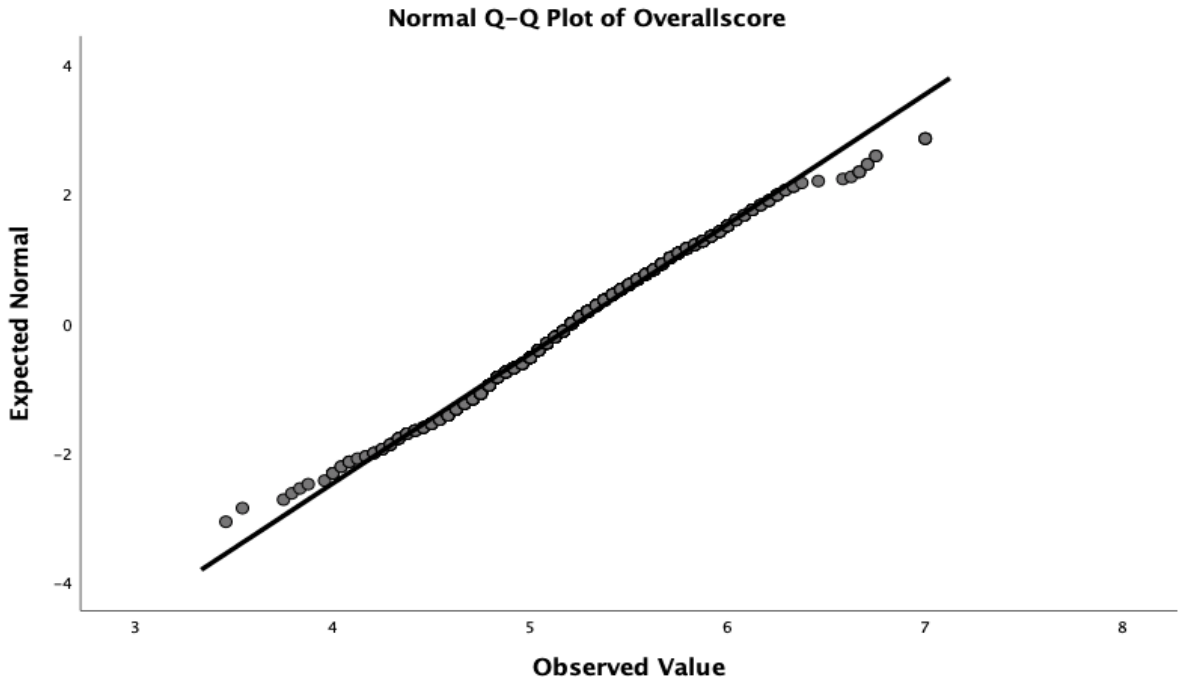


Figure 2 shows that the Normal Q-Q plot appears to deviate slightly from a straight line, which indicates a little degree of skewing to both the left and right.

Figure 2.

Normality Test (Normal Q-Q Plot for Overall Mean Score of Perspective of Teachers)



As this study included a large sample size (*n*= 936), the normality assumption was no longer needed. When the sample size is large, according to Field (2009), normality should be assumed even if the distribution is not normally distributed.

Table 2 showed that the Kolmogorov-Smirnov[a] test, Df (936) = .046, $p < .001$ and the Shapiro-Wilk scores test, Df (936) = .992, $p < .001$ deviated from normal. However, even if the distribution is not normally distributed, it was notable to report that due to the large sample size that this study included (*n*= 936), normality should be assumed (Field, 2009).

Table 2

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Overall score	.046	936	.000	.992	936	.000

Reliability Analysis

The Cronbach's alphas for 24 items (overall scores) of the survey was .683. This level of reliability is slightly less than the acceptable level at .70 (Kline, 2010). However, many researchers (e.g., Ursachi et al., 2015) indicated that 0.6-0.7 is an acceptable level of reliability. When checking the subscales of the 24 items, the reliability indices were not sufficient in some domains, and that might be because the small number of items tested in each subscale. When deleting item number 9 and 12, the Cronbach's alpha slightly increased to reach the cutoff point of the acceptable level at .702 (Kline, 2010). On the other hand, the coefficient Omega was also conducted using *psych* package (Revelle, 2019) in R (R Core Team, 2019). The reliability indices of the Omega Coefficient for 24 items of the survey was at an acceptable level at .71 and showed better results in each subscale.

Demographics

Table 3 indicates that the majority of teachers (39%) who participated in this study were from Eastern provision while only 3.6% (n = 34) were from Northern provision.

Table 3

Frequency for Region on Teachers

Variable	Frequency	Percentage
Eastern	365	39.0
Western	179	19.1
Central	169	18.1
Northern	34	3.6
Southern	189	20.2
Total	936	100.0

Table 4 indicates that about 41% (*n* = 383) of the participants were male teachers while about 59% (*n* = 553) were female teachers.

Table 4

Frequency for Gender on Teachers

Variable	Frequency	Percentage
Male	383	40.9
Female	553	59.1
Total	936	100.0

Table 5 shows that 74.4 % (*n* = 696) of the participating teachers had a baccalaureate degree (undergraduate degree) while only 1.4% (*n* = 13) had a doctorate degree.

Table 5

Frequency for Level of Education of Teachers

Variable	Frequency	Percentage
Intermediate diploma	51	5.4
Baccalaureate	696	74.4
Higher diploma	40	4.3
Master's degree	136	14.5
Doctorate	13	1.4
Total	936	100.0

Table 6 indicates that the majority of teachers who participated in this study 94% (*n* = 877) teach at public schools while only 6.3% (*n* = 59) of them teach at private schools.

Table 6

Frequency for Type of School of Teachers

Variable	Frequency	Percentage
Public	877	93.7
Private	59	6.3
Total	936	100.0

Table 7 shows that 17.2% (*n* = 161) of teachers who participated in this study had less than 6 years of teaching experience, 27.4% (*n* = 256) had 7 to 12 years of teaching experience, about 25% (*n* = 232) had 13 to 19 years of teaching experience, 21.5% (*n* = 201) had 20 to 26 years of teaching experience, and 9.2% (*n* = 86) had 27 or more of years of teaching experience.

Table 7

Frequency for Teachers by Years of Teaching Experience

Variable	Frequency	Percentage
0-6 years	161	17.2
7-12 years	256	27.4
13-19 years	232	24.8
20-26 years	201	21.5
27 and above	86	9.1
Total	936	100.0

Table 8 shows that 52.6% (*n* = 492) of teachers of who participated in this study was teaching in elementary or primary level (grades 1-6), 15.8% (*n* = 148) was teaching in middle school level (grades 7-9), 17.5% (*n* = 164) was teach at high school level (grades 10-12), and 14.1% (*n* = 132) was teaching in more than two levels at the same time.

Table 8

Frequency for Teachers by School Level

Variable	Frequency	Percentage
Elementary	492	52.6
Middle	148	15.8
High school	164	17.5
More than one level	132	14.1
Total	936	100.0

Table 9 indicates that the majority of teachers (79.3% or *n* = 742) participated in this study were general education teachers while only 1.6% (*n* = 15) were enrichment program teachers. About 13.5% (*n* = 126) were special education teachers (all majors except SLD teachers) and only 5.7% (*n* = 53) were SLD teachers.

Table 9

Frequency for Teachers by Teaching Position

Variable	Frequency	Percentage
General education	742	79.3
SLD teacher	53	5.7
Enrichment program teacher	15	1.6
SPED teachers (all other majors)	126	13.5
Total	936	100.0

Table 10 shows that about 49% (*n* = 460) of the teachers participated in this study had not received any training in special education nor gifted education. Only 6.3 (*n* = 59) of participants had a degree in special education or gifted education while 9.6 (*n* = 90) took less than a day

workshop in special education or gifted education, and 22.2% (*n* = 209) of teachers took more than a day workshop in special education or gifted education.

Table 10

Frequency for the Teachers Who Had Training in Special Education or Gifted Education

Variable	Frequency	Percentage
None	460	49.1
A degree in SPED or gifted education	59	6.3
Workshop (less than a day)	90	9.6
Workshop (more than a day)	209	22.3
A subject during university degree	152	16.2
Others	35	3.7
Total	936	100.0

Table 11 indicates that 45.6% (*n* = 427) of teachers who participated in this study have taught students with SLD while about 50% (*n* = 466) have not. Only 4.6% (*n* = 43) of teachers did not know if they have taught students with SLD or not.

Table 11

Frequency for Teachers Who Taught Students with SLD

Variable	Frequency	Percentage
Yes	427	45.6
No	466	49.8
I don’t know	43	4.6
Total	936	100.0

Table 12 indicates that about 50% (*n* = 467) of teachers who participated in this study

have taught gifted students while 40.7% (n = 381) have not. Only 9.4% (n = 88) of teachers did not know if they have taught gifted students or not.

Table 12

Frequency for Teachers who Taught Gifted Students

Variable	Frequency	Percentage
Yes	467	49.9
No	381	40.7
I don't know	88	9.4
Total	936	100.0

Data Analysis by Research Question

Data from questions one, two, and three were analyzed using overall means, standard deviation, frequency, and percentages. Data from question four was analyzed using one-way ANOVA with more than two levels. Data from question five was analyzed using the independent t-test to compare the results between two different groups. Teachers' perspectives were measured by calculating the overall mean score on seven-point Likert scale of TPQ-Revised. More specifically, since the mean score was 3.5, a higher than 3.5 mean score was hypothetically considered as teachers' positive perspectives, and a less than 3.5 mean score was hypothetically considered as teachers' negative perspectives.

