

Outcomes of the Gifted Education Master's Degree Program and Its Impact on Applied Practices at King Faisal University

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Abstract

This study, performed at King Faisal University (KFU) in Saudi Arabia, aimed to determine the strengths and weaknesses of the gifted education master's program by using a set of international standards for preparing and qualifying teachers of gifted students, including the National Society for Gifted Children / Council for Exceptional Children and National Board for Professional Teaching Standards (NBPTS), in addition to some postgraduate programs in some American universities. The study adopted a mixed methodology with an explanatory sequential design using a sample of 40 male and female graduates. A tool was designed to measure the outcomes of the gifted education master's program for the quantitative portion, and thereafter two focus groups. The study results revealed high-level performance in the aspects of education environments, education and continuing professional development, curricula, education development, individual learning differences, planning, and instructional strategies. The findings also indicated that the program needs to improve in further qualifying graduates in areas such as practice and application, evaluation, guidance, counseling services, and the identification of gifted students. In the gifted education master's program, many batches of graduates have not been effective in improving practical practices within the gifted students' classes and programs.

Keywords: Gifted education programs, assessment of professional development for teachers of the gifted, PD standards for teachers of the gifted, teaching practices.

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1. Introduction

During the past twenty years, the government of the Kingdom of Saudi Arabia has focused on the education of the gifted. Several important steps have been taken to effectively build and develop gifted education. The establishment of King Abdulaziz and his Companions Foundation for Giftedness and Creativity, "Mawhiba," is an outstanding example of these efforts and the development of the national project to identify and nurture gifted students. The Ministry of Education has also contributed to this endeavor for knowledge revival by establishing classes for the gifted in various regions of the Kingdom, aiming to provide the best means for the care and education of such students. The educational literature on gifted education indicates that providing highly qualified teachers, in terms of their qualifications and training, is one of the most essential and effective educational principles influencing the success of the programs offered to gifted students.

Attention has been focused on gifted education teachers within the scope of the scientific movement researching the gifted education process, and they are still at the forefront of modern research topics that are being constantly addressed (Tirri, 2017; Brigandi et al., 2019). In addition, the gifted education national establishments and associations are paying significant care and attention to this issue, with several organizations heading these efforts, including the National Association for Gifted Children/Council for Exceptional Children (2006) (CEC and NAGC), which have contributed to building standards for preparing and qualifying teachers of the gifted. These standards include the knowledge and skills required for them to deliver effective education to gifted students.

The two institutions further developed these standards in 2013 to keep pace with new developments in gifted education (Johnsen, 2015). Furthermore, to confirm the importance of this topic, the National Association and the Council of Exceptional Children also drafted other standards targeting those who are involved in training teachers of the gifted in universities and global educational institutions (Johnsen et al., 2008) to ensure the quality of programs intended for qualifying and preparing these teachers. They aimed to reach high-quality outcomes and study the relationship between those outcomes and the educational impact in the field of caring for talented students within the educational institutions in the Kingdom of Saudi Arabia.

1.1 The research problem and questions

Gifted education teachers are crucial to the program's success and services rendered to gifted students; however, the literature indicates

that most of these teachers are not qualified and have not been involved in sufficient appropriate qualifying programs. This issue is one of the most discussed obstacles in the educational literature. Gifted students require professionally qualified and specialized teachers to help them better understand their capabilities, handle personal and social challenges, and identify appropriate targets (Alamiri, 2020).

Despite the importance of studying the effects of a professionally qualifying program for the teachers of the gifted, only a few studies have addressed this issue (Peters and Jolly, 2018). In Saudi Arabia, compared to the number of studies that have discussed gifted education, only a limited number have researched the sufficiency and quality of the programs intended for qualifying the teachers and care providers of the gifted. In addition, we found that most of the educational literature that discussed the education of the gifted in the Kingdom of Saudi Arabia often indicated a clear deficiency in qualifying teachers of the gifted who were involved in the enrichment programs aiming to care for gifted students (AlJughayman and Maajini, 2013). Alamiri (2020) also asserts that only a small percentage of the teachers of the gifted have confirmed their enrollment in specialized training courses and programs in the field of gifted education. Al Dalham (2018) indicates that in the Kingdom of Saudi Arabia, there is an increasing demand for effective, talented professional high-quality teachers with sufficient scientific qualifications aligned with international standards. Therefore, it is important to identify the quality and efficiency of higher education institutions' qualifications and professional preparation programs for teachers and specialists with postgraduate certificates offering care to the gifted. Hence, this study aimed to identify the quality of the gifted education master's program and its outcomes, which may contribute effectively to finding practical solutions to better qualify teachers working in gifted education. However, the most important issue was to identify the impact of the qualification and professional development programs offered, as previous studies have not addressed measuring their ability to bring about real changes in classroom educational practices.

The main purpose of this study was to determine the quality of the outcomes of the gifted education master's program at (KFU) in Al-Ahsa and to study and better understand the relationship between these outcomes and the actual practices used by teachers in the classroom. The study conducted by Peters and Jolly (2018) did not confirm that higher levels of professional development would undoubtedly lead to higher levels of teaching practices. In this study, the researchers attempted to identify the impact of professional development and obtaining postgraduate certificates in gifted education master's programs on the actual practices in the educational field and the obstacles they faced when developing professional practices for gifted

students. Because of the previous discussion, the researchers endeavored to answer the following main question:

What is the reality of the outcomes of the gifted education master's program at KFUPM and its impact on actual professional practices?

From the above main question, the following sub-questions were derived:

Q1: What are the main strengths and weaknesses of the gifted education master's program from the graduates' point of view?

Q2: How do graduates of the gifted education master's program at KFUPM explain the strengths and shortcomings of the program?

Q3: How do graduates of the gifted education master's program describe and rate the impact of the program on applied practices?

1.2 Objectives of the study

The study aimed to determine the strengths and weaknesses, if any, of the gifted education master's program, and the compatibility between the courses offered within the program, in the context of the actual reality of gifted education. It also attempted to direct the attention of those in charge of postgraduate programs, and other programs for qualifying specialists in gifted education, towards a better understanding of the actual outcomes of these programs, from the graduates' point of view. Finally, it intended to determine the impact of the gifted education master's program on the educational field and the obstacles faced by graduates of the program after graduation.

1.3 Professional development of teachers of the gifted at both the global and local levels

Many researchers have argued that professional development programs for the teachers of the gifted do not provide sufficient qualifications to enable them to perform many tasks related to gifted education, including those aimed at twice-exceptional students. Examples of such deficiencies include evaluating the gifted and identifying their characteristics and their emotional and social needs. In addition, these researchers presented significant evidence proving that teachers, despite completing professional development programs, did not attain the desired level and that one of the reasons was that they did not undergo any practical training during the program (Robertson et al., 2011; Seredina et al., 2016).

We also found widespread agreement in teachers' professional development in that the lack of connection between theory and practice has led to a reduction in the level of professional training for teachers. The prevalence of this problem has been documented in many teachers training programs. It is clear that when a gap occurs between theory and practice while there is a lack of meaningful

communication within teacher training programs, teachers may feel that their learning is irrelevant and thus may experience “reality trauma” during their initial professional practice, and develop some misconceptions and incorrect practices (Mayer, 2014).

