# *The role of the school psychologist and the activation of their functions in identifying and nurturing gifted individuals during the pre-university education phase (experimental study)*

***BY***

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## *Abstract*:

The current research aims to identify the difficulties and psychological needs of gifted individuals in pre-university education, followed by the study of the effectiveness of a training program to activate the role of the psychological specialist in discovering and caring for the gifted during the pre-university education stage. The sample consists of 60 psychological specialists divided into two groups (experimental and control), each comprising 30 psychological specialists. The researchers prepared a training program to enhance the psychological specialist's ability to discover and care for the gifted in pre-university education. To conduct the research, the researchers applied a scale of the School Psychologist's Role Scale in Discovering and Developing Talent before the intervention. Then, they implemented the training program sessions on the experimental group and assessed the achievement of the intended goals. Afterward, they applied the scale of the School Psychologist's Role Scale in Discovering and Developing Talent post-intervention. Statistical analyses were conducted using the t-test for independent and correlated groups. The researchers calculated the effect size and the program's effectiveness, indicating a very strong impact of the program in improving the psychological specialist's ability to discover talents and face challenges and difficulties that the psychological specialist may encounter. The researchers interpreted the high effectiveness of the program considering its importance in the current study for the research sample, as psychological specialists are key pillars in the discovery of gifted individuals in schools. They also explained the remaining results in the context of the training program's nature, content, objectives, theoretical framework, and previous studies on the current research variables.

***Keywords*:** School Psychologist, Gift, Training Program.

***Introduction*:**

Gifted individuals represent the true wealth of any society, serving as its leaders in every time and place, both present and future. They bear the responsibility for the progress and advancement of societies, as the gifted are considered a pivotal factor in the renaissance of communities across various scientific, professional, and artistic domains. Therefore, harnessing their intellectual and educational capabilities is an essential and crucial necessity. Gifted and outstanding individuals in most societies are the ones upon whom its progress relies, as they illuminate its minds and possess conscious hearts. They are the ones who set goals, draw plans to achieve those goals, and among them emerge leaders in various economic, social, industrial, and political aspects of life (Klassen, Polyzoi, & Klassen, 2009).

There is no hidden or magical force among the gifted that automatically propels them to reach the highest levels of growth matching their abilities. Evidence of this lies in the fact that many talented minds exist everywhere in the world, but they only become notably apparent in advanced countries. This is because education in those societies may help them discover themselves, their talents, and capabilities, nurturing them to their fullest potential (Plucker & Barab, 2005).

Caring for the gifted and paying attention to them are fundamental elements of national development that rely on investing significant human resources and preparing them appropriately for global competition. This can only be achieved by actively seeking out these talents, working on them, providing a conducive environment for their growth and development, and investing in them to create ample opportunities for success and excellence for these gifted individuals. This requires a mechanism for identifying and nurturing them (Organization for Economic Co-operation and Development OECD, 2015).

In addition, the psychological specialist plays a crucial and prominent role with the gifted, assisting the gifted student in recognizing their capabilities, understanding themselves, and overcoming many challenges they face. This enables them to achieve psychological, professional, behavioral, educational, and social harmony, aiming to build a strong personality (Subotnik, Olszewski-Kubilius & Worrell, 2011).

The diversity of programs and activities that a psychological specialist can engage in is considered one of the most important and intriguing aspects.

However, a common perception prevails that the role of a psychological specialist is confined to administering psychological tests and addressing psychological issues. This creates a notable contrast between the actual duties of a psychological specialist and the comprehensive role they should ideally play. Consequently, it is imperative to examine this reality and establish consistent criteria and guidelines to define and enhance the role of a school psychologist (American Psychological Association, 2016).

***Problem statement:***

Certainly, the process of researching and identifying gifted students is highly significant, serving as the natural starting point for programs aimed at developing and nurturing their abilities. It involves crucial decision-making that can impact their future. The success of any educational program for gifted students relies heavily on the precision of the identification process and the effectiveness of the selection procedures. Those overseeing activities and programs for gifted individuals should emphasize and concentrate on fundamental principles. These principles can enhance the accuracy of the identification process, reduce errors, and make it easier for those in charge. Many researchers and educators agree that the teacher plays a pivotal role in the success of educational programs, whether for gifted, regular, or disabled children. Teachers create the appropriate learning environment, bolster or weaken the learner's self-confidence, foster or hinder creativity and innovation, stimulate or stifle critical thinking, and ultimately determine whether the door to achievement is open or closed (Gallagher, 1994).

Additionally, many societies, particularly in the Arab world, face the challenge of neglecting and not adequately addressing the needs of gifted individuals. Consequently, many talented individuals have chosen to migrate to countries that actively nurture and appreciate such intellectual capabilities. This underscores the urgent and critical nature of investing in creative intellectual talents and ensuring their preservation and development in our contemporary society. This is evident in various countries, including Switzerland, Japan, Taiwan, South Korea, Malaysia, among others (Klassen, Polyzoi, & Klassen, 2009).

The process of identifying gifted and talented children is a vital component of programs and initiatives aimed at fostering their potential. It serves as the pivotal initial step and natural gateway for initiatives focused on nurturing gifted individuals. The success of programs designed

for the gifted hinges largely on the precision of the identification process in pinpointing the targeted group accurately. The significance of the identification process lies in selecting the appropriate students and tailoring suitable programs for them. The subsequent steps are greatly influenced by the accuracy of the identification process (Rutigliano & Quarshie, 2021).

Given the considerable importance of identifying gifted children, this process has garnered significant attention and coverage in the literature on gifted education. Numerous books and chapters in the field of giftedness and intellectual excellence have been dedicated to examining this process. The literature emphasizes the inherent danger and utmost importance of this process, making it imperative for societies aiming for a brighter future and a prominent global position to build their educational systems on a philosophy that supports creative and innovative education. This underscores the necessity of establishing a clear and specific strategy for the educational, social, and psychological care of the gifted and talented across all educational levels (Plucker & Callahan, 2014).

Therefore, the pivotal role of education becomes evident in delivering meticulous and exceptional education for all, contributing to the preparation of generations of scientists, innovators, and thinkers equipped with the essential elements for the progress and development of human civilization (Organization for Economic Co-operation and Development, 2016).

Consequently, it is essential to offer assistance and attention to all gifted students, aiding them in comprehending and overcoming their psychological, social, intellectual, and emotional needs at every stage of their development. Interestingly, the needs and interests of gifted students often align with those of typical children, despite the unique dimensions that giftedness contributes to self-acceptance and self-awareness. If we anticipate gifted children growing into self-fulfilled teenagers, it becomes imperative to address their varied needs, encompassing:

1. Understanding how they differ from others and the ways in which they share similarities with their peers.
2. Accepting their talents, capabilities, and limitations.
3. Developing personal and social skills.
4. Feeling understood and embraced by others.

5. Grasping the distinction between "striving for excellence" and "striving for perfection." (Kaplan, 1990).

The two researchers emphasize the necessity of activating the role of the psychological specialist in the discovery and development of talent. They argue that many psychological specialists may not be aware that one of their priorities is to work on identifying and supporting the gifted, rather than solely focusing on psychological problems. Consequently, the researchers propose a program dedicated to discovering and nurturing gifted individuals. This program would involve the psychological specialist acting as a liaison between the student, the school, and the family. They possess the ability to identify the psychological needs and challenges faced by the gifted and determine how to address them effectively, ultimately achieving the desired goals of the program.

**The research problem can be formulated into the following questions:**

1. What are the psychological difficulties and needs of the gifted during the pre-university education phase?
2. To what extent is the effectiveness of a proposed training program based on the effectiveness of a program to activate the role of the psychological specialist in discovering and nurturing the gifted during the pre-university education phase?
3. Are there differences between the pre-assessment and post-assessment in the discovery and development of talent within the research sample after completing the program?

***Study Objectives:***

- Identify the psychological challenges faced by the gifted during the pre-university education phase.
- Activate the role of the psychological specialist in the discovery and care of the gifted.
- Explore the differences between pre-assessment and post-assessment in the development and discovery of talent among students in the pre-university learning phase.

***Study Importance:***

- Shedding light on the role of the school psychological specialist concerning the discovery, development, and proper guidance of the gifted.
- Emphasizing the significance of the study's focus on the pre-university education phase, a stage characterized by planning a vision for the future, determining one's destiny, and the educational and life journey, encompassing several educational years.
- The potential for preparing and utilizing the program, provided its effectiveness is demonstrated, for various research purposes in education and aiding the community in building a generation capable of effectively utilizing their talents, abilities, and skills in nation-building and societal development.

***Gifted Students:***

Gifted students are those with enhanced mental preparedness, potentially qualifying them for future high-performance levels in a specific skill or a particular field valued by the community. Given the right factors, they may require specialized educational programs and services distinguished from regular educational programs (Rutigliano & Quarshie, 2021).

**School Psychologist:**

It is one of the most crucial pillars in the educational process, as it bears the responsibility of psychosocial assessment of students, providing support and addressing cases of shyness, introversion, aggression, and inclinations. Additionally, it plays a role in educational guidance, conducting field research, evaluating educational and therapeutic programs, discovering, and nurturing the gifted and talented, and developing capacity-building programs (Mattingly, 2017)

**Talent:**

Talent is a natural ability and readiness that assists an individual in reaching a high level of performance in a specific skill, despite the absence of distinguishing exceptionally high intelligence (Gallardo-Gallardo, 2018).