Research question 1: What are the perspectives of teachers in Saudi Arabia regarding the existence of gifted students with Specific Learning Disabilities (SLD)? This question investigated the participants' perspectives if they believe that gifted students with SLD exist. The teachers' perspectives regarding the existence of gifted students with SLD were measured by extracting the overall mean of teachers' responses to item questions 1-4 in TPQ-Revised. While

the minimum overall mean of the items was one, the maximum overall mean was seven. If the overall mean is smaller than 3.5, this indicates that teachers' perspective is negative, in other words, they do not believe gifted students with SLD exist. On the other hand, if the overall mean is larger than 3.5, it indicates that their perspectives is positive, meaning they believe gifted students with SLD do exist. Table 13 shows the overall mean of teachers' responses to items 1-4 of the TPQ-Revised (M = 5.1242, SD = .87409). This result indicated that teachers believed gifted students with SLD do exist in classrooms in Saudi Arabia.

Table 13

Descriptive Statistics for Teacher' Perspectives About the Existence of Gifted Students with SLD

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Overall score	936	1.75	7.00	5.1242	.87409

Research question 2: What are the perspectives of teachers in Saudi Arabia regarding the identification of gifted students with SLD? The teachers' perspectives regarding the identification of gifted students with SLD were measured by the overall mean of teachers' responses to the item questions 5-15 in the TPQ-Revised. While the minimum overall mean of the items was one, the maximum overall mean was seven. An overall mean smaller than 3.5 indicated that teachers' perspectives towards the identification of gifted students with SLD were negative, whereas an overall mean larger than 3.5 indicated that their perspectives towards the identification of gifted students with SLD were positive. Table 14 shows the overall mean of teachers' responses to items 5-15 of the TPQ-Revised (M = 5.1693, SD = .57742). This result indicated that teachers had positive perspectives towards the identification of gifted students with SLD in classrooms in Saudi Arabia.

Table 14

Descriptive Statistics for Teacher' Perspectives About the Identification of Gifted Students with SLD

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Overall score	936	3.18	7.00	5.1693	.57742

Research question 3: What are the perspectives of teachers in Saudi Arabia regarding the education of gifted students with SLD? The teachers' perspectives regarding the education of gifted students with SLD were measured by the overall mean of teachers' responses to the item questions 16-24 in the TPQ-Revised. While the minimum overall mean of the items was one, the maximum overall mean was seven. An overall mean smaller than 3.5 indicated that teachers' perspectives towards the education of gifted students with SLD were negative, whereas an overall mean larger than 3.5 indicated that their perspectives towards the identification of gifted students with SLD were positive. Table 15 shows that the overall mean of teachers' responses to items 16-24 of the TPQ-Revised (M = 5.3625, SD = .62043). This result indicated that teachers had positive perspectives towards the education of gifted students with SLD in classrooms in Saudi Arabia.

Table 15

Descriptive Statistics for Teacher' Perspectives About the Education of Gifted Students with SLD

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Overall score	936	2.78	7.00	5.3625	.62043

Research question 4: What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience? Table 7 shows the results of descriptive statistics for years of teaching experience. There were five groups for years of teaching experience: 0-6 years, 7-12 years, 13-19, 20-26 and 27 and more years. Three groups

had similar number of participants. The group of teachers with 7-12 years had 256 teachers, the group of teachers with 13-19 years had 232 teachers, and the group of teachers with 20-26 years had 201 teachers. The group of teachers with 0-6 years had 161 teachers, while the group of teachers with 27 and more years of teaching experience had only 86 teachers. All groups had similar means and standard deviations (see Table 16).

Table 16

Descriptive Statistics for Teacher' Perspectives About Gifted Students with SLD by Years of Teaching Experience

Variable (years of teaching experience)	N	Mean	Std. Deviation
0-6 years	161	5.2399	.46554
7-12 years	256	5.2235	.51683
13-19 years	232	5.1915	.51209
20-26 years	201	5.2378	.47129
27 and more	86	5.3629	.51616
Total	936	5.2342	.49847

The results of one-Way ANOVA indicated that there were no significant differences among teachers' experience about gifted students with SLD (F (4, 931) = 1.904, p = .108 (p >.05) (see Table 17). Therefore, the researcher failed to reject the null hypothesis and concluded that there were no significant differences among teachers' years of teaching experiences regarding their perspectives of gifted students with SLD.

Table 17

Tests of Between-Subjects Effects on Teachers' Perspectives by Years of Teaching Experience

Sources	Type III Sum of Squares	Df	Mean Square	F	Sig.

Between Groups	1.885	4	.471	1.904	.108
Within Groups	230.434	931	.248		
Total	232.320	935			

Table 18 shows that Levene's test for equality of error variances indicated equal variances, F (4, 931) = .937, p = .442. Thus, the assumption of homogeneity of variance has been met because the significance was .442, which is above the .05 level.

Table 18

Levene's Test of Equality of Error Variances for Years of Teaching Experience

Dependent Variable Overall score	F	df1	df2	Sig
	.937	4	931	.442

Research question five: What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender? The results of descriptive statistics based upon the gender of each teacher about gifted students with SLD showed that the majority of participants in this study were female teachers (see Table 4). Male and female teachers had slightly different but similar means (see Table 19), as male teachers (M = 5.2292, SD = .52753) versus the female teachers (M = 5.2377, SD = .47776). Results of the independent t-test (see Table 20) indicated that there were no significant differences by gender (t (934) = -.256, p = .798, d = .801). Therefore, the researcher failed to reject the null hypothesis and concluded that there were no significant differences between male and female teachers in perspectives towards gifted students with SLD in Saudi Arabia.

Table 19

Descriptive Statistics for Teacher' Perspectives About Gifted Students with SLD by Gender

Variable	Frequency	Mean	Std. Deviation	Std. Error Mean
Male	383	5.2292	.52753	.02696
Female	553	5.2377	.47776	.02032

Table 20 shows the results of Levene's test for equality of variances. This test indicated equal variances, F (1, 934) = .1.569, p = .211. Therefore, the assumption of homogeneity of variance has been met because the significance was .211, which is above the .05 level.

Table 20

Results of Independent Samples t-test for Teacher' Perspectives About Gifted Students with SLD by Gender

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	*T*	*df*	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Perspectives Equal variances assumed	1.569	.211	-.256	934	.798	-.0.00851	.03315

Summary of Research Findings

A total of 936 teachers completed the survey. The results of this study indicated that teachers in Saudi Arabia, in general, had positive perspectives regarding the existence, identification, and education of gifted students with SLD. The results of this study also revealed that there were no significant differences among teachers' perspectives in Saudi Arabia based on their years of teaching experience nor gender. It was notable that the majority of teachers (79.3% or n = 742) who participated in this study were general education teachers (see Table 9), and

74.4% (*n* = 696) of the participating teachers had a baccalaureate degree (see Table 5). In addition, about 59% (*n* = 553) of teachers who participated in this study were female (see Table 4). Taking into consideration that the mean age of the respondents in this study was about 31 year, which could mean approximately 7-9 years of teaching experience (see Table 7), about 50% of participants in this study have not taught students with SLD (see Table 11) and about 41% have not taught gifted students (see Table 12).

Chapter Five

DISCUSSION

This study examined teachers' perspectives about gifted students with specific learning disabilities (SLD) in Saudi Arabia. As mentioned previously, general education teacher preparation programs in the country do not require teacher candidates to take any special education courses as part of their teacher education training curriculum (Aldabas, 2015). Therefore, general education teachers are often not prepared to teach in inclusive settings, which commonly include diverse students, such as gifted students with SLD. Therefore, it was important to examine the perspectives of teachers regarding gifted students with SLD so as to ensure that these students receive an appropriate education. In addition, it is noteworthy that, up to now, there is not a single study that has studied the teachers' perspectives concerning the existence, identification, and education of gifted students with SLD in the five main regions of the country. Thus, this study should provide a better understanding of teachers' perspectives about gifted students with SLD in the country, which may enhance the education of those students and pay more attention to their unique needs in the future.

In this chapter, findings of this study are discussed based on the order of the research questions:

RQ1: What are the perspectives of teachers in Saudi Arabia regarding the existence of gifted students with SLD?

RQ2: What are the perspectives of teachers in Saudi Arabia regarding the identification of gifted students with SLD?

RQ3: What are the perspectives of teachers in Saudi Arabia regarding the education of gifted students with SLD?

RQ4: What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on years of teaching experience?

RQ5: What are the perspectives of teachers in Saudi Arabia towards gifted students with SLD based on the teachers' gender?

Furthermore, this chapter aimed at examining the findings of this study and how they were related to the current literature. This chapter deliberates the research implications, limitations, and several recommendations for future research.

Discussion of Research Findings

The teachers' perspectives regarding the existence (the first research question), identification (the second research question), and education (the third research question) of gifted students with SLD were measured by extracting the overall mean of teachers' responses to specific item questions in the TPQ-Revised. As the TPQ-Revised was a seven-point Likert scale, the minimum overall mean of the items was one and the maximum overall mean was seven. An overall mean smaller than 3.5 indicated that teachers' perspectives towards the three domains (the existence, identification, and education) of gifted students with SLD were negative, whereas an overall mean larger than 3.5 indicated that their perspectives were positive. Similarly, as the fourth research question compared between five groups (years of teaching experience) and the fifth research question compared between two groups (male and female teachers), one-way ANOVA and independent t-tests were conducted and the results were measured by extracting the overall mean of teachers' responses to all item questions (24 items) of the TPQ-Revised.

The Existence of Gifted Students with SLD

The results of this study indicated that teachers believed gifted students with SLD do exist in classrooms in Saudi Arabia (see Table 13 in Chapter Four). However, this result was unexpected, especially when taking into consideration that 79.3% (n = 742) of teachers

participating in this study were general education teachers (see Table 9 in Chapter Four). In addition, about 49% (n = 460) of the teachers who participated in this study had not received any type of training in special education nor gifted education (see Table 10 in Chapter Four). However, the internal reliability test for the existence subscale (Cronbach's alpha for item question 1-4) showed less than the acceptable level at .70 (Kline, 2010), although Omega Coefficient showed acceptable level. This might be due to the small number of item questions tested in this subscale or due to inconsistency among these four item questions.