The main objective of training programs for teachers is to focus on providing them with practical experience and expertise in the application of gifted education. Although most of the training programs offered to teachers globally have been dedicated to practicing, teachers, through research feedback, have emphasized that practice should be prioritized, and should be the basis of professional programs. This may be because “gifted” is one of the special education categories and requires teachers to use many special educational and pedagogical strategies such as, for example, a differentiated instruction method (Kontaş and Demir, 2015; Sayi, 2018).

An important factor that can achieve coherence between theory and practice within professional development programs for teachers of the gifted is the diverse partnerships and fruitful cooperation among universities, local resources, professional development centers, and associations for gifted children. Partnerships are vital to ensuring that the right goals are met and to attain specific outcomes for gifted students. (Seredina et al., 2016; Cross, 2019). To achieve a high level of professional development for gifted education teachers, the formation of partnerships between local public education departments and higher education institutions should be continuous and diverse and include qualifying the teachers and serving professional purposes alike on the same level of importance for other partnership constituents, as this requires integrating them into the organizational structure of partnerships (Epanchin and Colucci, 2002).

It is essential to interact with teachers and instructors in professional development programs and provide training programs by several experts with different specializations and strategies rather than by a single member of the teaching staff (Sayi, 2018). On the other hand, traditional expert-based, non-multidisciplinary professional development methods have a limited impact on teacher performance and student outcomes. In contrast, modern learner-based professional development methods have effectively changed the performance of many public education and qualitative education teachers and improved student outcomes. However, despite these research findings, the prevailing pattern of professional development for public and private education teachers is still expert-based (Kaplan, 2012).

However, the quality and specialization of training are of immense importance. For example, one of the special training programs for gifted education teachers in Australia equipped teachers with the

ability to use better teaching skills than the group untrained in the field of gifted education. Teachers provided with specialized training created better education environments and used more effective teaching strategies to facilitate teaching the gifted (Rowley, 2003).

In the United States, the Teaching for America program (TFA) is a recognized in-service teacher training program that includes a hands-on course supported by specific curricula, offering support to teachers throughout the school year. Analyzing the practices related to TFA graduates, it has been found that TFA teachers have had a positive impact on the academics of students in some fields (Hellig and Jez, 2010).

Several studies (Croft, 2003; Roberts, 2005) indicate that teachers have a strong influence on their students' learning, and teachers' attitudes and actions particularly influence gifted students. In other studies, researchers have observed that teachers of the gifted showed specific characteristics and competencies and used a range of distinct teaching practices to achieve optimal learning experiences for their gifted students (Maker and Nielson, 1996; Matheis et al., 2017). The findings of these studies call for reconsidering the level of the qualifications of the teachers of the gifted, examining professional development programs quantitatively and qualitatively, and extracting successful experiences from them if we want to suitably achieve progress in gifted education.

Many researchers have been interested in studying successful global experiences in the professional development of the teachers of the gifted; for example, a study performed by VanTassel-Baska et al. (2006) found that Singaporean teachers used more differentiated strategies at a deeper level of implementation than their American counterparts. This was followed by a qualitative study to interpret these results (Van Tassel-Baska et al., 2008) and it was found that Singapore teachers based their increased implementation of differentiation on the practical portion of their training, allowing them to have an ongoing dialogue with more experienced teachers in gifted education and their respective fields of specialization during training. This study suggests that more supervised work experience during training may make a difference in gifted education.

In a recent study (VanTassel-Baska et al., 2021) on the use of teachers of the gifted differentiated practices, which includes the best international practices in gifted education, researchers found that teachers were using effectively disparate practices to some extent and at the lowest level. This indicates the need to offer training and professional development to ensure that gifted teachers have mastered their skill sets and effectively employ differentiation strategies. Effective professional development for teachers of the gifted should focus on specific needs based on the teacher's

experience (i.e., novice or veteran) and become familiar with gifted learners.

Locally, we found that professional development programs for teachers of the gifted seek to achieve professional standards issued by the Education and Training Evaluation Commission in the Kingdom, which are constantly updated following many international programs specializing in educating the gifted and organizations and associations for the gifted. These standards serve as a guide for professional development program leaders who are responsible for planning and implementing professional development for teachers of gifted and talented students. The professional standards included eight criteria, i.e., the teacher's knowledge of the concepts and principles on which the gifted specialization rest, knowledge of the general characteristics of gifted students and the most prominent psychological and social problems they face, applying diagnostic methods, identifying gifted students, using alternatives and educational programs in the field of gifted students, designing curricula and programs for gifted students, using teaching methods and strategies for gifted and talented students, using information technology and technologies in education, and applying organized scientific methods to evaluate gifted students and the programs offered to them (Education and Training Evaluation Commission, 2020).

1.4 Gifted education master's program at KFU

The gifted education master's program at KFU in Al-Ahsa commenced in 2009 under the supervision of the National Center for Giftedness and Creativity Research at KFU; the actual supervision of the program was later transferred to the Special Education Department in the College of Education. This program is considered one of the high-quality programs at a national level and one of the first programs specialized in preparing qualified graduates with a master's degree in the field of gifted education. The document of the program states its objectives as follows:

- ② Preparing and qualifying skilled specialists in the field of gifted care and education to meet the needs of the local community and Arab societies.
- ② Qualifying teachers with knowledge, skills, and experiences related to the field of gifted education and care.
- ② "Enriching educational and scientific research in the field of caring for the gifted."

Table 1. Tracks for the gifted education master program at King Faisal University

Thesis track	Comprehensive track
(30) teaching hours, including (6) core courses and (3) optional courses, in addition to the thesis.	(43) teaching hours, including (12) courses distributed equally between basic and optional courses, the comprehensive exam, and a graduation project.

Source: King Faisal University. (2009).

The program document also indicates that it seeks to integrate the practical aspects within the scientific courses, aiming to provide students with the knowledge and skills of applied practice. It also aims to assist gifted students in meeting their needs in particular and the needs of society in general and to support government and private educational institutions by providing human resources qualified and specialized in the field of gifted education. The program is offered to students in two main tracks: (Comprehensive and Thesis), which are shown in Table 1.

Based on local studies on the professional performance of teachers of the gifted (AlJughayman, 2012; AlJughayman and Maajini, 2013; Algarni, 2021), the results indicated that gifted students' teachers did not achieve high arithmetic averages in some areas of professional performance, according to the local or global professional standards for the gifted and practical applications; therefore, this study was intended to elicit and extrapolate on the level of professional development for gifted education teachers during service in the light of some professional standards for professional development programs during service.

After reviewing several studies in the field of precedent related to the professional development of teachers of gifted students at the local and international levels, which revealed and emphasized the importance of having teachers of gifted students with high-quality characteristics and competencies (VanTassel-Baska, Hubbard and Robbins, 2021) and successful teaching practices (Peters and Jolly 2018) to enable them to achieve an effective educational process for their gifted students, and these studies also indicated the need for professional development of these teachers through training courses or academic programs specialized in gifted education (Kronborg and Plunkett, 2013). Which enables them to reach higher levels of practices and apply educational strategies that are appropriate to the requirements and needs of gifted students (VanTassel-Baska, et al., 2006).