***Study Procedures:***

- Preparing a scale for the role of the psychological specialist in talent development.

- Developing an effective program to activate the role of the psychological specialist in the discovery and care of the gifted among students in the pre-university education phase.

**The School Psychologist:**

The role of the school psychologist is one of the most crucial roles with utmost importance in the educational process. It contributes significantly to addressing various issues and discovering and developing numerous skills.

Definition of the School Psychologist: The definition of the school psychologist has been provided by the National Association of School Psychologists (NASP, 2010):

- They provide effective services to assist students and youth in succeeding academically, socially, behaviorally, and emotionally. They deliver direct educational and psychological health services to students and youth, in addition to collaborating with parents, teachers, and other professionals to create socially supportive educational environments for all students.

Due to the significant influence of the school psychologist's decisions on individuals and society, the field of school psychology depends on public trust. To establish and uphold community confidence in school psychology, it is crucial for each school psychologist to be attentive to the ethical and legal aspects of their work. They must be knowledgeable about overarching ethical principles and the rules of professional conduct (Jacob, Decker, & Lugg, 2016).

- The role of the school psychologist with gifted students involves the primary task of conducting assessments of students' emotional and social performance. Additionally, each student's talent should be evaluated using standardized assessments. Typically, the school psychologist is the sole professional in the school environment responsible for administering, training, and interpreting these types of standardized assessments. (Prinstein & Patterson, 2013).
- The school psychologist plays a crucial role in identifying gifted students, providing expertise in various areas, interpreting

assessment and test results, and evaluating developmental variables that may impact important decisions within the school.

- Schol psychologists can assist school staff in identifying the characteristics and tools used to determine giftedness. (Hersi, 2016).
- The accurate interpretation of tests helps achieve a sound assessment, leading to making appropriate decisions in identifying giftedness. (El Khoury, Al-Hroub, El Khoury& Al-Hroub, 2018).
- The school psychologist can be a very important source of information about various issues that hinder gifted students, particularly in identifying gifted students with special conditions such as learning difficulties.
- The school psychologist diagnoses and treats cases of academic delay and behavioral patterns that hinder progress in the school environment.
- The school psychologist also creates and executes various programs and initiatives to evaluate the individual performance of each student, intending to discern the unique interests and skills of every student. This involves establishing a school team and implementing programs that incorporate both formal and informal individual assessments to ensure a precise evaluation of each student within the team (Graves., Proctor & Aston, 2014).
- The school psychologist operates at all levels, providing assessments and diagnoses, overseeing interventions ranging from individual counseling to group and family work. They offer consultations, supervision, and training on providing support and conducting program evaluations in schools. The role and function of the school psychologist are within the social context and individual creativity of the profession (García-Vázquez, Crespi, & Riccio, 2010).
- The school psychologist provides a variety of services to gifted, talented, and creative students. Assessment is crucial, and

intelligence testing can be conducted for admission to gifted education programs. Additionally, consultation with teachers and parents is possible to design individualized educational programs for gifted students who may need special arrangements to enhance their academic progress. Some gifted students may require the services of school psychologists to identify and address learning disabilities, mental health issues, and focus-related challenges (Purcell & Eckert, 2006).

- Intellectually gifted and creative students require specialized services to enhance their educational, social, and emotional needs to the fullest extent. The school psychologist can play a crucial role in assessing intellectual giftedness, creativity, and excellence. Additionally, they provide support to the student, parents, and the entire educational system (Ayoub, Abdulla Alabbasi & Morsy, 2022).

The study conducted by Robertson, Pfeiffer, and Taylor (2011) examined the role of the school psychologist with gifted students. It revealed that gifted students are among those with the greatest lack of psychological services in American schools, despite having high performance globally. They ranked last in biology, chemistry, physics, algebra, and engineering among 13 advanced countries. To enhance services for the gifted, it is crucial to identify the problems and reasons behind the underdevelopment of gifted individuals. There is a shortage of research addressing practical aspects of gifted services, as well as a lack of studies on the readiness of school psychologists to provide services for gifted and talented students. A national survey of school psychologists was conducted to assess the time allocated by psychologists in schools for assessment and consultation. The study also gathered information on postgraduate studies, professional development related to gifted individuals, prominent figures in the field of giftedness, and assessment methods for the gifted.

Gifted students present unique educational, social, and emotional needs that are not adequately addressed in schools (Neihart et al., 2002; Pfeiffer, 2002; Wiley, 2020). A significant number of gifted students encounter challenges due to misdiagnosis or lack of identification, as their talents may be hidden or overlooked (Pfeiffer, 2009; Webb, 2014). Additionally,

many students from rural communities and families where English is not the primary language spoken at home may not have their talents recognized due to imposed constraints (Worrell, 2009; Ford, Tarek & Whiting, 2013).

The study conducted by Spaniolo-DePouw (2013) emphasized the importance of focusing on gifted students and educating them, confirming the significance of examining the attitudes of psychologists related to the identification and preparation of gifted students. This study revealed the relationship between professional experiences, personal experiences, demographic characteristics, and the attitudes and previous training of psychologists regarding gifted students and their education. The sample consisted of 125 licensed psychologists in the state of Michigan, and they participated in a two-part online survey. The survey provided both descriptive and inferential data on attitudes towards gifted students and their education, and the data were analyzed using a combination of descriptive and inferential statistics.

**Talent and talented:**

Gifted individuals are the backbone of every nation, society, state, family, and individual. If each of us passionately cares about and develops our talents, receiving proper guidance, we can become a successful, advanced, and creative society. We would be well aware of our life goals and the steps we take from where to where. To discover and nurture the gifted, there must be a guide capable of fostering this skill, showing how to use it, and directing it correctly. This is what we will present in this chapter, discussing its definition, importance, objectives, and roles.

Renzulli's definition of talent involves three interacting components, incorporating three sets of human traits. These sets comprise general abilities (above average), a heightened commitment to tasks (motivation), and an elevated level of creative abilities (innovativeness). This definition is commonly known as the three-ring conception.

Johnson (2021) defined gifted individuals as those who show indicators and evidence of high performance in areas such as creative, intellectual, leadership, artistic, or in a specific academic field. These individuals require unique activities and services, usually not offered in schools, to fully develop and nurture those capabilities.

**The key features of this definition include:**

A- Can manifest in more than one domain (such as creative, intellectual, leadership, artistic, and academic domains).

B- Ease of comparison with other groups in terms of high and low performance, as well as the provision of unique and important services and activities that are not typically offered in schools.
C- Use of terms that imply the need for talent development (such as capability).

**Characteristics of the Gifted Individuals:**

The general characteristics proposed by Frasier & Passow (1994) for gifted students include:

- They have strong and sometimes unusual interests.
- They have a keen desire to learn.
- They always seek communication through words, symbols, or numbers.
- They employ effective strategies and innovative approaches to problem-solving.
- They possess a wealth of information.
- Quick comprehension of new concepts.
- Logical use of methods to find solutions.
- They have a sense of humor.

Gifted Care Programs in Schools: Utilizing any method for teaching and nurturing the gifted is much better than leaving them unattended to preserve their special abilities (Elliott et al., 2013). Among the most popular methods used are:

**First: Enrichment Program:**

The concept of enrichment refers to arrangements through which educational experiences can be purposefully and systematically added to the regular curriculum to be more suitable for the preparedness and abilities of the gifted. This aims to fulfill their educational and intellectual needs in creative, cognitive, emotional, and sensory-motor domains. The additions and modifications may take the form of additional subjects not taught to regular students, more challenging curricula, or in-depth study of certain subjects (Reis & Renzulli, 2021). Enrichment also means providing the gifted with new educational experiences by reinforcing programs and offering some additional curricula alongside the regular ones, allowing the gifted student to grow and develop their abilities, especially in the following aspects:

1- The ability to connect different ideas and concepts.

2- The ability to present arguments and facts.
3- The ability to innovate new ways of thinking and create new opinions.
4- The ability to tackle problems with sound and accurate thinking, and the ability to understand new situations.

Enrichment Programs can be categorized into two types:

**1- Horizontal Enrichment (Expansive):**

Involves adding new instructional units and experiences to various subjects or courses, broadening the knowledge of gifted students across different topics related to the curriculum.

**2- Vertical Enrichment (Intensive):**

Focuses on deepening the content of specific units within a course or subject, offering gifted students rich experiences in a single topic closely connected to the curriculum, thereby enhancing their understanding of that subject matter.

**Secondly: Acceleration Program:**

Acceleration refers to allowing a student to study specialized academic subjects for a certain grade level in a shorter time than usual (skipping). This means enabling the gifted child to join an educational stage at an age younger than their regular peers or completing an educational stage in a shorter time than what a regular child need. (SIN et al. 2008)

**Acceleration Methods - Educational Programs:**

- **Early School Entry:** Allowing the gifted child to join elementary school at an early age before reaching the legal age.
- **Grade Skipping (Grade Acceleration):** This involves a gifted child skipping a grade level and moving directly from, for example, the fourth grade to the sixth grade if they demonstrate academic excellence and achievement.
- **Concentration of Coursework:** This policy involves a student completing required coursework in a period shorter than the usual duration.