Regardless, examining every individual item in the existence domain revealed parallel standpoints. For example, in regard to the first item "Gifted students with SLD do exist in the regular education classroom," more than 80% (n = 756) of teachers who participated in this study agreed that these students do exist in the regular education classroom, 11.5% (n = 108) of teachers disagreed with this statement, and the rest 7.7% (n = 72) of teachers were neutral (see Appendix D).

To the best of the researcher's knowledge, the existence of gifted students with SLD has not been researched, yet. Therefore, discussing the findings of this domain (the existence) and comparing them with other studies would be unjustifiable. However, some studies have corresponding viewpoints regarding the difficulty of believing that giftedness coexists with learning disabilities in the same person. Song and Porath (2011), for example, confirmed that being a gifted student and showing SLD is dubious. They also stated, "Giftedness in coexistence with learning deficits is often conceived of as paradoxical or even impossible" (p. 215). Furthermore, when Gari et al. (2015) were in the process of recruiting teachers for their study, many teachers declined participation as they could not understand the notion of how gifted students face learning difficulty. In other words, many studies (e.g., Assouline et al., 2006; Willard-Holt et al., 2013; Schultz, 2012; Crepeau-Hobson & Bianco, 2011) indicated that even

school community members have dificulty understanding that a student can excel in learning in one area, but he or she simultaneously has a disability in another.

When considering that intelligence is multidimensional, according to many theories in this field, such as Renzulli (1978), Gardner (1983), and Sternberg (1985), the existence of giftedness and SLD can be sensible (Liddle & Porath, 2002). This view seams in line with Bianco and Leech (2010) as they believed giftedness, potentially, can exist in all population, including individuals with disabilities. To illustrate, the third and fourth items in this domain aimed to examine this perspective.

Item question three asked the teachers if they believed that some gifted students who are receiving education in enrichment programs have SLD (see Appendix A). This item had the lowest mean (M = 4.62, SD = 1.381) compared to other items in the existence domain (see Appendix C). Approximately 51% (*n* = 478) of teachers who participated in this study agreed that some gifted students who are receiving education in enrichment programs have SLD, 16.5% (*n* = 154) of teachers disagreed with this statement, and more than 32% (*n* = 304) of teachers were neutral (see Appendix C). Similarly, item question four asked the teachers if they believed that "Some gifted students are receiving special education services in the resource room" (see Appendix A). This item also had a lower mean (M = 4.97, SD = 1.507) compared to other items in the same domain (see Appendix C). About 64% (*n* = 596) of teachers who participated in this study agreed with this statement, almost 14% (*n* = 130) of teachers disagreed, and 22.4% (*n* = 210) of teachers were neutral (see Appendix C).

In brief, after Johns Hopkins University colloquium in 1981, researchers and experts agreed that characteristics of both exceptionalities presented and existed in some students (Fox & Brody, 1983). Furthermore, as mentioned in Chapter Two, Foley-Nicpon et al. (2011) reviewed 20 years of research on gifted children with several disabilities, including SLD, and found that

gifted students could have co-existing disabilities. Assouline et al. (2011), similar to many researchers, such as Pfeiffer (2015) and Olenchak and Reis (2002), concluded the findings of their study stating that gifted students with SLD do exist. Furthermore, numerous greatest contributions to all human world or in specific fields (e.g., art, sciences, business) have been made by individuals who have either confirmed or suspected SLD in addition to their evident gifts (Leggett et al., 2010). For example, the polymath and great Italian artist Leonardo da Vinci, the greatest American inventor Thomas Edison, the French sculptor Auguste Rodin, and the English novel author Agatha Miller Christie were all gifted and talented individuals who also possibly struggled with SLD (Aaron et al., 2004). Hence, researchers recommended gifted students who also have SLD should be considered as a distinct population with unique characteristics and needs that is different from other students (Fox et al., 1983). Thus, Assouline et al. (2006) and Willard-Holt et al. (2013) believed that these students are a newly recognized group.

The Identification of Gifted Students with SLD

The results of this study indicated that teachers had positive perspectives about the identification of gifted students with SLD in classrooms in Saudi Arabia (see Table 14 in Chapter Four). However, in view of investigating the items of this domain individually (5-15 in TPQ/Revised), interesting findings emerged. For example, when responding to item questions five and six (see Appendix A), the majority of participating teachers agreed with these statements, which means they understood the characteristics of these students (see Appendix D). In addition, 75% of the them believed that these students can be identified in the regular education classroom (item question eight). Particularly, in relation to who should identify those students (item question nine), almost 75% (n = 701) believed that it should be done by learning disabilities teachers instead of general education teachers. The findings of this study were

consistent with a those from Alsamiri's (2016) study. Furthermore, the finding from item question nine aligned with the finding from item question 13 "General education teachers have sufficient training to identify gifted students with SLD." As expected, almost 63% (n = 588) disagreed with this statement, while less than 27% (n = 251) agreed (see Appendix D).

Many studies (e.g., Coleman & Gallagher, 2015; Roberts et al., 2015) indicated that general education teachers seem to be uncertain about identifying gifted students with SLD, and this may be due to the lack of knowledge, training, and specific policies regarding the identification of those students. Nevertheless, many studies (e.g., Alsamiri, 2016; Altıntaş & Özdemir, 2012; Carruthers, 2012; Chimhenga, 2016; Hosseinkhanzadeh et al., 2013; Jarwan & Al-Abbadi, 2014) stated that general education teachers perceived gifted students with SLD favorably if being informed or educated. Regardless, the identification of those students seems to be a complex process.

In regard to item question 12, the finding of this study aligned with Assouline et al. (2006) and Willard-Holt et al. (2013) studies, which indicated the difficultly of identifying those students. Moreover, it can be more problematic if those students are being identified as either gifted or with SLD. For example, in gifted programs, students who are twice exceptional may receive insufficient representation, and thus, may be neglected (Davis & Rimm, 2004). Moreover, due to their average performance in cognitive functioning, Volker et al. (2006) stated that they may never be referred for any evaluation. Instead, they should be identified as twice-exceptional (e.g., gifted students with SLD), in order to provide them with suitable education to meet their individual needs and to support them to reach their full potential. As mentioned in Chapter Two, teachers are responsible for identifying their students' strengths and weaknesses (Almakhalid, 2012). Accordingly, they play a significant role in identifying and referring students to receive appropriate education (Renzulli, 2005).

To do so, teachers' observations and referrals are some of the most widely used approaches for screening those students (Davis & Rimm, 2004; Hallahan, et al., 2009). Thus, the initial identification is certainly affected by teachers' perspectives and knowledge of those students (Davis & Rimm, 2004). This statement is consistent with the participating teachers on item question 11. About 94.5% (n = 885) agreed that it is important to determine what teachers know about the characteristics of gifted students with SLD in order to more accurately identify them. Similarly, Alsamiri (2016) also found that almost 56% of participating teachers in his study believed that teachers should be well-informed and knowledgeable about the characteristics of those students in order to identify them accurately.

There are various additonal approaches to identifying gifted students with SLD (Chimhenga, 2016; Mayes et al., 2016; McCallum et al., 2013; Pfeiffer, 2015), such as by examining the discrepancy between the students' academic performance and their intelligence test score patterns (Brody & Mills, 1997). However, according to Buică-Belciu and Popovici (2014), several factors make identifing these students challenging, including the lack of a consensus to define this population of students, criteria for diagnosis, sufficient instruments for testing, and procedures. Nevertheless, fallure to identify those students may result in violation in some civil rights and legal implications (Gilman, et al., 2013) since all students with special needs, including gifted students with SLD, should receive a free and appropriate education (more details were discussed earlier in Chapter Two).

For decades in the field of special education, since Senf (1983) and later with Newman and Sternberg (2004), Krochak and Ryan (2007), and Silverman (2009[b]), accurate identification of this population of students has continued to be a critical concern. After reviewing literature for the past two decades on this topic, Foley-Nicpon et al. (2011) concluded that identifing students who are twice-exceptional (e.g., gifted students with SLD) is a real challenge. Accurately

identifing those students requires appropriate comprehensive assessments that document the strengths or gifts and needs of gifted students with SLD (Brody & Mills, 2004). Since the strengths and needs of those students may change over time, Brody and Mills (1997) recommended that identifing those students should be an ongoing process. Therefore, the stackholders in field of education, in collaborating with other professionals such as school psychologist, teachers, and researchers, are recommended to develop specific criteria for identifying gifted students with SLD.

As detailed in Chapter Two, the Seventh Article of the Regulations of Special Education Programs and Institutes (RSEPI) specify the responsibilities of schools and school districts in working with students with disabilities and their families (Ministry of Education, 2002). Thus, item question 15 in this domain (identification) asked participating teachers of their position on whether the Ministry of Education in Saudi Arabia should create specific criteria for identifying gifted students with SLD. More than 93% (n = 872) agreed, while only 2.5% (n = 23) disagreed, and the rest (4.4%) were neutral. Similarly, Alsamiri (2016) in his study found that more than 47.5% of participating teachers believed that such policies should be created by the Ministry of Education. In suumary, and as discussed previously, the perspectives of identifing those students are varied among teachers, thus, many researchers (e.g., Alkhunaini, 2013; Gari et al., 2015; Chimhenga, 2016) suggested that further research in this field is warranted.

The Education of Gifted Students with SLD

The results of this study indicated that teachers had positive perspectives regarding the education of gifted students with SLD in classrooms in Saudi Arabia (see Table 15 in Chapter Four). Overall, teachers' perspectives in this domain (Education) revealed consistent findings when investigating the items individually. For example, item question 16 asked participating teachers their position on whether or not including gifted students with SLD in general education

classroom is beneficial. More than 70% (n = 658) believed it is beneficial, while 16.7% (n = 157) disagreed, and the rest (13%) remained neutral. Considering the fact that majority of participants (79.3%) were general education teachers, of which 50% have never taught students with SLD, and 41% have never taught gifted students, this finding was slightly unexpected.