2. Materials and Methods

The researchers used a mixed methodology in this study. The main reason for using this approach was to limit the weaknesses of each form of data collection, as the quantitative approach is the best way to predict the study results. In contrast, the qualitative approach enhances the results of the data collected and gives the researcher a more accurate and deeper understanding of the subject of the study (Tashakkori and Teddlie, 2010). The researchers believed that the following factors justified using this methodology:

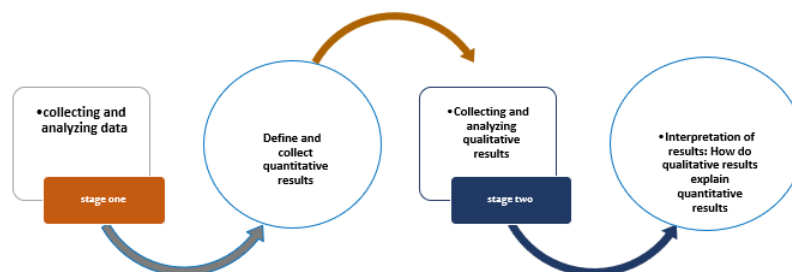
❑ The need to know the real trends exhibited by the gifted education master's program graduates would not be met by using only quantitative tools, as it may not have been possible to obtain accurate data.

❑ This mixed methodology, which combined data (quantitative and qualitative), provided researchers with a unified database that enabled them to obtain more complete and confirmed results.

❑ The use of the mixed methodology helped researchers to explain and deepen the results of primary data sources, link them to one another, and interpret the quantitative measurement results to find and identify why the sample members chose the phrases.

❑ The outcomes of the postgraduate study programs had not been previously explored nor evaluated in terms of their potential impact on the educational field from the perspective of the graduates. Therefore, the researchers in this study used a mixed sequential explanatory methodology based on two main stages: The first stage involved collecting and analyzing data using the quantitative approach and analyzing the results. Then, based on the results obtained from the quantitative portion, questions and areas of focus were designed in the qualitative research, representing the second stage of the study procedures. The qualitative portion aimed to explain and justify the results of the first stage in more detail and interpret the data in depth and more accurately.

Figure 1: Explanatory sequential design (two-phase design)



Source: Creswell and Creswell (2017).

2.1 The study sample

In the quantitative portion of the study, the study sample was selected using the simple random sampling method. Then, the researchers distributed the questionnaire electronically to the gifted education master's graduates using Google Drive. The researchers targeted all members of the study community for 8 weeks, and 40 responses were obtained. Regarding the qualitative portion of the study, the study sample was determined for the two focus groups using the criterion sampling method. In this method, individuals are identified according to a set of criteria (Given, 2008). The researchers identified several criteria to ensure an adequate representation of the sample, including gender, graduation year, cumulative average, and occupation. Seven males and eight females were specified from multiple graduation batches with various cumulative averages to represent the sample of the two focus groups (Omona, 2013).

2.2 Characteristics of the study sample members

The frequencies and percentages of the questionnaire sample individuals were calculated according to certain variables (sex, age group, specialization, years of study, occupation). Figure 2 shows the characteristics of the study sample members.

Figure 2. Frequencies and percentages of study sample members distributed according to demographic variables.

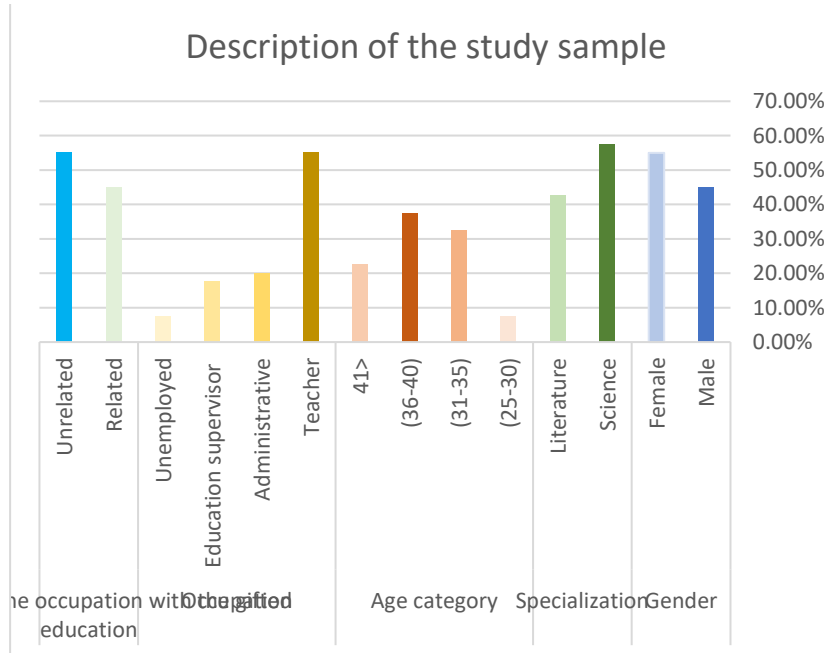


Figure 2 illustrates that there was a similar percentage of males and females in the study sample, and the literature and science

specialization tracks were also similar. There were clear differences in terms of age group, where the age group 36–40 years dominated by 40.5%, followed by 31–35 years (31%), with the other groups representing the balance. Regarding occupation, the study sample showed that most were teachers (54.8%), followed by administrative staff and education supervisors with an equal percentage (19%), and 7.1% of the total study sample were unemployed participants.

2.3 Study tool

The researchers in this study reviewed the literature about preparing and qualifying professional human resources in the field of gifted education, including the Standards of the National Association for Gifted Children / Council of Exceptional Children (NAGC/CEC-TAG), at the initial and advanced levels (National Association for Gifted Children, 2013; National Association for Gifted Children/Council for Exceptional Children, 2006), as well as the National Board for Professional Teaching Standards–Exceptional Needs Specialist certificate (National Board for Professional Teaching Standards, 2010). In addition to these criteria, the researchers reviewed one of the most important gifted education master's degree programs, i.e., The Gifted Education Master's Program at the University of Connecticut (University of Connecticut, 2022) and the Master's Program in Gifted Education at the College of William & Mary (2022). Furthermore, they reviewed one of the most advanced master's programs in special education, the Vanderbilt University's special education master's program (Vanderbilt University Peabody College, 2022). The most significant gain from reviewing these programs is the extent of focus that these programs give to the practical aspect during the training at the master's level, as most of these programs provide means of applying theoretical information within educational academies attached to those colleges and universities or through partnership programs with local schools, as one of the main requirements for obtaining a degree.

Table 3. Main topics of the questionnaire prepared for the gifted education master's degree program

Detection and identification of gifted students	Learner development and learning differences	Education environments
Curriculum	Educational planning and strategies	Evaluation
Professional education and continuous development	Practice and application	Guidance and counseling services

As shown in Table 3, based on reviewing the previous standards and programs, the study tool was built, comprising nine main topics, and

including 49 phrases based on a five-point Likert scale to measure the intensity of the responses, ranging from “strongly agree” to “strongly disagree.”