- **Acceleration of Course Content:** Also known as partial acceleration, it allows a student to study the content of a course in less time than usual.
- **Bypassing through Examinations:** In the middle and high school stages, schools can organize this alternative for gifted students in a specific academic area. A student can bypass the content of a specific grade by taking a level test administered by the course teacher.
- **University Course Enrollment During High School:** In educational systems that follow a credit-based system in high school, gifted students are allowed to enroll in one or two university courses from the first year during their high school years.
- **Distance Learning or Correspondence Courses:** Students are allowed to study a course remotely with the aim of accelerating beyond a specific level to register for the next level.

**Thirdly: Gifted Grouping or Ability Grouping Programs:**

Researchers have affirmed that the aim of grouping gifted students together is to provide opportunities for them to interact and stimulate each other intellectually. This contributes to supplying them with materials and experiences tailored to their needs. This assumes that grouping intellectually advanced and gifted children together allows for better attention and care, given the convergence of their abilities and fundamental needs.

**Psychological Factors Responsible for the Development of Talent into Outstanding Ability:**

There are several psychological factors that can hinder the development or cultivation of giftedness, leading to insufficient readiness for talent development. These factors are responsible, first and foremost, for causing this lack of progress. These factors include:

1- Lack of proper guidance from parents or caregivers.
2- Insufficient support that aids in immersing the individual in their talent.
3- The presence of obstacles in the environment prevents them from benefiting from what is offered.

4- Absence of programs that challenge and match their abilities.
5- Lack of programs that capture their interest and attract their attention.
6- Insufficient presentation of information about various aspects of their talent.
7- Failure to provide diverse information that gains them experience and practical expertise in their field of talent. (Subotnik, Olszewski-Kubilius & Worrell, 2011).

**Sources of Gifted Students' Problems:** Studies conducted on gifted individuals have shown that they possess a high ability to face personal problems, crises, and challenging situations. Naturally, this varies depending on everyone's circumstances, including those surrounding the gifted person, such as parents, teachers, and school administration. (Ayasreh & El-Omari, 2016) classified their problems into:

**Internal Problems:** These include imbalances in mental and physical growth, emotional and intellectual growth, heightened sensitivity and self-accountability, existential philosophy, diverse interests, and an inclination to establish systems and laws at an early age.

**External Problems:** These involve peer pressure, sibling pressure, high expectations from others, lofty parental aspirations, environmental stress, depression, evaluation based solely on academic grades rather than personal value, and excessive parental involvement in the affairs and academic achievements of the gifted child.

**The problems of the gifted can be classified into three types:**

**First: Cognitive Problems**, including insufficient curriculum and low academic achievement.

**Second: Emotional Problems**, such as excessive sensitivity, emotional intensity, and perfectionism.

**Third: Professional Problems**, encompassing difficulty in career choice and goal setting, as well as a desire to change their professional specialties (Ozcan, 2017).

Gifted individuals' problems also stem from various sources:

- Family-related problems.
- School-related problems.
- Self-related problems associated with the nature of the gifted.

**Some of the strategies used in the discovery and development of talent:**

1- **Providing a Safe Classroom Environment:** Teachers play a crucial role in the success of programs for the education and development of gifted individuals. The effectiveness of any program depends significantly on the teaching methods applied by educators within the classroom and learning spaces in general. Several researchers have compiled a list of characteristics, strategies, and behaviors that teachers should possess to create the necessary safe environment for developing the potential of the gifted. These include:

- Respecting openness and diversity.
- Listening to students.
- Encouraging expression and discussion.
- Accepting students' ideas.
- Encouraging active learning.
- Allowing sufficient time for thinking.
- Providing positive feedback.
- Building students' self-confidence.

2- **Brainstorming Strategy:** The brainstorming strategy is crucial for motivation, creativity, and creative problem-solving. It is widely used in various fields such as education, industry, commerce, and politics. Brainstorming sessions aim to generate ideas that lead to problem-solving throughout the research process. To achieve the goals of brainstorming, adherence to certain rules and principles is essential:

- Postponing judgment on proposed ideas in the initial brainstorming stage.
- Quantity generates quality, meaning that many ordinary ideas may lead to valuable and extraordinary ideas later in the brainstorming process.

3- **Imagination Strategy:** Imagination involves mentally forming an image of something, observing, and transforming it into a tangible

and realistic image. This strategy enhances memory by repeatedly visualizing the imagined image. Imagination is the internal expression of your illusions and experiences.

4- **Multiple Intelligences Theory:** According to Gardner (1987), human intelligence is diverse and varied, requiring care and development. The Multiple Intelligences Theory recognizes the diversity of human intelligence and emphasizes the importance of nurturing and developing these varied abilities. Gardner identifies seven intelligences:

- Personal Intelligence.
- Logical-Mathematical Intelligence.
- Linguistic Intelligence.
- Musical Intelligence.
- Spatial Intelligence.
- Social Intelligence.
- Bodily-Kinesthetic Intelligence.

These strategies and theories contribute to creating an enriched learning environment for gifted individuals. (Reis, Renzulli, & Renzulli, 2021).

Previous studies have addressed the development of talent and the resolution of gifted individuals' problems and their care. For instance, a study by Ayoub, Abdulla Alabbasi & Morsy (2022). and a study by McCoach and Siegle (2003) aimed to address issues faced by students with creative abilities. Additionally, studies by Lee, Jones & Day. (2017).and Pavleković, Zekić-Sušac, and Đurđević (2008) delved into the psychological outcomes of the gifted. Another study by Garn, Matthews, and Jolly (2010) investigated the role of the family environment in academic motivation among the gifted, emphasizing the significant influence of the family environment. Furthermore, a study by Sivevska (2010) revealed key factors that contribute to the discovery and development of the gifted, as well as the challenges they encounter.

A study by Mudrak (2011) pointed out some incorrect methods that parents adopt in developing the talent of their children. Another study by French, Walker, and French, Walker & Shore (2011) examined the

preferences of gifted students regarding working alone or with others on a broad scale. Additionally, studies by Litster and Roberts (2011), as well as Lee, Olszewski-Kubilius and Thomson (2012), focused on the self-perceptions of competence among individuals who had previously participated in academic gifted programs at talent development centers. Furthermore, a study by El-Demerdash (2010) and a study by Noonan (2013) explored the discovery and nurturing of artistically gifted individuals and how to foster their development. Discovering and nurturing gifted individuals enhances their abilities in various aspects of life, contributes to their academic success, and fosters self-fulfillment, leading to the distinction of the gifted student.

**Study hypotheses:**

**Hypothesis 1:** Statistically significant differences exist in the means of scores for the experimental group specialists before and after implementing the training program on the School Psychologist Role Scale - both as an overall score and in its sub-dimensions - in the direction of multidimensional measurement.

**Hypothesis 2:** Statistically significant differences exist between the mean scores of the experimental group specialists and the mean scores of the control group specialists after the program is applied in favor of the experimental group on the School Psychologist Role Scale, both as an overall score and in its sub-dimensions.

**Hypothesis 3:** There are no statistically significant differences in the means of scores for the specialists in the two-dimensional and follow-up assessments (after two months of program completion) on the School Psychologist Role Scale, both as an overall score and in its sub-dimensions.

**Study Methodology:**

The current study relied on using a quasi-experimental design.

**Study Sample:**

Sample for Tool Preparation: The researchers derived the sample for tool preparation from the school psychologists in the pre-university education stage in Egypt. The sample consisted of 60 psychological specialists with an average age of 40.37 years and a standard deviation of 4.41 years. The number of males was 23 (38.3%), and the number of females was 37 (61.7%). The purpose of this sample was to verify the psychometric properties of the School Psychologist Role Scale.

**Steps for Selecting the Study Sample**:

A. The research community sample consisted of 60 school psychologists in the pre-university education stage on Educational Administration, affiliated with Cairo and Giza Governorates, in the academic year 2021/2022.
B. The research sample was selected and nominated by the psychological education supervisor on the Educational Administration based on competence and excellence.
C. **The sample was then divided into two groups:**
An experimental group consisting of 30 school psychologists.
A control group consisting of 30 school psychologists.
D. With the participation of the psychological education supervisor, equality between the two groups was considered to ensure the program's impact and obtain accurate results.

**Study Procedures**

- Scale of the Role of the School Psychologist in Talent Development (Prepared by the Researchers)
- Training Program to Activate the Role of the School Psychologist in Identifying and Nurturing the Talented Among Students in the Basic Education Stage.

**Scale Preparation:**
The researchers reviewed several scales, with the most prominent being the study (Farmer et al., 2021) on the professional competence of the school psychologist and its relationship to managing school pressures considering gender and professional experience variables, and the study by (Panteri, Calmaestra & Marín-Díaz, 2021). The researchers decided to adapt the Psychologist Role Scale in Talent Development prepared by (Safaa Afify et al., 2022).
**Scale Description:**
The scale, in its initial form, consists of three dimensions:

- Professional Dimension
- Psychological Dimension
- Social Dimension

Each dimension comprises 15 items, making a total of 45 items. This scale went through several stages:

**First Stage:**

The scale was presented to a few Arabic language teachers for a review of the linguistic framework of the items.