In the field of education, there has been a lack of expertise in teachers and professionals serving students who are twice-exceptional (Reis et al., 2000; Baum et al., 2004). The findings of item question 19 were consistent with this issue. When being asked whether or not general education teachers have sufficient training in teaching gifted students with SLD. More than 61% (n = 574) replied they did not, while 26% (n = 243) believed they did, and the rest (12.7%) remained neutral. This was consistent with the aforementioned discussion on the second research question. In addition, other researchers (e.g., Chessman, 2005; Coolahan, 2004) also found that teachers with post-graduate training in gifted education could better identified and understand gifted students, including gifted students with SLD.

As mentioned previously, accurate identification of this population has remained to be a concerning issue (Silverman, 2009[b]; Foley-Nicpon et al., 2011). Many researchers (e.g., Rimm et al., 2018; Alkhunaini, 2013; Wormald, 2009) found that gifted students with disabilities are typically identified for their disabilities but not their giftedness. Similarly, many studies (e.g., Gari et al., 2015; Adams et al., 2013; Hays, 2016; Wellisch & Brown, 2012) confirmed that the giftedness of this population is oftentimes overlooked while their disabilities stand out instead. That might be resulted from the fact that disability is more likely to gain the teachers' attention than giftedness. Furthermore, Dai and Chen (2013) indicated that teachers tend to treat gifted students with SLD as regular students. Thus, they are rarely referred to both gifted and special education programs at the same time (Fall & Nolan, 1993). It was not surprising that this cohort

of students rarely made the cutoff point of most of gifted programs since most schools exclude gifted students who have learning difficulties in certain areas (Fall & Nolan, 1993).

Similar to the significance of identification, the education of gifted students with SLD depends upon the referral of teachers. Teachers who specialized in giftedness or SLD have different perceptions of their students than general education teachers (Alkhunaini, 2013; Bianco & Leech, 2010; Coleman & Gallagher, 2015). In other words, the referral process is dependent on the referrers' perceptions of those students. For example, Bianco and Leech (2010) investigated to what extend teachers are willing willingness to refer gifted students with SLD to gifted and talented programs and found that the their decision making were significantly affected by their job positions and by the students' disability labels. In other words, the presence or absence of a disability label played a significant role in the decision-making processes among those teachers (Bianco & Leech, 2010). More specifically, special education teachers were less likely to refer students (with and without disabilities) to gifted programs when compared to gifted and general education teachers. Alsamiri (2016) found that teachers in his study were more likely to refer students of twice exceptionalities to the resource room. Similarly, Alamer (2017) stated that teachers in his study did not believe that students with disabilities could benefit from attending gifted programs.

Willard-Holt et al. (2013) reported that globally twice exceptional students are often underserved by school systems. According to Baum (1985), up 33% of students with SLD have superior intellectual abilities. However, they are rarely referred to attend gifted programs due to aforementioned issues in the identification process and high expectations in the gifted programs (Brody & Mills, 1997). This affirmed that teachers play a significant role in determining these students' educational placements.

As mentioned previously in this study, the Ministry of Education is the main bureau responsible for education for all students in Saudi Arabia, including gifted students with SLD. The last item question (item question 24) asked participating teachers whether or not the Ministry of Education provides enough resources to teachers to meet the educational needs of those students. About 36% (n = 335) believed there were not enough, and almost 43% (n = 400) thought there are enough. Surprisingly, about 21% (n = 201) were neutral, which might be due to the lack of knowledge on this topic among teachers.

In summary, the unique educational needs of twice exceptional students have been found often ignored by school systems (item question 22). In order to fill this gap, almost 94% (n = 878) of participating teachers in this study agreed that teachers need know more about the characteristics of this population in order to serve them better. Furthermore, more than 95% of participating teachers agreed that the support of learning disabilities teachers is essential to the success of the educational experience for this population (item question 21). This emphasizes the importance of collaboration among all stakeholders to work together to ensure that the needed requirements of those students are assured (Bracamonte, 2010; Neumeister et al., 2013; Wang & Neihart, 2015[b]).

Years of Teaching Experience and Teachers' Perspectives

The results of this study indicated that there were no significant differences in teachers' perspectives about gifted students with SLD based on teachers' years of teaching experience (see Table 16, 17, and 18 in Chapter Four). This might be resulted from that fact the about 50% of participants in this study have not taught students with SLD and about 41% have not taught gifted students (see Table 11 and 12 in Chapter Four). In addition, the descriptive analysis showed that more than 49% (n = 460) had received no training in special education, nor in gifted education (see Table 10). This finding, on the contrary, was inconsistent with the result from

Alsamiri's (2016) study, in which he found a positive correlation between years of teaching experience and teachers' abilities in identifying gifted students with SLD. Specifically, Alsamiri (2016) reported that participants in his study believed that years of teaching experience played a more significantly important role in their ability to identify gifted students with SLD than other methods, such as IQ testing, observation, and homework. Chessman (2005) and Coolahan (2004), similarly, found that teachers with more teaching experience can better understand gifted students, including gifted students with SLD. Other studies (e.g., Alkhunaini, 2013; Al Hajeri, 2015; Gari et al., 2015) claimed that teachers' abilities to identifying those students may be enhanced by their years of teaching experience, however, it does not guarantee accurate identification. Therefore, Gari et al. (2015) and Alkhunaini (2013) argued that years of teaching experience alone was inadequate in identifing and supporting those students, thus, further specific training in this area was recommended.

In summary, years of teaching experience has been a debatable factor in existing literature in Saudi Arabia. Many researchers (e.g., Abd-elreheem, 2012; Alkhunaini, 2013) found a correlation between years of teaching experience and teachers' perspectives, whereas others (e.g., Al-Ahmadi, 2009) could not find any. In this study, no significant differenc was found among teachers. The finding of this study (no difference was found among teachers' perspectives) could be justified since all teacher preparation programs in Saudi Arabia are standardized under the supervision of the Ministry of Education, which means the coursework and training requirements are the same in all of these programs. Future studies may consider the types of teaching positions (e.g., general education, SLD, enrichment program, other special education teachers) as a potential factor.

Gender and Teachers' Perspectives

The results of the study indicated that there was no significant difference between male and female teachers (see Table 19 and 20 in Chapter Four). The finding of this study seemed inconsistent with those from Alsamiri's (2016) study. It was noted in his study that gender predicted teachers' perspectives on identification and support of those students. His study revealed that, when comparing with female teachers in Saudi Arabia, male teachers had a more favorable attitude towards support for gifted students with SLD. Additionally, male teachers in offered more support to those students than their female counterparts. In summary, Alsamiri (2016) suggested in his study that gender might play an important role in influencing the experiences and perspectives of Saudi teachers.

Considering the fact that education (elementary, middle, high school, and post-high school education) in Saudi Arabia is segregated based on gender (Aljughaiman & Grigorenko, 2013), teachers' perspectives might be affected. Additionally, due to Saudi traditional culture, female teachers had limited opportunities to receive in-service training or professional development compared to their male counterparts (Alsamiri, 2016). In the past few years, traveling to attend a conference or workshop posed concerns for female teachers as they were often required to have a male family member (e.g., father, brother, or husband) to travel with them. For example, traveling with a male family member could be necessary in order to be able to find a place to stay temporarily. Furthermore, Saudi females also have limited employment opportunities compared to Saudi males, but attending teacher education programs was highly valued by the Saudi culture (Alquraini, 2012). As a result, 85% of employed Saudi females work in the field of education (Alhudaithi, 2015). According to the Center of Education Statistics and Decision Support at the Saudi Ministry of Education, 55% of teachers are female (Ministry of Education, 2018).

In addition to the aforementioned reasons, the number of students with disabilities who are receiving special education services vary by gender. Specifically, more male students with SLD received services than female in Saudi Arabia (Al-Mousa, 2010). Thus, Saudi females may become teachers even though it was not their real preferences (Al-Jaffal, 2019). This may affect their attitudes regarding students with special needs, particularly gifted students with SLD. However, gender was not a significant factor in the current study, and that might be due to the similar considerations of both male and female participating teachers of gifted students with SLD. Specifically, both male and female teachers in Saudi Arabia trained in the same teacher preparation programs and mostly by the same instructors. In other words, teacher preparation programs in this country have similar curriculums, coursework, and practicum requirements regardless of gender, and all of these programs are obligated to follow the same guidelines of the Ministry of Education.

Research Implications

More than three decades ago, Whitmore and Maker (1985) stated that gifted students with disabilities is the most misjudged, misunderstood, and neglected cohort compared with other students. As a matter of fact, this cohort is still struggling as an unidentified population (Barnard-Brak et al., 2015), even though gifted students with SLD has being gradually recognized over the past few years (Assouline et al., 2010).

In 1984, Saudi Arabia was the first Arab country that launched inclusive educational practices involving students with special needs in general education classrooms with typically developing students (Alsamiri, 2016; Al-Mousa et al., 2006). A decade later, special education in Saudi Arabia has been progressively improved along with inclusive education (Al-Mousa, 2010; Battal, 2016). Nowadays, students with special needs, including gifted students and students with SLD, are educated primarily in inclusive classrooms. Therefore, the readiness and potency of the

educational environment should be more supportive for gifted students with SLD, which requires further reforms for teacher preparation programs.

General education teacher preparation programs in Saudi Arabia do not require teacher candidates to take any special education (Aldabas, 2015), nor gifted education (Alsamiri (2016) courses as part of their general education training. However, it is embedded in courses related to giftedness or learning disabilities (Alsamiri, 2016). Therefore, and as found in this study, special education, specifically learning disabilities teachers, had more knowledge about gifted students with SLD than their counterparts, general education teachers.