2.4 Psychometric properties of the study tool

Credibility

The researchers determined the credibility of the questionnaire using two methods:

Apparent credibility

The study tool was presented to 10 experts and university professors specialized in several fields related to the subject of the study (i.e., gifted education, measurement and rectification, psychology, educational administration, curricula, and teaching methods) to judge the validity and suitability of the questionnaire statements for measurement using the ratio of agreement mechanism on the questionnaire’s phrases, which ranged between 80–100%. The phrases that exhibited an agreement percentage of less than 80% were excluded or modified according to the arbitrator’s opinion. Concerning the qualitative portion of the study, after completing the quantitative portion, the study questions were prepared and presented to arbitrators specialized in the field of qualitative research. Finally, the researchers used the external audit method to judge the suitability of focus group questions, approve it, and proceed to work according to the available results (Johnson and Christensen, 2019).

Internal consistency credibility

The internal consistency credibility was calculated using the Pearson correlation coefficient between each measurement phrase and the topics’ overall mean. Furthermore, the Pearson correlation coefficient was calculated for the mean of each topic and the overall mean of the study tool, as shown in Table 4:

Table 4. Results of credibility and validity of the outcomes of the gifted education master programs at KFU

	Outcomes of the gifted education master program at KFU	Internal consistency coefficient (correlation coefficient)	Internal consistency coefficient
1	Detection and identification of gifted students	0.752-.0853	0.805**
2	Learner development and individual learning differences	0.797-0892	0.817**
3	education environments	0.762-0.898	0.838**
4	Curricula	0.725-0.870	0.628**

5	Planning and Instructional strategies	0.784-0.911	0.910**
6	Evaluation	0.652-0.795	0.825**
7	Education and continuous professional development.	0.646-0.882	0.876**
8	Guidance and counseling services.	0.813-0.948	0.854**
9	Practice and application.	0.721-0.888	0.805**

** Indicates significant correlation coefficient at 0.01 significance level

The results in Table 4 indicate the correlation of each topic phrase with the total average. In contrast, correlation coefficients for all topics were statistically significant and ranged between (0.652-0.911) at a (0.01) significance level. As for the correlation coefficients between the topics of the study tool and the overall mean of the tool, the results also indicated a statistical significance for all topics ranging from 0.817 to 0.867 at the level of significance (0.01); thus, the results of the internal consistency confirm the validity and reliability of the study tool.

Reliability

Table 5. Cronbach's Alpha coefficient to measure the reliability of the study phrases of the questionnaire

Group	Number of elements	Cronbach's Alpha coefficient
Group one: Results of detection and identification of gifted students	5	0.878
Group two: Learner development outcomes and individual learning differences	5	0.892
Group Three: Education Environments Outcomes	3	0.832
Group four: Curriculum	5	0.859
Group five: planning and instructional strategies	5	0.907
Group six: evaluation	5	0.770
Group seven: education and continuous professional development	6	0.849
Group eight: guidance and counseling services.	5	0.935
Group nine: practice and application.	7	0.899
Measurement	46	0.972

The researchers measured the stability of the study tool using Cronbach's Alpha coefficient. It is clear from Table 5 that the value of Cronbach's Alpha coefficient for the study's tool phrases ranged from 0.770 to 0.935, and for the entire tool was (0.972). Thus, we found that the study tool had acceptable psychometric characteristics and could be reliable as an indicator of tool stability.

3. The statistical methods used.

a) The descriptive statistical methods used in measuring the validity and stability of the study tool are:

1. Alpha coefficient (Cronbach)
2. Correlation Coefficient

b) Inferential statistical methods used to answer the study questions are:

1. Shapiro's Wilk Test (to check data normal distribution)
2. Friedman Test (relative importance) to test the degree of agreement or difference between the opinions of the entire sample on the phrases of the study tool.

3.1 Review and discussion of the study results

To answer this question, the Shapiro test for data normal distribution was used, and the results were as follows (Table 6):

Table 6. Shapiro-Wilk Data Moderation Test

	Shapiro –Wilk test		
	Test value	Degree of freedom	Significance value
Detection and identification of gifted students	0.949	40	0.070
Learner development and individual learning differences	0.933	40	0.020
education environments	0.910	40	0.004
Curricula	0.942	40	0.042
Planning and instructional strategies	0.927	40	0.013
Evaluation	0.971	40	0.393
Continuous education and professional development.	0.929	40	0.015
Guidance and counseling services.	0.903	40	0.002

Practice and application.	0.968	40	0.308
Outcomes of the gifted education mater degree program at KFU	0.954	40	0.102

It is clear from Table 6 that three phrases of the study tool follow the normal distribution of data moderation: detection and identification of gifted students, evaluation, practice, and application. This is because their significance values are greater than 5%, while for the other six phrases, the results indicate that they do not follow the normal distribution for the moderation of data distribution (i.e., learner development and individual learning differences, education environments, curricula, planning, and instructional strategies, education, and continuous professional development, and guidance and counseling services) as their significance values are less than 5%.

For this reason, the researchers used the Friedman rank test to measure the importance of the phrases for the subject interviewee and find the significant differences in the demographic variables of the study.

3.2 Response to the first question

First question: What are the strengths and weaknesses of the gifted education master's program from the graduates' point of view?

To answer this question, the phrases were arranged, then the arithmetic mean was calculated for each phrase, and the Friedman rank test was used. The results are illustrated in Table 7:

Table 7. Results of the relative importance of the outcomes of the gifted education master programs at KFU

Variable		Classification	Phrases	Ranks average	Rank	K2	Significance
Gender		Male	Detection and identification of gifted students	4.94	7	11.065	0.198
			Learner development and individual learning differences	5.08	5		
			education environments	5.83	1		
			Curricula	5.25	4		
			Planning and Instructional strategies	5.39	3		

			Evaluation	4.36	8		
			Education and continuous professional development.	5.75	2		
			Guidance and counseling services.	5.00	6		
			Practice and application.	3.39	9		
		Female	Detection and identification of gifted students	4.73	5	34.892	0.000
			Learner development and individual learning differences	5.61	4		
			education environments	6.23	1		
			Curricula	5.95	3		
			Planning and Instructional strategies	4.57	7		
			Evaluation	4.70	6		
			Education and continuous professional development.	6.07	2		
			Guidance and counseling services.	4.50	8		
			Practice and application.	2.64	9		
	Major was taken at the Bachelor level	Literature	Detection and identification of gifted students	4.56	7	18.583	0.017
			Learner development and individual	5.74	2		

		learning differences				
		Education environments	6.62	1		
		Curricula	5.24	4		
		Planning and instructional strategies	4.94	6		
		Evaluation	4.21	8		
		Education and continuous professional development.	5.35	3		
		Guidance and counseling services.	5.15	5		
		Practice and application.	3.21	9		
		Detection and identification of talented students	5.02	5		
		Learner development and individual learning differences	5.11	4		
		education environments	5.63	3		
		Curricula	5.93	2		
	Science	Planning and instructional strategies	4.93	6	28.083	0.000
		Evaluation	4.80	7		
		Education and continuous professional development.	6.35	1		
		Guidance and counseling services.	4.41	8		
		Practice and application.	2.80	9		