**Second Stage:**

Psychometric Properties of the Scale of the School Psychologist's Role in Talent Identification and Development:

The reliability and validity of the scale were verified as follows:

**Reliability:**

A. Inter-rater reliability

The scale was presented to six faculty members specializing in psychology. Some of the items were excluded based on the consensus of the reviewers. They agreed on the following:

1. Reducing the number of items from (45) to (33), as agreed upon by the reviewers.
2. Reformulating several items to align with the psychological specialists.
3. Confirmatory Factor Analysis (Construct Validity of the Scale):

The researchers conducted a confirmatory factor analysis, assuming the existence of three latent factors related to each other, underlying the items of the School Psychologist's Role scale. This led to the exclusion of item (3) in the first dimension and item (3) in the second dimension due to their lack of statistically significant saturation with the latent factors. The analysis was re-run after removing these two items. The proposed factor structure is illustrated in Figure (1).

Table (1) displays the standardized and non-standardized factor loadings of the items on the latent factor, along with their statistical significance. Table (2) shows the fit indices and their interpretations. Figure (1) depicts the ideal range for each indicator.

**The proposed factor structure for the School Psychologist's Role scale is illustrated in Figure 1.**

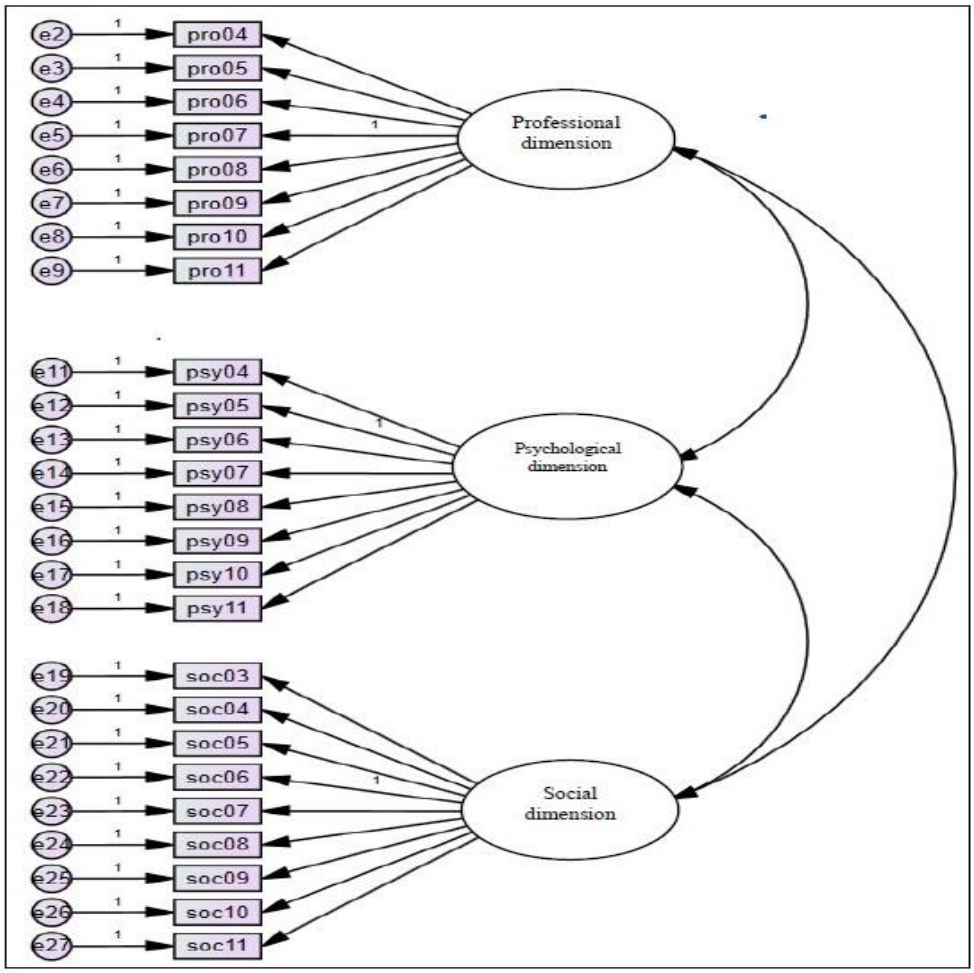


**Table 1 presents the standardized and non-standardized factor loadings of the items on the latent factors resulting from the confirmatory factor analysis.**

| Factor | Item | Standardized Loading | Unstandardized Loading | Standardized Error | Critical Ratio | Significance |
|---|---|---|---|---|---|---|
| Professional Dimension | 4 | 0.30 | 0.46 | 0.21 | 2.18 | 0.05 |
| Professional Dimension | 5 | 0.48 | 0.71 | 0.20 | 3.49 | 0.01 |
| Professional Dimension | 6 | 0.69 | 1.21 | 0.25 | 4.91 | 0.01 |
| Professional Dimension | 7 | 0.68 | 1 | | | |
| Professional Dimension | 8 | 0.79 | 1.20 | 0.17 | 7.21 | 0.01 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Professional Dimension** | **9** | **0.68** | **0.95** | **0.15** | **6.43** | **0.01** |
| **Professional Dimension** | **10** | **0.76** | **0.87** | **0.16** | **5.30** | **0.01** |
| **Professional Dimension** | **11** | **0.83** | **1.03** | **0.20** | **5.05** | **0.01** |
| **Psychological Dimension** | **4** | **0.34** | **0.66** | **0.18** | **3.62** | **0.01** |
| **Psychological Dimension** | **5** | **0.58** | **1** | | | |
| **Psychological Dimension** | **6** | **0.81** | **1.45** | **0.32** | **4.57** | **0.01** |
| **Psychological Dimension** | **7** | **0.89** | **1.78** | **0.36** | **4.93** | **0.01** |
| **Psychological Dimension** | **8** | **0.75** | **1.25** | **0.26** | **4.87** | **0.01** |
| **Psychological Dimension** | **9** | **0.51** | **0.80** | **0.23** | **3.55** | **0.01** |
| **Psychological Dimension** | **10** | **0.52** | **0.75** | **0.22** | **3.49** | **0.01** |
| **Psychological Dimension** | **11** | **0.48** | **0.54** | **0.17** | **3.15** | **0.01** |
| **Social Dimension** | **3** | **0.35** | **0.45** | **0.17** | **2.68** | **0.01** |
| **Social Dimension** | **4** | **0.49** | **0.61** | **0.15** | **3.98** | **0.01** |
| **Social Dimension** | **5** | **0.69** | **0.84** | **0.10** | **8.31** | **0.01** |
| **Social Dimension** | **6** | **0.84** | **1** | | | |
| **Social Dimension** | **7** | **0.73** | **0.80** | **0.10** | **7.92** | **0.01** |
| **Social Dimension** | **8** | **0.81** | **0.83** | **0.11** | **7.51** | **0.01** |
| **Social Dimension** | **9** | **0.80** | **0.84** | **0.11** | **7.83** | **0.01** |
| **Social Dimension** | **10** | **0.85** | **0.87** | **0.12** | **7.06** | **0.01** |
| **Social Dimension** | **11** | **0.82** | **0.71** | **0.09** | **7.85** | **0.01** |

## Table (2) "Fit Indices for the Proposed Model of the School Psychologist's Role Scale and Their Interpretation"

| Fit Index | Value | Interpretation |
|---|---|---|
| Chi-Square ($\chi 2$) | 300.689 (df = 217) | Excellent Fit ($\chi 2$/df = 1.386) |
| Comparative Fit Index (CFI) | 0.928 | Acceptable Fit |
| Standardized Root Mean Square Residuals (SRMR) | 0.093 | Acceptable Fit |

| | | |
|---|---|---|
| Root Mean Square Error of Approximation (RMSEA) | 0.08 | Acceptable Fit |
| PClose (Significance Test for RMSEA ≤ 0.05) | 0.019 | Acceptable Fit |

These indices assess the goodness of fit for the proposed model of the study, indicating how well the model aligns with the observed data.

Figure number (1) depicts the ideal range for the fit indices of the proposed model for the structure of the scale measuring the role of the school psychologist in identifying and nurturing the gifted. The results of the analysis indicate the acceptance of the confirmatory factor analysis model, as confirmed by the fit indices, which were within the ideal range (Gaskin & Lim, 2016). Furthermore, the saturations of all items on their respective latent factors were statistically significant, resulting in the final form of the scale consisting of (25) items.

**Reliability**:

The reliability of the scale was calculated using two methods, as follows:

A - Cronbach's Alpha Coefficient: Cronbach's alpha coefficient was calculated for each dimension of the scale measuring the role of the school psychologist, and Table (3) illustrates these values.

**Table (3) Alpha Coefficients for Dimensions of the Scale Measuring the Role of the School Psychologist**

| Scale Dimensions | Alpha Coefficient Value |
|---|---|
| Professional Dimension | 0.85 |
| Psychological Dimension | 0.84 |
| Social Dimension | 0.90 |
| Overall Scale | 0.92 |

B - Split-Half Method:

The researchers calculated the split-half coefficients for the dimensions of the scale measuring the role of the school psychologist, and Table (4) illustrates this.