Based on the theoretical foundation of this study, Gagné's Differentiated Model of Giftedness and Talent (DMGT), the teacher is one of the main environmental catalysts (Gagné, 2015). The potency of these environmental catalysts involves many important aspects that directly and indirectly affect the education of gifted students with SLD, such as enriching the curriculum, instructional pedagogies, and educational environments. The educational environments, for example, are directly affected by teachers' attitudes towards students (Almakhalid, 2012), thus, impact teaching strategies for students with special needs, such as gifted students (McCoach & Siegle, 2007). Therefore, the pre-service and in-service teacher training programs can affect their attitudes towards students with special needs. In other words, the lack of knowledge on how to assist students with special needs (including gifted students with SLD) in general education classrooms may result in teachers' inability to meet their students' individual needs, and thus, impacts their attitudes towards students.

In Saudi Arabia, identifying gifted students with SLD was intricate partially due to lack of knowledge in this area. Additionally, the large class size (with 30-40 students) plays another important role (Alsamiri, 2016). Pfeiffer (2015) claimed that the number of unidentified gifted students with SLD might be substantial in schools. Alsamiri (2016) also reported that many

teachers in his study also observed students who presented both exceptionalities in their classrooms. Therefore, unidentified gifted students with SLD in Saudi schools have often been ignored, and their educational needs remained underserved. This, unfortunately, causes psychological issues in those students, leading to social, behavioral, and emotional challenges (Trail, 2010).

This lack of knowledge may also make teachers disregard any existing useful resources unintentionally. Alamer (2017) indicated in his study that teachers did not know how to refer gifted students with SLD for evaluation. Moreover, many teachers misunderstood those students due to the lack of knowledge. In addition, Alamiri and Faulkner (2010) found that general education teachers did not understand terminologies used in special education (e.g., ADHD) or gifted education (e.g., creativity), and were unable to distinguish between those concepts. Consistent with previous studies, this study showed that teachers in Saudi Arabia had positive perspectives regarding gifted students with SLD despite their lack of knowledge.

Another misunderstanding in gifted education is that gifted students are all high performers in every subject matter. Similarly, Gari et al. (2015) indicated that there are many myths, which perpetuate several misunderstandings about gifted students with SLD. For example, “gifted students do not require any special intervention as they will make it on their own” and “all gifted students love school, read well, process information quickly, and are able to learn new material independently” (p. 272).

Relatedly, Silverman (2009[b]) noted that some gifted students also have SLD trace. However, Barnard-Brak et al. (2015) found that students with SLD were significantly less likely to be identified as gifted students compared to others with disabilities. This is due to the use of achievement test batteries (e.g., WJ-III-R) for diagnosing purposes, which exclude students with SLD from gifted category. Moreover, diagnosing students with SLD, as Pfeiffer (2015) stated,

cannot be done by simple lab tests. Furthermore, there is a controversy among psychologists and professionals in special education regarding how to accurately identify students with SLD (Pfeiffer, 2013). Thus, the lack of identification could be explained since teachers often tend to focus primarily on their students' learning needs in a specific area (SLD) rather than their gifted abilities (Maddocks, 2018; Lo & Yuen, 2014; Brody & Mills, 1997).

In addition to issues concerning accurately identifying gifted students with SLD and teacher preparation programs, there are other issues related to feasibility. Those include supportive educational environment, teachers' lack of knowledge in this area, class size, and official recognition of twice exceptionality category. This study, consistent with other studies, revealed that teachers in Saudi Arabia, specifically general education teachers, do not have great understanding of gifted students with SLD. In regard to class size, many studies, such as Khan and Iqbal (2012) and Marais (2016), indicated that it is challenging to identify such students in large class size. Although Saudi legislations safeguard the rights of education for students with special needs in general (see Chapter Two for more details), gifted students with SLD should be officially recognized and protected by these laws. The Ministry of Education, therefore, should launch initiatives for such recognition.

For example, the Jacob Javits Gifted and Talented Students Education Act (Javits) was the only federal legislation in the U.S. dedicated to gifted and talented students (Javits, n.d.). The Office of Gifted and Talented at the U.S. Department of Education was developed based on Javits act, and it aims to coordinate projects related to gifted and talented education. Similarly, in Saudi Arabia, several regulations and legislations were created after the establishment of the Directorate General for Special Education (DGSE) in 1974 (Al-Ajmi, 2006). To better serve students who are twice-exceptional, specifically, gifted students with SLD, policymakers in the Ministry of Education should first officially recognize this population, which should be specified

and protected by the current legislations. This may require reform of teacher preparation programs in Saudi Arabia, modifying educational environments, adopting appropriate assessments, and improving professional development opportunities.

Limitation of the Study

This study provided a unique contribution to the research literature by investigating teachers' perspectives concerning whether or not gifted students with SLD exist, how they are identified, and in which educational settings they should be placed. However, this study had several limitations. Firstly, in survey research involving a large number of participants such as this, the understanding of individual participant is diminished (Creswell & Plano Clark, 2017). Secondly, the online survey used in this study may limit the generalization of the findings to the general population. Teachers participants in this study were regularly active on the online platforms such as Twitter and WhatsApp. However, this study failed to reach many teachers who were not active on social media. Thirdly, using convenience sampling, the researcher had limited control over who participated and how accurately the participants met the criteria set for this study. This sampling approach may not represent the main population (Creswell $ Creswell, 2018). Fourth, as mentioned previously in Chapters Four and Five, the level of reliability was slightly under the acceptable level at .70 (Kline, 2010). Finally, even though some general information about this topic was offered before starting the study, almost half of the participants seemed to have limited knowledge on this topic to accurately understand what was being asked in the survey.

Recommendations for Future Research

Although there has been growing interest in gifted education in Saudi Arabia in the last two decades, giftedness co-occurring with SLD is still not yet acknowledged as a distinct category. Similarly, special education programs in Ontario schools (Canada), for example,

classified twice-exceptional students under the multiple disabilities category (Willard-Holt et al., 2013; Ontario Ministry of Education, 2008).

Most of participating teachers in this study (94%) believed that all teachers need greater knowledge of the characteristics of gifted students with SLD in order to meet their individual needs. Specifically, participating teachers agreed that the support of learning disabilities teachers is essential to the success of the educational experience for those students. Future researchers may investigate the readiness of special education teachers compared with general and gifted education teachers to meet those students' educational needs. Furthermore, there is a significant need for developing a culturally based assessment to accurately identify those students. Thus, developing such an assessment and training teacher candidates, as well as in-service teachers, should be urgently studied. Future researchers may also examine how teachers can assist those students in understanding their weaknesses. In addition, many researchers, such as Beckley (1998), recommended addressing any obstacles those students encounter, along with exploring their strengths and developing their exceptional talents simultaneously.

Usually, by the high school years, Silverman (2009[b]) indicated that students may experience lack of energy and effort that is needed to compensate for learning problems, and this might challenge the students and their teachers. Thus, future researchers may consider this issue from pedagogical and psychological perspectives. Furthermore, literature (e.g., Assouline & Whiteman, 2011; Schultz, 2012; Yssel et al., 2010) indicated that interventional approaches that highlight and support the students' strengths while supporting their coexisting weaknesses are strongly recommended to meet the educational needs of those students. Similarly, there are many educational approaches for general education settings that have been recognized as helpful to struggling students. These approaches can be specialized instructional approaches (Anstead, 2016) or those which offer flexible options (e.g., Universal Design for Learning). Such options

can be integrated into the curriculum and instruction to support all diverse students (Rao & Meo, 2016). However, research needs to be conducted in Saudi Arabia to examine these approaches to determine if they are applicable within the current educational system and culture in the country. Moreover, enriching the Saudi literature regarding gifted students with SLD may help develop a strategic plan to address how to better support gifted students with SLD, help them succeed in inclusive settings, and reach their fullest potential. Finally, one of the first steps to support students with special needs in general, and gifted students with SLD specifically, as Dr. Alessa (the former minister of education) promised (Khalejiatv, 2018), is to conduct a nation-wide project to reform the current teacher preparation programs. To do so, future researchers should continue studying this area of research to shed some light on how to further develop special education and related services for gifted students with SLD in Saudi Arabia.

Conclusion

This study investigated teachers' perspectives about gifted students with SLD in Saudi Arabia. In general, giftedness with SLD, or twice-exceptionality, is becoming such a popular topic among researchers and scholars alike that further research on identifying and educating those students might likely be in the works as we speak. Nevertheless, it is vital to note that the research on how to identify and educate those students to long-term life success may take an extended period of time within the current educational system in Saudi Arabia. Rather than concluding this study in a defeated tone, instead, I would like to offer optimism and hope for our future generation.

The findings of this study should allow educators, stakeholders, and policymakers to develop a broad understanding of not only gifted students with SLD, but also the needs of students with twice-exceptionality in general. Furthermore, all stakeholders can benefit from this study by discussing and addressing complex issues associated with this underserved and often

ignored population. This study delineated the evolution of scientific research regarding this cohort in Saudi Arabia and in the surrounding countries. Thus, all stakeholders are responsible for contributing effectively to achieving the ambitious objectives of the Saudi Vision 2030. This emphasized that individuals with disabilities should have the same access to opportunities (e.g., education, commerce, and jobs) as other individuals in the community in order to ensure their independence and integration as effective members of society ("Vision 2030," n.d.).

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APPENDIX A

Teachers' Perspectives Questionnaire (Revised)

Gifted students with specific learning disabilities (SLD) possess superior intellectual ability. Despite this advanced ability, these students exhibit a significant discrepancy in their level of performance in specific academic subjects (e.g., reading, mathematics, spelling, or writing), compared with their performance in some areas of strength (McCoach et al., 2001). The purpose of this survey is to learn more about current teachers' perspectives towards those students in Saudi Arabia.