Variable		Classification	Phrases	Ranks average	Rank	K2	Significance
Age group		25-30	Detection and identification of gifted students	5.67	5	7.335	0.501
			Learner development and individual learning differences	6.50	1		
			education environments	6.17	3		
			Curricula	5.00	6		
			planning and Instructional strategies	4.00	7		
			Evaluation	2.50	9		
			Education and Continuous professional development.	5.83	4		
			Guidance and counseling services.	6.33	2		
			Practice and application.	3.00	8		
		31-35	Detection and identification of gifted students	3.88	7	35.237	0.000
			Learner development and individual learning differences	6.35	3		
			education environments	6.69	1		
			Curricula	5.92	4		
			Planning and Instructional strategies	3.88	8		
			Evaluation	5.08	5		

			Education and continuous professional development.	6.50	2		
			Guidance and counseling services.	4.46	6		
			Practice and application.	2.23	9		
		36-40	Detection and identification of gifted students	4.90	6	9.111	0.333
			Learner development and individual learning differences	5.30	4		
			Education environments	5.50	2		
			Curricula	5.50	3		
			Planning and instructional strategies	4.87	7		
			Evaluation	5.07	5		
			Education and continuous professional development.	5.97	1		
			Guidance and counseling services.	4.43	8		
			Practice and application.	3.47	9		
		41- and older	Detection and identification of talented students	5.78	3	17.241	0.028
			Learner development and individual learning differences	3.72	7		

			education environments	6.00	2		
			Curricula	5.67	4		
			Planning and instructional strategies	6.89	1		
			Evaluation	3.61	8		
			Education and continuous professional development.	5.06	5		
			Guidance and counseling services.	5.06	6		
			Practice and application.	3.22	9		
Variable		Classification	Phrases	Ranks average	Rank	K2	Significance
Current job		Unemployed	Detection and identification of gifted students	5.67	3	6.880	0.550
			Learner development and individual learning differences	4.33	7		
			education environments	7.00	1		
			Curricula	5.17	5		
			planning and Instructional strategies	6.17	2		
			Evaluation	5.00	6		
			Education and Continuous professional development.	5.67	4		
			Guidance and counseling services.	4.00	8		
			Practice and application.	2.00	9		

		Administrative	Detection and identification of gifted students	5.50	4	8.726	0.366
			Learner development and individual learning differences	4.31	7		
			education environments	5.00	5		
			Curricula	5.69	3		
			Planning and Instructional strategies	4.25	8		
			Evaluation	4.63	6		
			Education and continuous professional development.	5.88	2		
			Guidance and counseling services.	6.50	1		
			Practice and application.	3.25	9		
		Teacher	Detection and identification of gifted students	4.43	8	30.710	0.000
			Learner development and individual learning differences	5.45	4		
			Education environments	6.27	1		
			Curricula	5.50	3		
			Planning and instructional strategies	5.07	5		
			Evaluation	4.61	6		
			Education and continuous	6.27	2		

			professional development.				
			Guidance and counseling services.	4.59	7		
			Practice and application.	2.80	9		
		Supervisor	Detection and identification of talented students	4.93	5	11.843	0.158
			Learner development and individual learning differences	6.79	1		
			education environments	6.14	3		
			Curricula	6.21	2		
			Planning and instructional strategies	4.79	6		
			Evaluation	4.07	7		
			Education and continuous professional development.	5.00	4		
			Guidance and counseling services.	3.43	9		
			Practice and application.	3.64	8		
Variable		Classification	Phrases	Ranks average	Rank	K2	Significance
Job relevance to the gifted care		Not related	Detection and identification of gifted students	4.07	8	30.095	0.000
			Learner development and individual learning differences	6.00	3		

			education environments	6.02	2		
			Curricula	5.50	4		
			planning and Instructional strategies	4.59	7		
			Evaluation	4.86	6		
			Education and Continuous professional development.	6.07	1		
			Guidance and counseling services.	5.18	5		
			Practice and application.	2.70	9		
		Related	Detection and identification of gifted students	5.75	3	21.250	0.007
			Learner development and individual learning differences	4.61	6		
			education environments	6.08	1		
			Curricula	5.81	2		
			Planning and Instructional strategies	5.36	5		
			Evaluation	4.17	7		
			Education and continuous professional development.	5.75	4		
			Guidance and counseling services.	4.17	8		
			Practice and application.	3.31	9		
		Outcomes of the gifted	Detection and identification	4.83	6	40.744	0.000

	education master program at KFU	of gifted students				
		Learner development and individual learning differences	5.38	4		
		Education environments	6.05	1		
		Curricula	5.64	3		
		Planning and instructional strategies	4.94	5		
		Evaluation	4.55	8		
		Education and continuous professional development.	5.93	2		
		Guidance and counseling services.	4.73	7		
		Practice and application.	2.98	9		

From Table 7, it is clear that the phrases (i.e., practice and application, evaluation, guidance and counseling services, and detection and identification of gifted students) received lower degrees in relative importance as rated by the respondents when rating the outcomes of the gifted education master's program, while other phrases (i.e., education environments, education, and continuous professional development, curricula, education development, and individual learning differences, planning, and educational strategies) were rated as higher degrees of relative importance. This suggested that most of the respondents agreed that these phrases were well served within the gifted education master programs at KFU.

It is possible to identify the most prominent aspects of the strength of the study sample according to their demographic characteristics. Regarding sex, the results indicated that the phrases "education environments" were the most served, while "practice and application" obtained the least served rating. According to the chosen major, the most fulfilled phrase was the education environment, as rated by the science major. The phrase "education and professional development" was the most fulfilled for the literature major. The least fulfilled phrase, as rated by the two majors, was "practice and application." Regarding age group, the group 25–30 years perceived the phrase

“education and professional development” as the most prominent strength in the gifted education master’s program, and the least was “evaluation.” The two age groups 31–35 and 36–40 years agreed on the importance of “education and professional development” as one of the most substantial aspects of the program. Still, they perceived the phrase “practice and application” to be the least served in the master’s program. We also found that job title played an influential role in the responses of the current study sample, where teachers and non-employees considered the phrase “education environments” as well served, with the least being “practice and application.” Managers considered the phrase “guidance and counseling” as the most served and “practice and application” as the least. In contrast, the educational supervisors indicated that the most served phrase was “learner development and individual learning differences” while they rated “guidance and counseling” as the least.

In general, a large number of the study sample agreed on obvious shortcomings in a set of phrases, the most important of which were practice and application, evaluation, guidance and counseling services, and detection and identification of gifted students. Therefore, consistent with the sequential explanatory research methodology, the researchers discussed these phrases with the focus groups, emphasizing the phrases that are rated as not well served to reach a more in-depth understanding of why the gifted education master’s program graduates came to such a conclusion.

3.3 Response to the second question

The second question: How do graduates of the gifted education master’s program at KFU explain the strengths and shortcomings of the program?