**Table (4): Split-Half Coefficients for Dimensions of the Scale Measuring the Role of the School Psychologist**

| Scale Dimensions | Correlation Coefficient Between Halves | Correlation Coefficient After Correction for Splitting Effect |
|---|---|---|
| Professional Dimension | 0.820 | 0.901 |
| Psychological Dimension | 0.851 | 0.919 |
| Social Dimension | 0.928 | 0.963 |
| Overall Scale | 0.921 | 0.959 |

From the previous results, it is evident that the reliability coefficients of the scale using Cronbach's alpha method and the split-half method indicate

the precision of the scale as a measurement tool, making it reliable and dependable.

Based on these steps, the final version of the scale consists of (25) items measuring the role of the school psychologist in talent development.

**Proposed Training Program: Effectiveness of a Program to Activate the Role of the School Psychologist in Discovering and Nurturing the Talented Among Elementary School Students (Prepared by the Researchers):**

**Program Overview:**

This program is designed with a systematic approach to activate the role of the school psychologist in nurturing and developing talent among elementary school students. It employs carefully crafted strategies and techniques to enhance these skills.

**Program Objectives:** The program objectives are divided into general and specific objectives:

**A. General Objectives:** The program aims to activate the role of the school psychologist towards the talented students. It intends to equip the school psychologist with scientific methods that contribute to maintaining the development of talented students, guiding them correctly, aligning with religious and societal values, preserving academic standards, and addressing challenges. The program also focuses on how to recognize and confront difficulties that talented individuals may encounter.

**B. Specific Objectives:**

- Train psychologists in methods to identify the diverse talents and abilities of students and enhance the strengths of all students.
- Activate the role of the school psychologist in talent development in a manner consistent with religious, moral, and societal values.
- Establish specialized educational care for various talents through the school psychologist and their assistants.
- Understand the readiness and capabilities of talented individuals and provide proper guidance.
- Broaden the horizons of talented individuals in their fields and channel them appropriately.
- Bring out the latent talents of the gifted and encourage them to innovate and create.

- Motivate the gifted in their areas of expertise to continue development and practice.
- Assist the gifted in making appropriate choices.
- Train gifted students to be bold and showcase their talents and abilities.
- Identify the academic needs specific to the gifted, as they may have unique requirements different from other students.
- Highlight the personal, social, and self-fulfillment needs of gifted students.
- Utilize multiple methods to meet the needs of the gifted, enriching their academic and scientific achievements.

**General Framework for Program Components:**

The program aims to activate the role of the school psychologist in discovering and nurturing the talents of elementary school students and developing their skills.

**Program Type:**

Training

**Title:**

The title is, clear, reflect the core idea of the program, and be suitable for the target sample.

**Introduction:**

Aims to activate the role of the school psychologist towards the gifted, focusing on discovery, development, and guiding talented individuals in maintaining their talents.

**Program Importance:**

- Shed light on the role of the school psychologist in the school and how to activate it.
- Provide those involved in gifted education with an enriching training program to help showcase their talents.
- Develop mechanisms to assist students in discovering and nurturing their talents.

**Organization:**

The program is organized to align with the objectives in a way that achieves the intended goals of activating the role of the school psychologist in discovering and developing talents.

**Content:**

- Content formulation based on previous studies and scenarios prepared by the researchers.
- The program content is organized to align with the program objectives and the sample on which the program is applied.

**Program Components:**

- The role of the school psychologist in general.
- The role of the school psychologist with the gifted.
- The developmental role of the school psychologist.
- Giftedness concepts.
- General, cognitive, and emotional characteristics of the gifted.
- Problems and needs of the gifted.
- Avoiding obstacles faced by the gifted from family and surrounding society.
- Gifted development programs and elements of their success.
- Enrichment, acceleration programs, and academic experiences.
- Competencies and characteristics of a gifted educator.
- Enrichment curricula for the gifted and their standards.
- Strategies for teaching the gifted.
- Learning patterns of the gifted.
- Methods for assessing the progress and achievements of the gifted.
- Counseling and guidance services for the gifted.
- Evaluation standards for gifted programs.

**Activities and Strategies:**

Prepared practical activities and strategies that align with the sample and correspond to the program's objectives.

**Assessment:**

Relies on measuring the achievement of objectives through pre, post, and follow-up evaluations, using the School Psychologist's Role Scale in Discovering and Developing Talent prepared by the researchers.

**Application:**

The final form of the program was applied after making the necessary adjustments.

**Program Content (Program Foundations):**

**Theoretical Foundation and Program Content:**

Any program is based on a theoretical foundation or a model from which the researchers rely. The researchers have utilized various models contributing to activating the role of the school psychologist in

discovering and nurturing the gifted. The researchers extracted what he deemed suitable for the program.

The program includes a set of guidelines, scenarios, problems, topics, stories, and educational activities that help students activate the role of the school psychologist in discovering and nurturing the gifted. These components also aid psychologists in activating and developing their roles towards the gifted. They will be presented visually, in writing, or through the participation of psychologists in program implementation.

**C. Strategies Used in the Program:**

1. Problem Solving Strategy:

Definition of Problem Solving: A set of steps that an individual takes, utilizing knowledge, information, and skills, to achieve results that are useful, valuable, and generalizable.

Educational Objectives for Problem Solving Strategy:

1. Training in solving future problems.
2. Stimulate individual interest and desire to learn.
3. Help individuals achieve sound results in every issue or problem they address.
4. Foster critical thinking.
5. Develop a spirit of inquiry and research for sources of knowledge.
6. Foster collaboration, fraternity, and teamwork.
7. Stimulate responsibility and self-reliance.
8. Consider individual differences.
9. Develop thinking skills.
10. Play an active role in the learning process.

Psychologist's Tasks in Implementing the Problem-Solving Strategy:

- Present the problem and assist individuals in accurately defining its dimensions and size.
- Assist individuals and guide them in collecting data about the problem and the methods used to solve it.
- Assist in formulating hypotheses about the causes of the problem and the proposed available methods for solving it.
- Assist in testing the validity of hypotheses.

**Key Conditions for Using the Problem-Solving Strategy:**

1. Individuals must feel the problem and have a desire to explore it and find a solution.
2. The problem should be suitable for the abilities, level of thinking, and experiences of the individuals.
3. The role of individuals is to research and collect information to reach results that lead to problem resolution.

**Stages of Problem Solving:**

- **Feeling the Problem:** Identifying the problem and starting the study by determining the nature and features of the problem.
- **Collecting Information about the Problem:** Gathering information about the problem under investigation by posing some questions.
- **Assuming Hypotheses for Problem Solving:** The goal here is to provide a possible initial solution to the problem. The more hypotheses, the greater the likelihood of finding a solution among them. A clear assumption makes it easier for the individual to test its validity.
- **Testing the Validity of Hypotheses:** This requires conducting some experiments and activities to prove or disprove the validity of hypotheses.
- **Reaching Conclusions:** If one of the hypotheses is proven to offer a solution to the problem, it is used and formulated in a way that facilitates its use and interpretation. The solution is chosen through a discussion in which everyone participates.
- **Applying the Solution:** Individuals apply what they have concluded, making the problem-solving method part of their intellectual repertoire.
- **Evaluation and Follow-up:** Monitoring and evaluating the effectiveness of the applied solution in new problems.

**Strategic Specifications for Problem Solving:**

- Depend on the individual and their positive role in seeking solutions to the problem.

- Foster a love for exploration and enjoyment of the work.
- Can be used in academic subjects.
- Stimulate broad thinking and the search for multiple solutions to reach the correct problem-solving approach, fostering analytical, comparative, and critical abilities.
- Connect thinking with organized action.
- Rely on collaboration and teamwork.
- Achieve valuable educational goals such as flexibility in thinking.

**Mind Mapping Strategy:**

The mind mapping strategy is used to generate the largest number of ideas in problem solving. It is a method for exploring available possibilities and developing ideas within a group, where each person is encouraged to think of as many ideas as possible about a specific problem (Pradasari & Pratiwi, 2019).

**Basic Principles of Mind Mapping:**

- Postponement of Evaluation: Ideas generated initially should not be evaluated as it may hinder the creative aspect and limit its activation.
- Freedom of Thought: Liberating oneself from constraints that hinder creative thinking increases the ability to imagine and innovate.
- Building on Others' Ideas: It is permissible to develop others' ideas and come up with new ones.

**Elements of Mind Mapping Success:**

- Clarity of the problem.
- Clear principles and rules of operation to ensure commitment without causing any violations.
- Creative motivation.
- Creating an atmosphere of harmony and affection to facilitate individuals' imagination and creativity.

**Stages of Mind Mapping Application:**

1. Identifying and discussing the problem: Providing information about the problem.
2. Formulating the problem: Asking questions and discussing.
3. Creating a conducive environment for creativity: Collaboration and providing a quiet and suitable environment to aid imagination and creativity.

4. Evaluation: Assessing the ideas proposed and reaching agreements on certain ideas and discussions.

**Steps for Implementing Mind Mapping:**

1. Pose an open question to all participants.
2. Participants express their answers.
3. Avoid rejecting or criticizing any idea.
4. Record ideas and responses.
5. Discuss ideas and responses.
6. Highlight the agreed-upon ideas.
7. Summarize the key points that have been agreed upon.

**Discussion and Dialogue Strategy:**

The discussion and dialogue strategy are an evolution of the presentation style, introducing discussion in the form of questions that motivate participants and encourage their engagement. This strategy revolves around participant involvement, stimulating their thinking, providing opportunities for questions and discussion, while respecting their opinions and suggestions. This strategy aids in the cognitive, emotional, and skill development of participants.