This survey is intended to be anonymous to protect participants' confidentiality and identity. The participants' information will be used only for the purposes of this research. Participation in this study is voluntary and participants can withdraw from the survey at any time. This survey may take approximately six to eight minutes, and it should be completed independently. If you have any questions, concerns, or comments, please do not hesitate to email the researcher at aladsanim@duq.edu.

This survey is for current teachers in Saudi Arabia. General and special education teachers, enrichment program teachers, gifted education teachers who are mainly teaching in public and private schools in Saudi Arabia can participate in this study. Please check this box if you meet the above criteria and agree to participate in this study to start the survey □. If you do not meet the criteria, please exit here.

Part A

Demographic information

1. What is the region of your school?
   a. Eastern
   b. Western
   c. Center
   d. Northern

   e. Southern
2. What is your gender?
   a. Male
   b. Female

3. What is your highest academic qualification?
   a. Intermediate diploma
   b. Baccalaureate
   c. Higher Diploma
   d. Master's Degree
   e. Doctorate
   f. Other (please specify …….)

4. How many years are you working as a teacher?
   a. 0-6
   b. 7-12
   c. 13-19
   d. 20- 26
   e. 27 or more
   f. Please specify (……)

5. What is your current main role in the school?
   a. General education teacher
   b. SLD teacher
   c. Enrichment program teacher
   d. Gifted education teacher
   e. Other special education teacher (all other specializations)

6. What type of training regarding gifted students with SLD have you had? (select all that apply)
   □ None
   □ Pre-teaching university subject
   □ Educational degree in gifted education or special education
   □ Professional development (less than a day)
   □ Professional development (greater than a day).
   □ Other/specify (……)

7. What is your school type?
   a. Public
   b. Private

8. What is your school level?
   a. Primary
   b. Middle
   c. Highschool
   d. More than one level

9. Have you taught students with SLD?
   a. Yes
   b. No
   c. I do not know

10. Have you taught gifted students?
    a. Yes
    b. No
    c. I do not know

Part B

Please read every single statement and rate your answer as: Strongly Disagree = 1, Moderately Disagree= 2, Slightly Disagree= 3, Neutral= 4, Slightly Agree= 5, Moderately Agree = 6, and Strongly Agree= 7.

	Statement	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
First domain: Teachers' perspectives of the existence of gifted students with SLD								
1	Gifted students with SLD do exist in the regular education classroom.	1	2	3	4	5	6	7
2	Gifted students with SLD are often overlooked.	1	2	3	4	5	6	7
3	Some gifted students who are receiving education in enrichment programs have SLD	1	2	3	4	5	6	7
4	Some gifted students are receiving special education services in the resource room.	1	2	3	4	5	6	7
Second domain: Teachers' perspectives of the identification of gifted students with SLD								
5	Gifted students with SLD have a discrepancy between their cognitive abilities and education achievements.	1	2	3	4	5	6	7

6	Gifted students with SLD often achieve at average level compared with their peers in the regular education classroom.	1	2	3	4	5	6	7
7	Gifted students with SLD try to hide their talents because they do not want to seem different.	1	2	3	4	5	6	7
8	Gifted students with SLD can be identified in the regular education classroom.	1	2	3	4	5	6	7
9	Identifying gifted students with SLD is better done by learning disabilities teachers instead of general classroom teachers.	1	2	3	4	5	6	7
10	Identifying gifted students with SLD is better done by general education teachers instead of learning disabilities teachers.	1	2	3	4	5	6	7
11	It is important to determine what teachers know about the characteristics of gifted students with SLD in order to more accurately identify them.	1	2	3	4	5	6	7
12	It is difficult to identify gifted students with SLD in the regular education classroom.	1	2	3	4	5	6	7
13	General education teachers have sufficient training to identify gifted students with SLD.	1	2	3	4	5	6	7
14	Teachers need essential knowledge of the process of identification of gifted students with SLD.	1	2	3	4	5	6	7

15	The Ministry of Education in KSA should create specific criteria for identifying gifted students with SLD.	1	2	3	4	5	6	7
Third domain: Teachers' perspectives of the education of gifted students with SLD								
16	The inclusion of gifted students with SLD into an inclusive classroom is beneficial for them.	1	2	3	4	5	6	7
17	Gifted students with SLD should receive appropriate educational services in the enrichment programs with gifted students.	1	2	3	4	5	6	7
18	Gifted students with SLD should receive special educational services in the resource room along with their education in regular educational classroom.	1	2	3	4	5	6	7
19	General education teachers have sufficient training to teach gifted students with SLD.	1	2	3	4	5	6	7
20	Teachers need greater knowledge of the characteristics of gifted students with SLD in order to meet their individual needs.	1	2	3	4	5	6	7
21	The support of learning disabilities teachers is essential to the success of the educational experience for gifted students with SLD	1	2	3	4	5	6	7
22	The specific educational needs of gifted students with SLD are too often ignored in our schools.	1	2	3	4	5	6	7

23	Learning disabilities teachers are better equipped to teach gifted students with SLD than general classroom teachers.	1	2	3	4	5	6	7
24	The Ministry of Education provides enough resources to teachers to meet the educational needs of gifted students with SLD.	1	2	3	4	5	6	7

The end of the questionnaire

APPENDIX B

استبيان وجهات نظر المعلمين نحو الطلاب الموهوبين ذوي صعوبات التعلم في المملكة العربية السعودية

أعزائي المعلمين والمعلمات في جميع مدارس المملكة:

السلام عليكم ورحمة الله وبركاته

يهدف هذا الاستبيان إلى معرفة وجهة نظر معلمي ومعلمات التعليم العام، التربية الخاصة، الموهوبين، وجميع التخصصات تجاه الطلاب الموهوبين ذوي صعوبات التعلم في المملكة العربية السعودية. الطلاب الموهوبين ذوي صعوبات التعلم يمتلكون قدرات عقلية عالية وبالمقابل هناك تباين كبير في تدني أدائهم الأكاديمي في بعض المقررات (مثل القراءة والرياضيات والإملاء) مقارنةَ بأدائهم في المواد الأكاديمية الأخرى (مكوتش وآخرون، ٢٠٠١).

يقوم الباحث بدراسة وجهة نظر المعلمين والمعلمات (سواء من لديه تجربة بتدريسهم أم لا) تجاه هؤلاء الطلاب فيما يتعلق بوجودهم، التعرف عليهم، وتعليمهم في جميع مدارس المملكة. ان كنت تعمل كمعلم أو معلمة، آمل منك تكرما المشاركة بشكل مستقل في هذا الاستبيان والذي يستغرق ٦-٨ دقائق كحد أقصى، علما أن المشاركة تطوعية، وأن الاستبيان لا يهدف لجمع أي معلومات شخصية، وأن كافة المعلومات التي سيحصل عليها الباحث ستكون سرية وستستخدم لأغراض البحث العلمي فقط.

شاكر ومقدر لك تعاونك

الباحث محمد العدساني – مرشح درجة الدكتوراه في جامعة دوكين - aladsanim@duq.edu

إذا قرأت تعليمات المشاركة أعلاه، من فضلك اضغط لبدء الاستبيان. إن كنت معلم/ة متقاعد، أو لا تقوم بمهام تدريسية بشكل أساسي، فلا تنطبق عليك شروط المشاركة وبإمكانك الخروج من الاستبيان. إن كان لديك سؤال، ملاحظة، أو تعليق، لا تتردد بالتواصل مع الباحث.

القسم الأول

المعلومات الديموغرافية

الفقرة	TPQ-Revised	TPQ/معدل
1	Where are you currently located 1) Eastern 2) Western 3) Center 4) Northern 5) Southern	منطقتك الحالية: 1 . الشرقية 2 . الغربية 3 . الوسطى 4 . الشمالية 5 . الجنوبية
2	What is your gender? 1) Male 2) female	ما هو جنسك: 1 . ذكر 2 . أنثى
3	What is your highest academic qualification? 1) Intermediate diploma 2) Baccalaureate 3) Higher Diploma 4) Master's Degree 5) PhD 6) Other (please specify …….)	ما هو أعلى مؤهل أكاديمي حصلت عليه؟ 1 . دبلوم متوسط 2 . بكالوريوس 3 . دبلوم عالي 4 . ماجستير 5 . دكتوراه 6 . أخرى (حدد من فضلك .....)
4	How many years are you working as a teacher? 1) 1-6 2) 7-12 3) 13-19 4) 20- 26 5) 27 and over 6) Please specify ()	كم عدد سنوات خدمتك كمعلم؟ 1 . ١-٦ 2 . ٧-١٢ 3 . ١٣-١٩ 4 . ٢٠-٢٦ 5 . ٢٧ وأكثر

		*حدد من فضلك كم عدد سنوات خدمتك (.....)
5	What is your current role in the school? 1) General education teacher 2) SLD teacher 3) Enrichment program teacher 4) Other special education teacher (all other specializations)	ما هو منصبك التعليمي الحالي: ١. معلم تعليم عام ٢. معلم صعوبات تعلم ٣. معلم البرنامج الاثرائي (معلم فصول الموهوبين) ٤. معلم تربية خاصة (كل التخصصات)
6	What type of training regarding gifted students with SLD have you had? (select all that apply) □ None □ Pre-teaching university subject □ Educational degree in gifted education or special Education □ Professional development (less than a day) □ Professional development (greater than a day). □ Other/specify ()	ماهو نوع التدريب الذي تلقيته بخصوص الطلاب الموهوبين ذوي صعوبات التعلم؟ (حدد كل الخيارات المنطبقة) o لا يوجد o موضوع أثناء الدراسة الجامعية o درجة علمية في الموهوبين أو التربية الخاصة o دورة تدريبية (أقل من يوم) o دورة تدريبية (أكثر من يوم) o أخرى (حدد من فضلك) .....
7	What is your school type? 1) Public 2) Private	ما هو نوع مدرستك؟ 1. حكومية 2. خاصة
8	What is your school level? 1) Primary 2) Middle 3) Highschool 4) More than one level	ماهي مرحلة مدرستك التي تعمل بها؟ 1 . ابتدائية 2 . متوسطة 3 . ثانوية 4 . أكثر من مرحلة تعليمية
9	Have you taught students with SLD?	هل سبق أن درست طلاب من ذوي صعوبات التعلم؟

	1) Yes 2) No 3) I do not know	1. نعم 2. لا 3. لا أعلم
10	Have you taught gifted students? 1) Yes 2) No 3) I do not know	هل سبق درست طلاب موهوبين؟ 1. نعم 2. لا 3. لا أعلم

القسم الثاني

اقرأ كل الفقرات من فضلك ثم اختر مدى موافقتك من عدمها من خلال المقياس التالي: لا أوافق بشدة= ١، لا أوافق = ٢، لا أوافق جزئياً = ٣، محايد=٤، أوافق جزئياً =٥، أوافق =٦، أوافق بشدة=٧.