After considering insights from the analysis of the quantitative results of the study tool, two focus groups were held for a group of graduates of the gifted education master’s program to find a more in-depth interpretation of the quantitative results and to discuss the vocabulary of the phrases of the study, which were based on the standards of National Association for Gifted Children/Council for Exceptional and National Board for Professional Teaching Standards. Graduates explored their views, learnings, and opinions on the 12-year-old program.

.1 Detection and identification of gifted students: The participants exhibited an acceptable level of satisfaction with what was delivered in this field. Graduate 3 indicated that the program provided him with a lot of theoretical information about gifted students’ detection and identification processes. Graduate 4 confirmed that she benefited from valuable theoretical knowledge in addition to applying the forms of detection and preliminary candidacy through some assignments.

Concurrently, most of the participants asserted that they could not use identification tests to identify gifted students in practice to enable them to acquire this skill. This was inconsistent with recent updates to the NAGC's Gifted Program Standards (Corwith et al., 2019) or even the gifted students' teacher qualification standards (VanTassel-Baska and Robinson, 2021). VanTassel-Baska and Hubbard's (2019) study recommends that it is necessary and essential to find flexible and diversified ways to detect and identify gifted students and to train teachers and experts on these detection techniques, especially concerning special category students, as teachers effectively engage in the process of detection and identification of such students, as the successful application requires them to be talented detectors, (Siegle et al., 2016). This means that they should recognize the characteristics of gifted students and know-how talent can be hidden in the categories of students who are deprived of enrolling in gifted education programs.

.2 Learner development and individual learning differences: The participants focused on two essential points: First, related to the cognitive characteristics of gifted students, most of the responses acknowledged significant and valuable input during the course, and then to a lesser extent they discussed input regarding the psychological and social characteristics. Graduate 2 pointed out, "We got acquainted with the high cognitive characteristics of the gifted student and their personality in an elaborated manner. Also, the most prominent psychological and social problems that the gifted student may suffer were discussed, such as 'excessive sensitivity, perfectionism' and how it is associated with high abilities and its potential effects on a student's personality and interaction with society." The analysis concluded by the graduates was consistent with that of the basic vocational education program in the Russian diagnostic study on the qualification of gifted students' teachers (Bochkareva et al., 2018), where they proposed a system of vocational training units including the psychological features of gifted children, psycho-educational techniques for organizing learning processes, organizing interaction with parents of gifted children, forms of organizing psychological, and educational support for gifted children. Secondly, the graduates discussed understanding talent development during the different age stages in this topic. Most of the participants agreed that the focus during the master's study was on the educational stages, starting with the first grade until the end of secondary school. However, the preschool and university levels were given minimal attention. These views agree with a study performed by Cosar et al. (2015) which qualitatively analyzed the opinion of gifted students' teachers concerning the implementation of care programs for students of preschool age. Teachers believed that consideration

should be given to providing them with complementary and vocational training to improve their skills and abilities in caring for students during that stage.

.3 Education environments: This topic elicited the highest satisfaction and acceptance in both the study tool and the two focus groups. Most of the participants indicated high competencies in this field, especially concerning the ability to modify education environments for gifted students and use motivation strategies within their teaching and learning processes. For most graduates, this perception represented an appropriate success throughout their academic studies. This was consistent with the second standard of qualifying and preparing teachers of gifted students with all its classifications (National Association for Gifted Children, 2013, p. 12). The fourth of the programming standards for gifted students (Corwith et al., 2019) states, "Effective teachers of gifted and talented students create safe education environments that foster emotional well-being, positive social interaction, leadership for social change, and cultural understanding; for success in a diverse society."

.4 Curricula: The participants praised the efficacy of the program in this field. Speaking about the course "Field Applications in the education of the gifted," Graduate 5 confirmed that, "This particular course represented the core of the gifted education master program and enabled us to know how to build enrichment programs and a variety of design units, in addition to modifying the general education curricula to suit talented students." Most of the graduates agreed with this opinion. This combined integration of theoretical information with design and integrating thinking skills at all levels within the curricula and activities offered to gifted students. The high satisfaction rate of graduates on this topic, being so distinctiveness among the courses of the gifted education master programs, was fully consistent with the recommendations of much educational literature, which called for the need to further expand the creation and modification of additional content areas such as science, social sciences, arts, and leadership, and to integrate them within evidence-based services and strategies for gifted student care (VanTassel-Baska and Hubbard, 2019).

5. Planning and instructional strategies: The participants' opinions on this topic varied according to graduation batches. Some expressed satisfaction and dissatisfaction, especially regarding their studies on the regulations and legislation related to gifted education in Saudi Arabia. This course was optional, and some students could enroll despite it being an important basis for practice. Graduate 8 mentioned "that most studies focused on enrichment and counseling programs. Concurrently, other concepts were not given the same attention, such as acceleration and individualization of learning", despite most of the recent gifted literature stressing the need to develop and implement

multiple educational strategies for gifted students (VanTassel-Baska and Hubbard, 2019). Graduate 6 mentioned that faculty members only focused on specific theories. "At the same time, they quickly reviewed many other theories, so we did not find sufficient diversity in the study of gifted education theories".

6. Evaluation: Most of the participants' opinions suggested that they studied specific evaluation forms focused on evaluating enrichment units and products of gifted students. According to Graduate 6, many concepts in the field of evaluation were not adequately addressed, i.e., "Some concepts have been reviewed quickly and were not studied adequately, such as dynamic evaluation, and evaluating achievement files." The most important points repeated while studying courses for preparing and qualifying teachers of gifted students were the urgent need to diversify assessment methods according to the characteristics of gifted students and the diversity of different areas of giftedness, or strategies for providing education and care services. In addition, both quantitative and qualitative models were required to measure the level of progress through care programs, whether via evaluation programs, products, or performance, and even fair and unbiased measurement for different categories of gifted students with low achievement or who were dual-exceptional. This would enable educational decisions to be made on which most educational practices in the field of caring for gifted students should be based, such as modifying education environments and providing acceleration or grouping services.

7. Education and Continuous Professional Development: Most graduates confirmed the importance of the skills that they had acquired in this aspect, especially concerning academic writing, the ability to conduct research and scientific studies that were closely related to the tasks of the various courses, the extent of technical enrichment they had acquired, and the follow-up of scientific periodicals and conferences in the field of gifted education. Graduate 2 mentioned that the research and scientific skills that she had gained from the program were the most substantial in the course. Graduate 4 confirmed that their professors had extensive experience and scientific strength and had contributed to directing their students to reliable, relevant sources of knowledge and helped perfect their expertise and skills; however, there was not enough diversity of professors in the program. It was stated, "The available staff is very few and did not allow us to obtain diverse experiences and caused graduation delays to many students who couldn't graduate within the specified time." The graduates' opinions agreed with the views of the gifted students' teachers in Turkey. Sayi's (2018) study indicated that teachers stressed the importance of interacting with instructors during the professional development process, and it was necessary to

have the program delivered by several staff members for the sake of diversifying their experiences and enabling them to acquire knowledge in multiple fields. Peters and Jolly (2018) believed it was unlikely that professional development programs were sufficient to change the practices of gifted students' teachers in the classroom. There may be many obstacles, such as inappropriate school environments and resources, enactment of legislation and regulations supporting change, and lack of interest in fulfilling the needs of gifted students.