**Definition of the Discussion and Dialogue Strategy**:

It is a teaching method in a positive setting where a topic is introduced, and diverse opinions, dialogue, and discussion take place among participants. The facilitator then provides appropriate comments on what is suitable or unsuitable, summarizing the discussion points.

**Types of Discussion Strategies:**

1. Inquisitive Discussion (Interrogative): Relies on posing questions by the facilitator to the participants. Each question is answered, and the facilitator comments, resembling the "table tennis" style.
2. Interactive Discussion (Debates): This type is crucial as it opens the floor for participants to engage verbally with each other. After posing a question, the facilitator allows them the freedom to discuss the answer under supervision for correction and guidance. This style is called the "basketball" pattern.
3. Group Discussion: Only applicable if the number of learners exceeds thirty, focusing on topics suitable for group discussion, allowing for multiple perspectives. Participants sit in a circle in this strategy.

4. Seminar: Comprising a presenter and a limited number of participants, usually not exceeding six individuals, who sit in a semi-circle. The presenter introduces the discussion topic, directs it, and balances participants' contributions, summarizing the final points and discussion outcomes.
5. Bilateral Discussion: Involves two individuals sitting in front of participants, with one playing the role of the questioner and the other responding.
6. Small Group Method: Involves forming small groups within the larger group, each addressing a different aspect of a specific problem. The composition of groups is adjusted based on emerging interests and new topics.

**Steps for Implementing the Discussion and Dialogue Strategy:**

1. Preparation for Discussion.
2. Clearly define the objectives of the topic under discussion to save time.
3. Proceeding with the Discussion.
4. Create an environment conducive to discussion.
5. Discussion Evaluation.
6. Evaluate the discussion.

**Considerations When Using the Discussion and Dialogue Strategy:**

- **Effective Planning:** Discussion should revolve around the objectives of the topic under discussion, ensuring time efficiency.
- **Respecting Individual Differences:** Allow everyone opportunities for discussion and participation, considering individual differences.
- **Facilitator's Encouragement:** The facilitator should focus on motivating and respecting participants, acknowledging their initiatives.
- **Adequate Waiting Time:** Allow sufficient time (3-7 seconds) for participants to think before answering each question.
- **Avoiding Suggesting Answers:** Refrain from proposing answers to participants.

- **Directing Questions to Inattentive Participants:** Pose questions to those who may not be mentally engaged during the lecture.
- **First Waiting Time**: 3-7 seconds before answering.
- **Second Waiting Time:** Takes several minutes, especially if the question requires critical thinking.

**Forms of Discussion and Dialogue Strategies:**

- **Open (Free) Discussion:** Where a relevant issue or problem is presented for discussion on general topics.
- **Planned Discussion (Restricted):** Characterized by pre-planned discussions where the facilitator determines the topic and formulates main questions within a structured framework.

**Conditions for the Discussion and Dialogue Strategy:**

- Appropriate Timing for Receiving Questions from the Facilitator.
- Using Puzzlement for Encouragement and Motivation for Research, Discussion, and Learning.
- Posing Questions Audibly for Everyone to Hear.
- Waiting 3-5 Seconds After Asking a Question Before Allowing Any Student to Answer.
- Distributing Questions to Everyone.
- Using Positive Reinforcement Phrases (Well done, Excellent, etc.).
- Avoiding Ridiculing Those Providing Incorrect Answers.

**Think – Pair – Share (TPS) Strategy:**

The Think – Pair – Share strategy, abbreviated as TPS, is considered one of the innovative strategies derived from cooperative learning. It is also known as the Think – Critique – Partner strategy and was developed by Dr. Frank Lyman and his assistants at the University of Mariland in 1985. This strategy is based on the idea of involving a larger number of participants. The process begins with the facilitator posing a question (Think), allowing participants time for individual silent reflection on the question. Next, they pair up with a fellow learner to share their thoughts (Pair). Finally, the facilitator invites the entire group to share their solutions collectively (Share).

**Steps of the Think – Pair – Share Strategy:**

1. **Thinking (Think):**

- This phase starts with posing a question related to the topic covered.
- Participants are given silent reflection time to focus and contemplate the question calmly.
- Answers and observations are recorded on a designated sheet to identify ideas.
- Specific yes/no answer questions should be avoided in this step.
- This step takes only one minute.

2. **Pairing (Pair):**

- Participants are asked to form pairs.
- Each learner then shares their thoughts with their partner.
- During this time, learners assume their roles in sharing ideas, comparing thoughts, and reaching a consensus on a single answer, which should be the most convincing.
- This step takes approximately 3-5 minutes.

3. **Sharing (Share):**

- In this step, pairs are asked to verbally express and share the ideas they have arrived at with their peers.
- Effective practices are transferred from pair to pair, allowing each group to present their thoughts and findings within the available time.
- Learners' answers are documented on a collaborative learning tool for clarity, and to familiarize themselves with the correct answers.

4. **Assessment:**

- In this stage, learners are evaluated using discussions and short tests during or after the activity.
- Discussion can be employed to assess learners' understanding by evaluating their responses.

**Advantages of the Think – Pair – Share (TPS) Strategy:**

Results from the study conducted by Azzam (2016) showed that implementing the Think – Pair – Share (TPS) strategy leads to a significant improvement in the level of achievement, retention, and better ingraining of information in the minds of learners compared to

conventional methods. This strategy places participants at the center of the educational process, with the facilitator acting as a guide and creating an educational environment that is vibrant, engaging, and democratic. It reduces authoritative atmospheres, thereby increasing learners' motivation and, consequently, their achievement levels.

Several studies have recommended the effectiveness of this strategy. For instance, Hamdan's study (2017) emphasized the need to use teaching strategies that provide a cooperative learning environment to stimulate thinking about the subject matter.

**Program Implementation:**

The program was implemented in its final form after the required modifications were made by the supervisors.

**Program Evaluation:**

- Formative Evaluation: This involved applying a scale for the role of the school psychologist in discovering and developing talent to both the experimental and control groups.
- Ongoing Formative Evaluation: This was achieved through assessing the program's objectives and the practical activities carried out by the sample individuals, followed by a discussion of the results.
- Summative Evaluation: After completing the program, it is evaluated in the following ways:

1. **Post-Evaluation:** By applying a scale for the role of the school psychologist in discovering and developing talent to the sample individuals to observe and assess the program's impact.
2. **Follow-up Evaluation:** Two months after program completion, the scale for the role of the school psychologist in discovering and developing talent is applied again to both the experimental and control groups to ensure the sustainability of the program's results and monitor its progress.

**Program Design:**

**Program Introduction:** The program is designed with a systematic approach to activate the role of the school psychologist in the discovery and development of talent. This is achieved through the implementation of gradual procedures, including conducting training sessions that utilize scientific models and carefully crafted

strategies and techniques to activate the role of the school psychologist in identifying and nurturing gifted individuals.

**Table (5) training program sessions**

| Session Number | Session Topic | Used Strategies | Session Objectives |
|---|---|---|---|
| 1 | General meeting and introduction between the researchers and the sample individuals | Discussion and dialogue | - Establishing a good relationship between the researchers and the sample individuals. - Familiarizing specialists with the program in general. |
| 2 | The general role of the school psychologist (Part 1) | Discussion and dialogue | Activating and recalling the general role of the school psychologist. |
| 3 | The general role of the school psychologist (Part 2) | Discussion and dialogue | Activating and recalling the general role of the school psychologist. |
| 4 | Workplaces of the school psychologist and the difference between them and the psychological counselor | Discussion and dialogue | - Introducing specialists to the places and institutions where they can work to expand their opportunities. - Clarifying the differences between the school psychologist and the psychological counselor. |
| 5 | The role of the school psychologist in the school and the impact of technology on their work | Brainstorming | - Clarifying the role of the school psychologist in the school. - The role of technology in the work of the school psychologist. |
| 6 | Laws and ethics of the school psychologist | Discussion and dialogue | Ensuring specialists understand professional ethics and the institutions that formulate professional ethical laws for psychologists. |
| 7 | Principles and skills of the school psychologist | Planning - Participation | Equipping psychologists with skills and principles specified by specialized institutions to support the role of the school psychologist. |
| 8 | Application and practice of professional ethics | Participation | Application objectives for professional ethics and the skills required for the school psychologist. |
| 9 | The role of the psychologist between the school and the family | Problem-solving | Documenting the relationship between the school and the family to develop the student's talent and secure their future. |
| 10 | The effectiveness of the school psychologist | Think - Pair - Share | Activating the role of the school psychologist. |
| 11 | The role of the school psychologist with the gifted (Part 1) | Planning - Participation | Clarifying the role of the school psychologist with the gifted in terms of discovery and development. |
| 12 | Definition of talent and its characteristics | Discussion and dialogue | Developing the ability of the psychologist to discover and develop talent. |

| | | | |
|---|---|---|---|
| 13 | Definition of the gifted and general characteristics of the gifted | Discussion and dialogue | - |
| 14 | Characteristics of intellectually gifted individuals | Think - Pair - Share | Identifying the academic needs of gifted individuals. |
| 15 | How to identify academically and creatively gifted individuals (Part 1) | Discussion and dialogue | Highlighting the personal, social, and self-fulfilling needs of gifted students. |
| 16 | How to identify academically and creatively gifted individuals | Think - Pair - Share | Activating the role of the school psychologist towards gifted students and guiding them correctly to preserve and develop their talents without conflicting with religion, ethics, and societal values. |
| 17 | Stages of identifying the gifted | Brainstorming | - |
| 18 | The role of the teacher in caring for the gifted | Discussion and dialogue | Establishing mechanisms to help students discover and develop their talents. |
| 19 | Teaching methods used in caring for the gifted in school | Problem-solving | - |
| 20 | Characteristics of the family environment for the gifted | Problem-solving | Preparing specialized educational care for different talents through the school psychologist and their assistants. |
| 21 | Sources of problems for the gifted | Problem-solving | Raising awareness within the family about the characteristics and needs of gifted students and how to deal with their problems and help them adapt to those around them in the family environment. |
| 22 | Factors of talent development | Discussion and dialogue | Understanding the preparations and abilities of the gifted and directing them correctly. |
| 23 | Providing the necessary support for educating the gifted | Discussion and dialogue | - Preparing individuals fit for service and utilizing the talents of the gifted for the country's service and development. - Bringing out the hidden talents of the gifted and encouraging them to innovate and create. |
| 24 | Closing session | Discussion and dialogue | - Motivating the gifted in their fields to continue developing and practicing them. - Assisting the gifted in making suitable choices. |