الفقرة	TPQ-Revised	TPQ/معدل
البعد الأول: تحديد رأي المعلمين تجاه وجود الموهوبين ذوي صعوبات التعلم من عدمها First domain: Teachers' perspectives of the existence of gifted students with SLD		
1	Gifted students with SLD do exist in the regular education classroom.	الطلاب الموهوبين ذوي صعوبات التعلم موجودين في الفصول العادية.
2	Gifted students with SLD are often overlooked.	الطلاب الموهوبين ذوي صعوبات التعلم غالباً منسيين.
3	Some gifted students who are receiving education in enrichment programs have SLD	بعض الطلاب الموهوبين الذين يتعلمون في البرامج الإثرائية لديهم صعوبات تعلم.
4	Some gifted students are receiving special education services in the resource room.	بعض الطلاب الموهوبين يتلقون خدمات التربية الخاصة في غرفة المصادر
البعد الثاني: تحديد رأي المعلمين تجاه كشف الطلاب الموهوبين ذوي صعوبات التعلم Second domain: Teachers' perspectives of the identification of gifted students with SLD		
5	Gifted students with SLD have a discrepancy between their cognitive abilities and education achievements.	الطلاب الموهوبين ذوي صعوبات التعلم لديهم تباين بين قدراتهم العقلية وانجازاتهم التعليمية.

6	Gifted students with SLD often achieve at average level compared with their peers in the regular education classroom.	الطلاب الموهوبين ذوي صعوبات التعلم غالباً ينجزوا بمستوى متوسط مقارنة ببقية الطلاب في الفصل العادي.
7	Gifted students with SLD try to hide their talents because they do not want to seem different.	الطلاب الموهوبين ذوي صعوبات التعلم يحاولون إخفاء مواهبهم لأنهم لا يريدون أن يكونوا مختلفين.
8	Gifted students with SLD can be identified in the regular education classroom.	يمكن التعرف على الطلاب الموهوبين ذوي صعوبات التعلم في الفصل العادي.
9	Identifying gifted students with SLD is better done by learning disabilities teachers instead of general classroom teachers.	التعرف على الطلبة الموهوبين ذوي صعوبات التعلم من الأفضل أن يكون عن طريق معلمي صعوبات التعلم بدلا من معلمي الفصول العامة.
10	Identifying gifted students with SLD is better done by general education teachers instead of learning disabilities teachers.	التعرف على الطلبة الموهوبين ذوي صعوبات التعلم من الأفضل أن يكون عن طريق معلمي الفصول العامة بدلا من معلمي صعوبات العلم.
11	It is important to determine what teachers know about the characteristics of gifted students with SLD in order to more accurately identify them.	من الضروري تحديد مدى معرفة المعلمين بخصائص الطلبة الموهوبين ذوي صعوبات التعلم لكي يتم اكتشافهم بدقة.
12	It is difficult to identify gifted students with SLD in the regular education classroom.	من الصعب التعرف على الطلبة الموهوبين ذوي صعوبات التعلم في الفصل الدراسي العادي.
13	General education teachers have sufficient training to identify gifted students with SLD.	معلمي الصفوف العادية لديهم تدريب كافي للتعرف على الطلبة الموهوبين ذوي صعوبات التعلم.
14	Teachers need essential knowledge of the process of identification of gifted students with SLD.	المعلمين بحاجة لمعرفة أساسية حول عملية التعرف على الطلبة الموهوبين ذوي صعوبات التعلم.
15	The Ministry of Education in KSA should create specific criteria for identifying gifted students with SLD.	وزارة التعليم يفترض أن تخصص معايير محددة للتعرف على الطلاب الموهوبين ذوي صعوبات التعلم.
البعد الثالث: رأي المعلمين تجاه تعليم الطلاب الموهوبين ذوي صعوبات التعلم Third domain: Teachers' perspectives of the education of gifted students with SLD		

16	The inclusion of gifted students with SLD into an inclusive classroom is beneficial for them.	دمج الطلاب الموهوبين ذوي صعوبات التعلم في الفصول العادية مفيد لهم.
17	Gifted students with SLD should receive appropriate educational services in the enrichment programs with gifted students.	يفترض للطلاب الموهوبين ذوي صعوبات التعلم الحصول على خدمات تعليمية مناسبة في البرامج الاثرائية مع الطلبة الموهوبين.
18	Gifted students with SLD should receive special educational services in the resource room along with their education in regular educational classroom.	يفترض للطلاب الموهوبين ذوي صعوبات التعلم الحصول على خدمات التربية الخاصة في غرفة المصادر مع دراستهم في فصول التعليم العام.
19	General education teachers have sufficient training to teach gifted students with SLD.	معلمو الفصول العادية لديهم تدريب كاف لتدريس الطلاب الموهوبين ذوي صعوبات التعلم.
20	Teachers need greater knowledge of the characteristics of gifted students with SLD in order to meet their individual needs.	المعلمين بحاجة إلى معرفة أكثر بخصائص الطلاب الموهوبين ذوي صعوبات التعلم لدعم احتياجات الطلاب الفردية.
21	The support of learning disabilities teachers is essential to the success of the educational experience for gifted students with SLD	دعم معلمي صعوبات التعلم شيء أساسي لنجاح العملية التعليمية للطلاب الموهوبين ذوي صعوبات التعلم.
22	The specific educational needs of gifted students with SLD are too often ignored in our schools.	الاحتياجات التعليمية الفردية للطلاب الموهوبين ذوي صعوبات التعلم غالباً يتم تجاهلها في مدارسنا
23	Learning disabilities teachers are better equipped to teach gifted students with SLD than general classroom teachers.	معلمو صعوبات التعلم معدين بشكل أفضل لتدريس الطلاب الموهوبين ذوي صعوبات التعلم من معلمي الفصول العادية.
24	The Ministry of Education provides enough resources to teachers to meet the educational needs of gifted students with SLD.	وزارة التعليم توفر مصادر كافية للمعلمين لتلبية الاحتياجات التعليمية للطلاب الموهوبين ذوي صعوبات التعلم.

نهاية الاستبيان

APPENDIX C

Table 21

Descriptive Statistics for Survey Items

Item	N	Mean	Std. Deviation
1	936	5.51	1.493
2	936	5.40	1.501
3	936	4.62	1.381
4	936	4.97	1.507
5	936	5.73	1.168
6	936	5.06	1.428
7	936	4.62	1.596
8	936	5.17	1.478
9	936	5.51	1.690
10	936	3.97	1.936
11	936	6.37	.938
12	936	4.73	1.671
13	936	3.25	1.772
14	936	6.22	1.026
15	936	6.23	1.021
16	936	5.13	1.633
17	936	6.13	1.050
18	936	5.78	1.325
19	936	3.23	1.757
20	936	6.24	.963
21	936	6.36	.865
22	936	5.75	1.235
23	936	5.57	1.489
24	936	4.08	1.751

APPENDIX D

Table 22

Frequencies Statistics for Survey Items

Item	Statistics	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree	Total
1	Frequency	19	47	42	72	163	338	255	936
	Percentage	2.0	5.0	4.5	7.7	17.4	36.1	27.2	100
2	Frequency	14	57	48	84	187	314	232	936
	Percentage	1.5	6.1	5.1	9.0	20.0	33.5	24.8	100
3	Frequency	12	75	67	304	185	231	62	936
	Percentage	1.3	8.0	7.2	32.5	19.8	24.7	6.6	100
4	Frequency	19	68	43	210	182	277	137	936
	Percentage	2.0	7.3	4.6	22.4	19.4	29.6	14.6	100
5	Frequency	4	17	17	111	130	415	242	936
	Percentage	.4	1.8	1.8	11.9	13.9	44.3	25.9	100
6	Frequency	15	53	70	138	212	339	109	936
	Percentage	1.6	5.7	7.5	14.7	22.6	36.2	11.6	100
7	Frequency	19	113	95	190	173	253	93	936
	Percentage	2.0	12.1	10.1	20.3	18.5	27.0	9.9	100
8	Frequency	14	64	72	84	200	370	132	936
	Percentage	1.5	6.8	7.7	9.0	21.4	39.5	14.1	100
9	Frequency	16	64	76	79	107	227	367	936
	Percentage	1.7	6.8	8.1	8.4	11.4	24.3	39.2	100
10	Frequency	115	159	133	136	117	180	96	936
	Percentage	12.3	17.0	14.2	14.5	12.5	19.2	10.3	100
11	Frequency	2	6	9	34	56	298	531	936
	Percentage	.2	.6	1.0	3.6	6.0	31.8	56.7	100
12	Frequency	24	94	139	107	199	235	138	936
	Percentage	2.6	10.0	14.9	11.4	21.3	25.1	14.7	100
13	Frequency	153	248	187	97	110	94	47	936
	Percentage	16.3	26.5	20.0	10.4	11.8	10.0	5.0	100
14	Frequency	6	4	15	38	78	345	450	936
	Percentage	.6	.4	1.6	4.1	8.3	36.9	48.1	100
15	Frequency	5	8	10	41	65	354	453	936
	Percentage	.5	.9	1.1	4.4	6.9	37.8	48.4	100
16	Frequency	30	63	64	121	180	275	203	936
	Percentage	3.2	6.7	6.8	12.9	19.2	29.4	21.7	100
17	Frequency	4	11	11	46	88	377	399	936
	Percentage	.4	1.2	1.2	4.9	9.4	40.3	42.6	100
18	Frequency	8	27	32	89	100	367	313	936
	Percentage	.9	2.9	3.4	9.5	10.7	39.2	33.4	100
19	Frequency	173	217	184	119	116	84	43	936