8. Guidance and counseling services: The graduates were not fully satisfied with this aspect. Their opinions agreed with the results of the study tool that indicated a lower percentage of importance given to this aspect. Graduates 1 and 6 believed that the focus was on problems that may be encountered by gifted students, such as concepts of overexcitability and perfectionism, without more important areas being addressed, such as guidance and vocational guidance for gifted students, methods of education, and parenting care, in addition to detection mechanisms and care for special groups of gifted students such as the dual-exceptional, and those with different cultural backgrounds and economic circumstances. However, they indicated that within the previous two recent years, those responsible for the program had shown more interest in dual-exceptional students. This shortcoming was not surprising, as this problem has been subjected to an ongoing debate in the literature discussing gifted education, as most practitioners in this field had great difficulty in obtaining an adequate qualification in psychological and vocational guidance and counseling services for gifted students. Robertson et al. (2011) confirmed four neglected areas that constituted shortcomings that needed to be addressed, directly related to guidance and counseling services. This can be summarized as follows: defending the practices of identifying multidimensional gifted students, consulting with parents of gifted students, professional planning, and making educated decisions regarding the provision of care services such as acceleration, early college enrollment, poor achievement, home education, enrichment programs in all its forms.

9. Practice and Application: The questionnaire results agreed with the discussions of the majority of the two focus groups regarding a clear deficiency in this field. Most of the graduate batches of the gifted education master's program agreed on this result. Although there were some applications in the course of applications for gifted education, most of the courses were entirely theoretical.

Most of the basic standards for qualifying teachers of gifted students define the body of knowledge necessary for an individual to provide them with services. However, one issue that is not explicitly addressed

is how long it takes an individual to reach the appropriate level of proficiency (Coleman et al., 2012). An individual cannot acquire the necessary skills by obtaining a certificate only. It requires practice in real environments and authentic experience to reach the highest professional levels. Darling-Hammond et al. (2017) strongly emphasized that effective professional development for teachers should be prolonged to give teachers “sufficient time to learn, practice, implement, and reflect on new strategies that facilitate changes in their professional practices” (p. 6). These practices also play a major and important role in preparing teachers to more successfully meet the needs of gifted students and to be more confident in their abilities. Graduate 5 mentioned, “Unfortunately, there were no partnerships with strong programs for talented like those in Aramco or King Abdullah University for Science and Technology.” Studies of qualifying and professional preparation of teachers of gifted students focus on the critical importance of an effective and real partnership between the university and local education departments and their role in developing and maximizing factors of success for their respective projects. Green et al. (2020) identified a set of benefits that can be obtained from these partnerships, summarized in Table 8.

Table 8. Benefits of the partnership between universities and local education institutions

Benefits for universities	Benefits for local education departments
Enables universities to offer quality programs in which theory and practice are linked and provide a real educational environment.	Furnish schools with the opportunity to provide high-quality educational programs and services.
Link assessment skills and thinking activities to classroom experiences.	Develop teachers’ capacity for evidence-based teaching skills.
Makes education processes more relevant to the realities of the educational field	Provides professional training services delivered by specialized professors and experts
Providing a fertile environment for conducting studies and research in the field	Enriches classrooms with modern educational practices and strategies.

Graduate 3 confirmed that the application course is limited only to one semester, and she wished they were able to allocate more time to studying the applied courses. In a cross-cultural comparison of gifted secondary school teachers, Singaporean teachers used more in-depth and differentiated strategies than their American counterparts (Van Tassel-Baska et al., 2008). Those teachers attributed their increased implementation of differentiation to the hands-on part of their training, which allowed for ongoing dialogue with more experienced gifted students’ teachers in their respective fields. These studies

suggested that more supervised work experience may make a difference in the effective use of differentiation skills.

3.4 Response to the third question

How do graduates of the gifted education master's program describe the impact of the program on applied practices?

There were some positive indications of the program's benefits to the practitioners in the educational field. Graduate 4's comment represented the most significant impact from the graduates' point of view, indicating that the program "enriched the eastern region with a set of scientific studies related to the field and measuring the quality of practices." These studies also created a strong scientific environment that made several practitioners research these topics and strive to get evidence-based theoretical knowledge, and also contributed to the formation of a deep scientific philosophy theory-wise among graduates; however, unfortunately, this impact was still minimal and did not meet the standards of the program or achieve the main objectives previously indicated in the program document. Graduate 5 mentioned that many of the program's graduates were unable to make a real change in the field in terms of practices, and some minor efforts and scattered programs appeared occasionally. Within the same context, graduate 7 mentioned that the impact on the field of gifted care on a practical level and the improvement of detection and care for gifted students was almost unnoticed due to the large gap between theory and practice and the lack of partnership between the university and local educational institutions, especially during the stages of qualifying and professional development.

To investigate and find accurate, more realistic, and in-depth scientific explanations regarding the reasons for this low level of positive impact, from their viewpoint, the graduates mentioned some of the main points that had contributed to reducing the impact of the gifted education programs on actual practices and application in classes.

(Figure 3 was here)

Areas of shortcomings in the program

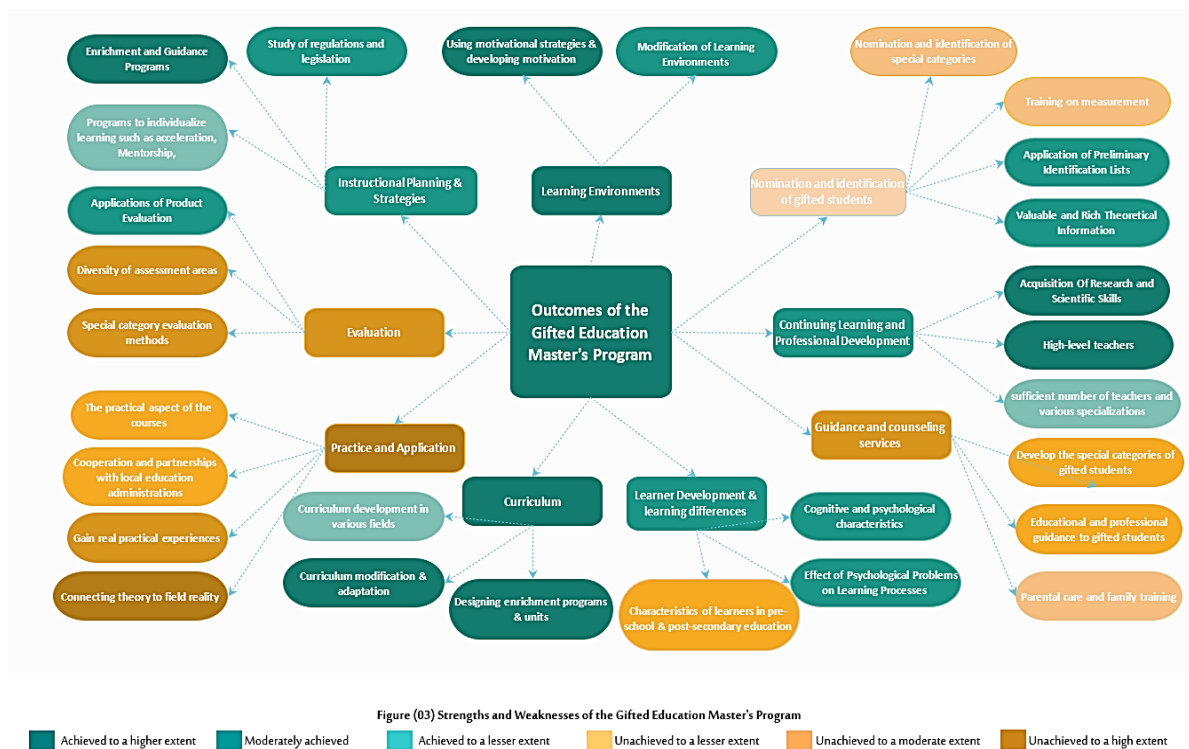
Graduate 8 stated, "During my master's study, I did not adequately study courses related to psychological guidance and counseling, and most of what I learned depended on personal diligence and self-learning, but I rather needed an in-depth counselor specialized in psychological counseling." Graduate 7 added, "In the guidance, we almost had a great focus on the problems facing gifted students and how we should prepare a counseling program to guide students, but without sufficient understanding of the principals and theories of guidance related to the design and preparation of programs." Accordingly, we found that the program focused largely on the theoretical aspects and educational and academic care for gifted