## The study procedures include the following:

1. The researchers reviewed several previous research studies related to the school psychologist, as well as studies on gifted

individuals, in both Arabic and English languages. The theoretical framework and relevant research were identified.

2. A scale for the role of the school psychologist in the discovery and development of talent was prepared, after determining the dimensions and objectives of the scale.

3. An effective program was developed to activate the role of the school psychologist in the discovery and care of the gifted during the basic education stage.

4. **Program Executor:** The researchers.

5. **Study Sample:** The primary study sample consisted of 60 psychologists, randomly divided into two equal groups—one experimental and the other control.

6. Homogeneity of the Experimental and Control Groups

The researchers verified the homogeneity of the experimental and control groups in terms of age and the score on the school psychologist's role scale (pre-application). Table (6) shows the number, mean, and standard deviation for the values of these variables for both the experimental and control groups.

**Table (6): Means and Standard Deviations of Age and the School Psychologist's Role Variables for the Experimental and Control Groups.**

| Variable | Group | Number | Mean | Standard Deviation |
|---|---|---|---|---|
| (Age) | Experimental | 30 | 41.17 | 3.98 |
| | Control | 30 | 39.57 | 4.73 |
| (Professional Dimension) | Experimental | 30 | 12.93 | 2.78 |
| | Control | 30 | 13.07 | 4.21 |
| (Psychological Dimension) | Experimental | 30 | 12.87 | 2.83 |
| | Control | 30 | 12.93 | 3.82 |
| (Social Dimension) | Experimental | 30 | 14.60 | 2.97 |
| | Control | 30 | 14.43 | 4.43 |
| (Overall, Role of the School Psychologist) | Experimental | 30 | 40.40 | 7.03 |
| | Control | 30 | 40.43 | 9.53 |

To study the significance of differences between the means, an independent samples t-test was utilized, and Table (7) illustrates this.

**Table (7): Results of the t-test for detecting differences in the mean scores of the age and the role of the school psychologist for the experimental and control groups.**

| variable | Group | Levene's Test for Equality of Variances | t-value | Degrees of Freedom | Significance Level |
|---|---|---|---|---|---|
| Age | Experimental | 0.90 | Not significant | 1.42 | 58 |
| Control | | | | | |
| Professional Dimension | Experimental | 4.59 | 0.05 | -0.15 | 50.24 |
| Control | | | | | |
| Psychological Dimension | Experimental | 2.05 | Not significant | -0.08 | 58 |
| Control | | | | | |
| Social Dimension | Experimental | 5.59 | 0.05 | 0.17 | 50.65 |
| Control | | | | | |
| School Psychologist Role as a Whole | Experimental | 2.84 | Not significant | -0.02 | 58 |
| Control | | | | | |

From Table 7, it is evident that there is no statistically significant difference between the means of the experimental and control groups in age and in the role of the school psychologist as a whole and as sub-dimensions. This indicates the equivalence of the experimental and control groups.

1. The application of the effectiveness program of the role of the school psychologist in discovering and developing talent was implemented only on the experimental group for a duration of two months, comprising 24 sessions, three sessions per week, ranging from 45 to 60 minutes each. The program was applied according to the outlined steps for each session.
2. Application of the Role of the School Psychologist in Discovering and Developing Talent Scale to both the experimental and control groups (applied post-intervention).
3. The researchers then applied the role of the psychologist in discovering and nurturing the gifted as a follow-up application to both the experimental and control groups.
4. Data were extracted and interpreted using the following statistical methods: Independent and correlated samples t-tests.

5. Statistical processing of the data, presentation of the results, and interpretation in the light of the theoretical framework and relevant research.

**Fourthly, the statistical method** used in the current study relies on some statistical techniques such as the mean and standard deviation, and the T-test for differences between independent and correlated groups, along with correlation coefficients.

The latent factor model, using Confirmatory Factor Analysis resulting from structural equation modeling methods, was also employed to ensure the validity of the structure of the School Psychologist Role in Discovering and Nurturing the Gifted scale among basic education students.

The study results can be presented according to the hypotheses formulated by the researchers as follows:

**Results of Hypothesis One:**

This hypothesis suggests that there are statistically significant differences between the mean scores of the experimental group's psychologists before and after the implementation of the training program on the School Psychologist Role scale – both as an overall score and as sub-dimensions – in the dimensional measurement direction.

To verify the validity of this hypothesis, the researchers used a paired sample t-test to detect the significance of differences between the pre-intervention and post-intervention measures. Table (8) illustrates some descriptive statistics and the results of the t-test.

**Table (8): T-test results to detect differences in mean scores of psychologists in pre-intervention and post-intervention measures on the School Psychologist Role scale, as an overall score and as sub-dimensions (n=30).**

| Dimension | Measurement | Mean | Standard Deviation | t-value | Degrees of Freedom | Significance Level | Eta Squared Effect Size |
|---|---|---|---|---|---|---|---|
| Professional Dimension | Pre-intervention | 12.93 | 2.78 | -17.22 | 29 | 0.01 | 0.91 |
| | Post-intervention | 23.17 | 1.88 | | | | |
| Psychological Dimension | Pre-intervention | 12.87 | 2.83 | -16.88 | 29 | 0.01 | 0.91 |
| | Post-intervention | 23.13 | 1.76 | | | | |
| Social Dimension | Pre-intervention | 14.60 | 2.97 | -17.77 | 29 | 0.01 | 0.92 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Post-intervention | 25.73 | 2.26 | | | | |
| Overall, Role of the School Psychologist | Pre-intervention | 40.40 | 7.03 | -20.89 | 29 | 0.01 | 0.94 |
| | Post-intervention | 72.03 | 5.39 | | | | |

From Table 8, statistically significant differences are evident between the means of the specialists' scores in the role of the school psychologist as a total degree and as sub-dimensions at a significance level of 0.01, favoring the dimensional measurement. To calculate the effect size, the researchers relied on Eta squared, and Ezzat Abdul Hamid (2011, 273, 284) mentions that it can be calculated when using the t-test for both independent and related samples, using the following mathematical formula:
Eta squared=Square of the t-value/ (Degrees of Freedom + Square of the t-value).

This indicator can be interpreted as follows:

- If Eta squared<0.01Eta squared<0.01, it indicates a small effect size.
- If 0.01≤Eta squared<0.0590.01≤Eta squared<0.059, it indicates a medium effect size.
- If 0.059≤Eta squared<0.1380.059≤Eta squared<0.138, it indicates a large effect size.
- If 0.138≤Eta squared<0.2320.138≤Eta squared<0.232, it indicates a very large effect size.
- If Eta squared≥0.232Eta squared≥0.232, it indicates a massive effect size.

In the previous test, the effect sizes expressed by Eta squared indicated massive effects. This suggests the program's effectiveness in developing the role of the school psychologist as a total degree and as sub-dimensions.
There are differences between the means of the control and experimental groups in the pre-, post-, and follow-up measurements, with the experimental group outperforming the control group in activating the role of the school psychologist in discovering and developing talent. This was achieved through strategies that played a

significant and effective role in clarifying and activating the role of the school psychologist in developing the gifted within the experimental group. This is supported by studies such as the one by Canter (2006) and the study by Robinson (2002) Other studies, including Pfeiffer (2002), Farrell (2006), Jimerson et al. (2009), Mägi & Kikas (2009), Worrell & Erwin (2011), King et al. (2011), and Shaunessy-Dedrick & Lazarou (2020) emphasizes the role of the school psychologist with the gifted.

**Results of Hypothesis Two:**

This hypothesis posits that there are statistically significant differences between the mean scores of specialists in the experimental group and the mean scores of specialists in the control group after implementing the program in favor of the experimental group on the scale of the role of the school psychologist as a total degree and as sub-dimensions.

To verify the validity of this hypothesis, the researchers relied on an independent samples t-test to detect differences between the two groups. Table 16 illustrates the means and standard deviations of the results of specialists on the scale of the role of the school psychologist in dimensional measurement for both the experimental and control groups.