	Percentage	18.5	23.2	19.7	12.7	12.4	9.0	4.6	100
20	Frequency	1	10	7	40	72	367	439	936
	Percentage	.1	1.1	.7	4.3	7.7	39.2	46.9	100
21	Frequency	0	4	6	35	61	330	500	936
	Percentage	0	.4	.6	3.7	6.5	35.3	53.4	100
22	Frequency	2	21	24	111	145	338	295	936
	Percentage	.2	2.2	2.6	11.9	15.5	36.1	31.5	100
23	Frequency	10	47	51	93	116	325	294	936
	Percentage	1.1	5.0	5.4	9.9	12.4	34.7	31.4	100
24	Frequency	82	131	122	201	173	145	82	936
	Percentage	8.8	14.0	13.0	21.5	18.5	15.5	8.8	100

APPENDIX E

Letter Seeking Permission to Use Questionnaire

Date: November 4th / 2019
Name: Mohamed Aladsani
Institution: Duquesne University
Department: Counseling, Psychology, and Special Education
Address: 600 Forbes Avenue
City/State/Zip: Pittsburgh, PA 15282

Dear Dr. Alsamiri,

My name is Mohamed Aladsani, a doctoral candidate from Duquesne University writing my dissertation titled:

"INVESTIGATING TEACHERS' PERSPECTIVES OF GIFTED STUDENTS WITH SPECIFIC LEARNING DISABILITIES IN SAUDI ARABIA"

This study is under the direction of my dissertation committee chaired by Ann Huang, Ph.D, who can be reached at huanga2840@duq.edu. I would like to gain your permission to use the Teachers Perspectives Questionnaire (TPQ) that you developed in my research study.

Specifically, I would like to use the TPQ under the following conditions:

- I will use the TPQ only for the current research study with the approval of the DU IRB committee.
- I will modify the TPQ to fit the purpose of my research.
- I will send a copy of my completed research study to your attention upon completion of this study.

If these are acceptable terms and conditions, please indicate so by replying to me through e-mail: aladsanim@duq.edu whether in English or Arabic.

Sincerely,

The electronic response:

[External] Re: (بخصوص بحث الدكتوراه (للضرورة

1

YA

Yasir Alsamiri <yasser1352@hotmail.com>
Mon 11/4/2019 2:14 PM
To: Mohamed Aladsani

وعليكم السلام د. محمد

اشكركم على التواصل ويسعدني إعجابكم في رسالتي,
فيما يخص الأداة نعم تم تحكيمها من مختصين في السعودية وأستراليا
يمكنك استخدمها في بحثك
ونحن في خدمتكم في اي وقت

0505775705

إخوك ياسر السميري

APPENDIX F

DUQUESNE UNIVERSITY
PITTSBURGH, PENNSYLVANIA

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE:

INVESTIGATING TEACHERS' PERSPECTIVES ABOUT GIFTED STUDENTS WITH SPECIFIC LEARNING DISABILITIES IN SAUDI ARABIA.

INVESTIGATOR:

Mohamed Aladsani. Ph.D. candidate. School of Education. Duquesne University.
Email: aladsanim@duq.edu

ADVISOR:
Ann X. Huang, Ph.D., Associate Professor. School of Education. Duquesne University
Phone (Office): (412) 396-1599
Email: huanga2840@duq.edu

SOURCE OF SUPPORT:

This study is being performed as partial fulfillment of the requirements for the degree of Doctor of Philosophy in School of Education at Duquesne University. This study has no support or grant.

STUDY OVERVIEW:

The educational system in Saudi Arabia has been developing since the establishment of the Directorate of Knowledge (currently the Ministry of Education) in 1925. Although the teacher preparation programs in Saudi Arabia have been developed under the Ministry of Education, general education teacher preparation programs in the country do not require teacher candidates to take any special education courses as part of their general education training (Aldabas, 2015). Thus, general education teachers are often not prepared to teach in inclusive settings, which commonly include diverse students such as gifted students, students with specific learning disabilities (SLD), and gifted students with SLD. The purpose of this study is to examine teachers' perspectives about gifted students with SLD in Saudi Arabia. This study also aims at examining the relationships between teachers' perspectives and factors (e.g., years of teaching experience and gender) that might affect their perspectives. Specifically, it investigates variables associated with teachers' perspectives about the existence, identification, and education of gifted students with SLD in different regions in Saudi Arabia. This study uses statistical analysis of quantitative data collected from an online survey that was adopted and modified

specifically for this study. The targeted participants of this study are 200 to 400 teachers with various backgrounds working in different grade levels in pre-k to 12 schools in Saudi Arabia. This study should provide a better understanding of teachers' perspectives about gifted students with SLD in Saudi Arabia, which may lead to more attention to their unique needs in the future.

PURPOSE:

You are being asked to participate in a research project that is investigating teachers' perspectives about gifted students with SLD in Saudi Arabia. In order to qualify for participation, you must meet the following criteria: 1.) they need to be teachers who are currently (during completing the survey) employed in private or public schools; 2.) they have to be general education or special education teachers (including SLD teachers, gifted teachers, and enrichment programs teachers); 3.) they can have any years of teaching experience; 4.) they do not need to have taught gifted students or students with SLD; 5.) they can be from various educational backgrounds. There are several exclusion criteria to keep teachers who are not qualified from participating in this study. 1.) teacher candidates who are currently enrolled in teacher preparation programs; 2) teachers who are already retired; 3) teachers whose main roles are not teaching (e.g., teachers who mainly do administrative works).

PARTICIPANT PROCEDURES:

If you provide your consent to participate, you will be asked to indicate the extent to which you agree, disagree, or are neutral regarding a total of 24 item questions (Part B in TPQ) using a seven-point Likert scale in Teachers' Perspectives Questionnaire (TPQ). In addition, you will be asked to participate in 10 demographic item questions (Part A in TPQ). This survey may take approximately six to eight minutes to complete. This survey can only be taken once per subject.

RISKS AND BENEFITS:

In general, the risks associated with this study are minimal. There are no possible risks than associated with everyday life of completing this survey. Because the survey asks you about your perspectives of the existing, identifying, and educating gifted students with SLD in Saudi Arabia, it is possible that you may feel uncomfortable disclosing your thoughts to some of the questions. However, your participation in this survey is valuable and could benefit understanding how to support the gifted students with SLD in Saudi Arabia by examining your perspectives and some associated factors of this population. In other words, a benefit of participating in the study is to increased attention and knowledge associated with understanding how we can support gifted students with SLD in Saudi Arabia.

COMPENSATION:

There will be no compensation for participating in this study. The participation in this study is totally voluntary.

CONFIDENTIALITY:

This survey is intended to be anonymous to protect your confidentiality and identity. There will be no such questions (e.g., What is your name, age, school name nor school districts) in the survey that can reveal your identity. By participating in this survey, your responses will not be possibly identified, revealed, or shared with anyone and will be kept confidential to every extent possible. In addition, all data collected electronically will be safely stored in a secure online folder. In addition, all collected information will be used only for the purposes of this research upon the approval of the IRB. Also, the participation in this study, including any identifiable personal information you provide, all electronic forms and study materials of this study will be kept secure for five years. Finally, although the researcher assures anonymity associated with the data you enter into this survey, it is possible that confidentiality could be compromised as explained by Qualtrics (please read https://www.qualtrics.com/security-statement/).

RIGHT TO WITHDRAW:

You are under no obligation to start or continue this study. You can withdraw at any time without penalty or consequence. If you withdraw before submitting the survey, no data will be collected.

SUMMARY OF RESULTS:

The information provided to you will not be your individual responses, but rather a summary of what was discovered during the research project as a whole.

FUTURE USE OF DATA:

Any information collected that can identify you will not be used for future research studies, nor will it be provided to other researchers.

VOLUNTARY CONSENT:

Please check this box if you read the instructions, meet all criteria, and agree to participate in the survey □. If you are a retired teacher, or your main responsibilities in school is not teaching, you do not meet the criteria and please exit here□. If you have any questions, concerns, or comments, please do not hesitate to email the researcher at aladsanim@duq.edu.

This project has been approved/verified by Duquesne University's Institutional Review Board.

APPENDIX G

Definition of Terms

Gifted Students with SLD

Students who have one or more specific learning disabilities (e.g., dyslexia and/or dyscalculia) along with giftedness (Lovett, 2013).

Perspective

"A particular attitude toward or way of regarding something; a point of view" (Perspective, n.d, Noun section).

Perception

"A thought, belief, or opinion, often held by many people and based on appearances" (Perception, 2008, Noun section).

Attitude

"The way you feel about something or someone, or a particular feeling or opinion" (Attitude. 2008, Noun section).

Full Mainstreaming (full inclusion)

Students with disabilities in this type of inclusion spend most of the school day in general education classrooms and spend the rest of the time (as needed) receiving special education services provided by special education teachers in the resource room (Al-Mousa, 2010).