students with less focus on the psychological and social fields. This created a gap most often felt by the graduates and during the practical application of theory in classes and programs for gifted students.

Diversity of talent areas

An investigation of this issue revealed that responses appeared to agree that the programs did not address many areas of talent as stated in the official definition of gifted students by the Ministry of Education in Saudi Arabia. The graduates indicated that the program focused more on academic talents, and most of the theories and courses were aimed at superior mental abilities, which made some graduates feel that there was bias toward certain areas and a deficiency in others. Graduate 4 confirmed, "The focus was only on the intellectually gifted, and even the applications revolve around this field of talent. It did not address the areas of talents in performance (such as arts, sculpture, literature, language...) and the methods of detecting and nurturing them and building programs and services for those talents."

Figure 3. Strengths and Weaknesses of the Gifted Education Master's Program.



Trends and beliefs

The graduates faced a significant problem after graduation: how to deal with the beliefs and attitudes of officials, practitioners, and

families of talented students. For example, graduate 8 stated: "I have an experience of a study that lasted nearly a year, during which I faced difficulties, the most prominent of them was the lack of acceptance of the idea of psychological and counseling care in the educational field, and the urgent need to educate the professional staff in the field to implement the study." In addition, graduate 6 asserted that applying research and studies required several approvals and regular procedures, and even after obtaining them, there was minimal interaction in the field. Therefore, it is obvious that there is a need for coordination between those in charge of the master's program and local educational institutions to professionalize the scientific theories and applications in gifted education classes and programs and effectively deliver the program's outputs to gifted students and their families.

Applied practices.

This aspect constituted the most agreed-upon point of weakness in the gifted education master's program. The interpretation of the quantitative tool and the analysis of focus groups indicated a clear and noticeable shortcoming in applied practices in most of the courses, except for the course gifted with learning difficulties and course applications in gifted education programs. The most prominent issues mentioned by the graduates were: the application of identification and detection tools for gifted students, the application of screening and placement methods for gifted students to direct them to the appropriate programs and services, in addition to evaluation practices in all their forms (prior, formative, final, dynamic), and mechanisms for analyzing results and benefiting from them in care and service delivery programs.

Organizational aspects

This area was closely related to practice and application and the beliefs and trends that graduates faced in the field, as most were not yet practicing, and were thus neither employed nor able to benefit from the experiences and the scientific certificate obtained in the educational field. Most of the graduates attributed this to poor coordination between the university and the Ministry of Education and were resentful regarding their exclusion from the gifted classes and programs. Graduate 4 mentioned that despite four years having passed since his graduation, he remained far from practicing in gifted students' classes. Graduate 8 confirmed that she had been trying to find a job and to get involved with programs in gifted education and care for a year, even without financial reward, but had failed because of the rules and regulations of the Ministry of Education. What the graduates mentioned represented the most important factors that contributed to minimizing the impact of the outputs of the gifted

education master's program in the applied practices within the educational field.

From the above, the graduates were able to identify the most prominent repercussions, both positive and negative, of the gifted education master's program on the applied practices in the educational field. Perhaps the most prominent point explained the low impact of the outputs of the gifted education master's programs in the actual field of gifted education and care. These points should be reviewed and reconsidered to achieve the effective impact of this program, as indicated clearly in the program document and objectives, and to improve the practical application in the classes and programs of gifted education. As seen in Figure 3, these points can be summarized as follows:

② There was inadequate implementation of practical applications during the course study.

② There was a lack of real benefits for the graduates of the programs regarding detection and care of gifted students, as they were alienated from the field of gifted education.

② The lack of partnership between the university and the local education departments in the eastern region contributed to the dropout of graduates outside the field of gifted education.

② The lack of structures and organized institutional work within the field of gifted education negatively affected the ability of those who were able to join the field and bring about improvements.

② The diversification of studies related to gifted students' care and education according to the official definition of the Ministry of Education in the Kingdom of Saudi Arabia is required.

② The dissemination of awareness and culture on evidence-based scientific theories and practices in the educational field is required.

② More focus is required on guidance and counseling and special groups of gifted students.

3.5 Study recommendations

The researchers recommend performing future studies that include:

1. A qualitative study to track education paths at the PhD level for gifted education master's program graduates.
2. A study of the literature produced by the graduates of gifted education master's programs.
3. A study to track the employment status of gifted education master's program graduates.

For program organizers, the researchers also suggest a set of basic points derived from the graduates' responses and views on the program:

1. Restructuring the study courses and paying attention to the areas of psychological and social care for gifted students.
2. Forging real partnerships with the education departments in the region to bridge the gap between theory and practical application within the classes of education and care for the gifted, especially the schools which are in partnership with King Abdul Aziz and his Companions Foundation for Giftedness and Creativity, Mawhiba.
3. Continuously measuring and evaluating the outputs of the gifted education master's program through an independent entity, such as the National Center for Giftedness and Creativity at the university.
4. Determining the sufficient number of practical hours for each student before embarking on theses and dissertations as a prerequisite before graduation.
5. Providing professors with different specializations to teach courses to increase diversity, areas of specialization, and experiences for graduate students.

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Conflict of Interest Statement

The author(s) declare no potential conflicts of interest concerning the authorship and/or publication of this article.

Contribution to Field Statement

This study aimed to measure the outputs of the master's programs in gifted education at KFU and their impact on gifted education programs. Some international standards were examined, as well as the relationship between the knowledge and skills that graduates had studied and the extent of the actual benefits within the framework of scientific practice in the classrooms. A gap was revealed between what higher education institutions offered and the reality in the educational field, and thus the study also aimed to establish the relationship between the institutions and the local education administration regarding the education of gifted students and the preparation and development of gifted teachers.

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