**Table 9: Means and Standard Deviations of the Scores of Specialists in the Experimental and Control Groups in Dimensional Measurement of the Role of the School Psychologist as a Total Degree and as Sub-dimensions.**

| Variable | Group | Number | Mean | Standard Deviation |
|---|---|---|---|---|
| Professional Dimension | Experimental | 30 | 23.17 | 1.88 |
| Control | 30 | 12.77 | 3.51 | |
| Psychological Dimension | Experimental | 30 | 23.13 | 1.76 |
| Control | 30 | 11.60 | 3.97 | |
| Social Dimension | Experimental | 30 | 25.73 | 2.26 |
| Control | 30 | 13.90 | 4.87 | |
| School Psychologist Role as a Whole | Experimental | 30 | 72.03 | 5.39 |
| Control | 30 | 38.27 | 10.73 | |

The following table indicates the results of an independent samples t-test.

**Table (10): Results of the t-test to detect differences in the means of scores for specialists in the experimental and control groups in the dimensional measurement of the School Psychologist Role as a total score and as sub-dimensions.**

| Variable | Group | Levene's Test for Equality of Variances | t-value | Degrees of Freedom | Significance Level | Effect Size |
|---|---|---|---|---|---|---|
| **Professional Dimension** | **Experimental** | **5.23** | **0.05** | **14.31** | **44.33** | **0.01** |
| **Control** | | | | | | |
| **Psychological Dimension** | **Experimental** | **12.89** | **0.01** | **14.55** | **39.93** | **0.01** |
| **Control** | | | | | | |
| **Social Dimension** | **Experimental** | **10.62** | **0.01** | **12.08** | **40.94** | **0.01** |
| **Control** | | | | | | |
| **School Psychologist Role as a Whole** | **Experimental** | **4.81** | **0.05** | **15.41** | **42.74** | **0.01** |
| **Control** | | | | | | |

From Table (10), statistically significant differences are evident at a significance level of 0.01 between the average scores of specialists in the School Psychologist Role as a total score and as sub-dimensions in favor of the experimental group. All effect size values, expressed by eta squared, indicate a substantial impact, signifying the fulfillment of the hypothesis.

Individuals in the experimental group have acquired numerous knowledge and skills enabling them to discover and develop talent. They now possess comprehensive knowledge on how to foster talent and deal with all challenges and difficulties that may be encountered. They have developed a different mental perspective on gifted individuals, leading to a sense of excellence and confidence within the experimental group. This is corroborated by some studies, such as the study by Wai & Lovett (2021) which addressed talent development and problem-solving for the gifted, and the study by McCoach & Siegle (2003), aimed at solving problems for students with creative ability. Additionally, the study by Pavleković, Zekić-Sušac, & Đurđević (2008) delved into the psychological outcomes of the gifted, while a study by Garn, Matthews, & Jolly (2010) explored the role of the family environment in academic motivation among the gifted. There is a significant role for the family environment, as revealed by the study by Sivevska (2010), which identified key factors that aid in discovering and developing the gifted and the problems they face. The study by

Mudrak (2011) highlighted some incorrect methods parents follow in nurturing talent in their children, and the study by French, Walker, & Shore (2011) investigated the preferences of gifted students to work alone or with others. A comprehensive study by Litster & Roberts (2011) and the study by Lee Olszewski-Kubilius & Thomson (2012) explored the self-perceived competence of students who previously participated in gifted academic programs. Other studies, such as the one by Clynes (2016) and the study by Limont (2013) addressed the discovery and nurturing of artistically gifted individuals. Discovering and developing the gifted enhances students' abilities in various aspects of life and scientific skills, leading to self-realization and ultimately contributing to the distinction of the gifted student.

**Results of the Hypothesis 3:**

This hypothesis suggests that there are no statistically significant differences between the means of the scores of specialists in the dimensional and follow-up measurements (after two months of completing the program) on the School Psychologist Role Scale, both as a total score and as sub-dimensions.

To verify this hypothesis, the researchers used two related samples to detect the significance of differences between the pre and post measurements. Table (11) presents some descriptive statistics, as well as the result of the t-test.

**Table (11): Results of the t-test to detect differences in the means of scores for specialists in dimensional and follow-up measurements on the School Psychologist Role Scale, as total scores and sub-dimensions (n=30).**

| Dimension | Measurement | Mean | Standard Deviation | t-value | Degrees of Freedom | Significance Level |
|---|---|---|---|---|---|---|
| Professional Dimension | Dimensional | 23.17 | 1.88 | 1.92 | 29 | Not significant |
| Follow-up | 22.53 | 2.01 | | | | |
| Psychological Dimension | Dimensional | 23.13 | 1.76 | 1.88 | 29 | Not significant |
| Follow-up | 22.73 | 1.93 | | | | |
| Social Dimension | Dimensional | 25.73 | 2.26 | -0.29 | 29 | Not significant |
| Follow-up | 25.83 | 1.86 | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **School Psychologist Role as a Whole** | **Dimensional** | **72.03** | **5.39** | **1.58** | **29** | **Not significant** |
| **Follow-up** | **71.10** | **5.11** | | | | |

Table number (11) indicates the absence of statistically significant differences between the means of scores for specialists in the dimensional and follow-up measurements of the School Psychologist Role as a total score and as sub-dimensions. This suggests the confirmation of the third hypothesis.

The continued impact of the proposed program in activating the role of the school psychological specialist in discovering and developing gifted individuals is evident. However, statistically significant differences exist between the means of scores for the experimental group and the control group. This is attributed to the active participation of the individuals in the experimental group, their keenness in attending program sessions, and their positive interaction. This is further emphasized by their positively documented evaluation, both audio and visual, indicating their benefit from and achievement of the program's objectives.

.**Interpretation of the results:**

There are differences between the average scores of the control group and the experimental group in pre-, post-, and follow-up measurements. The experimental group excelled over the control group by activating the role of the psychological specialist in discovering and developing talent. These results can be attributed to:

1. The control group was not exposed to the training program that focuses on activating the role of the psychological specialist in discovering and developing talent.
2. The proposed program relies on strategies, knowledge, and programs that activate the role of the psychological specialist in discovering and developing talent. Strategies such as problem-solving, brainstorming, discussion and dialogue, and think-pair-share were used, linking these strategies to the program's goals.
3. The researchers aimed to achieve the program's goals through the experimental group by stimulating them and presenting ideas, solutions, and suggestions. This encouraged thinking in various

directions that a school psychologist might face regarding gifted individuals. Many programs were introduced to help develop talent, along with addressing problems and challenges and how to deal with them. As a result, members of the experimental group acquired numerous knowledge and skills enabling them to discover and develop talent. They gained comprehensive knowledge on how to foster talent and deal with all challenges and difficulties that may be encountered. They also developed a different mental perspective on gifted individuals, leading to the experimental group feeling a sense of excellence and confidence.

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# الأخصائي النفسي المدرسي وتفعيل دوره في اكتشاف الموهوبين ورعايتهم بمرحلة التعليم قبل الجامعي (دراسة تجريبية)

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**الملخص:**

هدف البحث الحالي لتحديد الصـــعوبات والحلجات النفســـية للموهوبين بمرحلة التعليم قبل الجامعي ثم دراسة فاعلية برنامج تدريبي لتفعيل دور الاخصـائي النفسي في اكتشـاف الموهوبين ورعايتهم بمرحلة التعليم قبل الجامعي، لدى عينة من الاخصائيين النفسيين بلغ قوامها ٦٠ أخصـائياً ، مقسمين إلى مجموعتين (تجريبية وبلغ عددها ٣٠ أخصـائي نفسـي، وضـابطة بلغ عددها ٣٠ أخصـائي نفسـي)، وقامت الباحثات بإعداد برنامج تدريبي لتنمية قدرة الاخصائي النفسي على اكتشاف ورعاية الموهوبين بمرحلة التعليم قبل الجامعي، ولتطبيق البحث طبقت الباحثات مقياس دور الاخصـائي النفسـي (البعد النفسـي، البعد المهني، البعد الاجتماعي) قبلياً، ثم تطبيق جلســـات البرنامج التدريبي على المجموعة التجريبية وتقييم مدى تحقيق الأهداف المرجوة، ثم تطبيق مقياس دور الاخصـــائي النفســـي بعدياً، وتم اجراء التحليلات الإحصـــائية للبيانات باســـتخدام اختبار (ت) للمجموعات المستقلة والمترابطة، وحساب حجم تأثير وفاعلية البرنامج والذي دلت قيمته على تأثير قوي جدا للبرنامج في تحسين قدرة الاخصـائي النفسـي على اكتشـاف المواهب ومواجهة التحديات والصـعوبات التي قد تواجه الاخصـــائي النفســـي، وفســـرت الباحثات الفاعلية المرتفعة للبرنامج في ضـــوء أهمية البرنامج التدريبي المقترح في الدراســة الحالية للعينة البحثية حيث أن الاخصــائيين النفســيين أحد الركائز الرئيســة التي تســعى لاكتشـاف الموهوبين بالمدارس، كما فسـرت الباحثات بقية النتائج في ضـوء طبيعة البرنامج التدريبي ومحتواه وأهدافه والاطار النظري والدراسات السابقة لمتغيرات البحث الحالي.

**الكلمات المفتاحية:**

أخصائي نفسي مدرسي، موهبة، برنامج تدريبي