

## Measuring Giftedness from the Perspective of Gardner's Theory of Multiple Intelligences



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### Abstract:

This study aims to explore the concept of giftedness through the lens of Multiple Intelligences Theory, emphasizing the importance of using diagnostic criteria derived from this theoretical framework to identify and support gifted and talented students. This approach is contrasted with the traditional reliance on the Unitary Intelligence Theory, which primarily focuses on cognitive abilities and continues to depend almost exclusively on conventional intelligence tests as the main—if not sole—means of identifying gifted individuals. To examine the effectiveness of both models, two assessment tools were used: the first based on the Multiple Intelligences framework (Himmel's MI Battery), and the second grounded in Unitary Intelligence Theory (a non-verbal intelligence test). These tools were administered to a sample of 30 students aged between (15) and (16) years, all of whom exhibited preliminary indicators of giftedness. The findings revealed that both tests were capable of identifying gifted students; however, Himmel's MI Battery demonstrated greater precision in detecting indicators of giftedness. This supports the conclusion that the Multiple Intelligences Theory offers a more accurate and effective approach to identifying gifted individuals.

**key words:** Multiple Intelligences; Giftedness; Single Intelligence

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## **Introduction:**

Identifying gifted individuals is a fundamental step in any initiative aimed at nurturing and developing their abilities. The process of detection and diagnosis forms the foundation for decisions that may have significant implications when classifying individuals as gifted or not. For this reason, the topic receives considerable attention from researchers and specialists in the fields of gifted psychology and education. The success of educational programs designed for gifted learners is closely linked to the accuracy of the identification process and the validity of the criteria used in selection.

Many educational institutions and assessment centers rely on quantitative measurement tools to evaluate intelligence levels, frequently using tests such as the Wechsler Intelligence Scale, Raven's Progressive Matrices, Torrance Tests of Creative Thinking, and non-verbal intelligence tests. However, the theory of multiple intelligences, proposed by Howard Gardner, offers an alternative perspective. This theory rejects the idea of intelligence as a single, fixed entity, advocating instead for a multidimensional view. According to Gardner, intelligence includes a variety of types, such as logical, linguistic, musical, bodily-kinesthetic, spatial, interpersonal, intrapersonal, naturalistic, and existential intelligences—all of which interact to form general intelligence.

Traditional intelligence tests that rely heavily on logical-mathematical reasoning often fail to capture many aspects of creativity and excellence in individuals, as they are limited in scope. This limitation highlights the importance of adopting broader assessment approaches that acknowledge the diversity and complexity of human intelligence. In this context, the present study seeks to demonstrate the differences in results obtained from a unidimensional intelligence test compared to one based on the multiple intelligences theory, by addressing the following research questions:

- 1- Do both assessment tools have the ability to identify gifted individuals?
- 2- Is an individual considered gifted according to the first tool (TONI-2 Non-Verbal Intelligence Test) also identified as gifted according to the second tool (Hammil Multiple Intelligences Battery)?

## **Research Hypotheses:**

- 1- Both tools have the ability to identify gifted individuals.
- 2- An individual identified as gifted according to the first tool (TONI-2 Non-Verbal Intelligence Test) is not identified as gifted according to the second tool (Hammil Multiple Intelligences Battery).

### **Study Objectives:**

This current study aims to:

- Identify the criteria used in the identification of gifted and talented individuals.
- Explore the tests commonly used in the fields of identification and diagnosis, in order to help specialists, provide better educational services to gifted and talented individuals.
- Investigate the significance of the differences found according to the criteria used to identify gifted individuals, specifically comparing the single intelligence theory and the multiple intelligences theory

### **Significance of the Study:**

The importance of this study aligns with modern trends that focus on identifying and supporting gifted and talented individuals to make optimal use of their potential. Although having specific criteria to identify gifted individuals is essential in programs dedicated to their support, the evaluation of such criteria has not received sufficient attention. Therefore, this study seeks to shed light on the gap between two primary approaches (the single intelligence theory and the multiple intelligences theory) in the process of identifying and diagnosing gifted individuals.

### **Definition of Terms:**

**Criteria (Assessment Tools):**

These refer to the instruments and tools used to identify gifted and talented individuals. Based on a person's performance level on these tools, they can be classified as gifted or talented. In the current study, the term criteria refers specifically to the Hammil Multiple Intelligences Battery and the TONI-2 Non-Verbal Intelligence Test.

**Gifted and Talented Individuals:**

Farouk Al-Rousan (1996) defines a gifted or talented individual as someone who demonstrates outstanding performance compared to their age group in one or more of the following areas: cognitive ability, creative ability, high academic achievement, the ability to perform exceptional skills such as artistic, athletic, or linguistic talents, as well as persistence, commitment, high motivation, flexibility, and originality in thinking. (Al-Rousan, Measurement and diagnostic tools for the gifted in Jordan, 1996)

In the present study, the researcher defines gifted and talented individuals as those participants in the sample who are classified as such according to the

Hammil Multiple Intelligences Battery and the TONI-2 Non-Verbal Intelligence Test.

**THE FIRST TOPIC: Theoretical foundation of concepts:**

When examining the historical development of the concept of giftedness and excellence, as discussed by (Jarwan, 2004), it becomes evident that this concept has evolved through four overlapping stages. These stages continue to influence current trends within academic circles and educational institutions that serve gifted students worldwide. These stages can be outlined as follows:

- The first stage associated giftedness and genius with supernatural powers beyond human control.
- The second stage linked giftedness to outstanding performance in culturally or socially valued domains such as horsemanship, poetry, and oratory.
- The third stage, which began practically with the introduction of the Stanford-Binet Intelligence Scale, viewed giftedness in terms of high IQ scores measured by individual intelligence tests.
- The fourth stage expanded the notion of giftedness to include exceptional cognitive performance, potential, or talent in academic, creative, artistic, or leadership domains.

Furthermore, it is important to note that terms like "gifted," "talented," "intelligent," and "creative" cannot be used interchangeably, as they differ in meaning and scope. While Arabic and English dictionaries tend to define "excellence" as an extraordinary innate capacity, "giftedness" may refer to either an inherited or acquired ability—whether intellectual or physical—and is not necessarily synonymous with superior intelligence or academic achievement.

From an educational perspective, defining giftedness and talent proves even more complex. A comprehensive review of the literature reveals a lack of consensus among researchers in the field of gifted education and psychology. According to, gifted individuals are those who demonstrate outstanding abilities in specific fields—scientific (e.g., mathematics, science), literary (e.g., poetry, journalism), artistic (e.g., music, drawing), or technical (e.g., mechanics, carpentry)—without necessarily exhibiting exceptional intelligence or academic performance compared to their peers.

Based on these considerations, it can be concluded that "excellence" refers to a result derived through comparison with a certain norm or average. Thus, when referring to individuals as "high-achieving," we are identifying those who

significantly exceed the average in intelligence, academic performance, or any other domain of high-level functioning.

### **The first requirement: The Concept of Giftedness and Creativity**

One of the most widely accepted definitions among scholars in the field of giftedness is the one issued by the U.S. Department of Education in (Clark, 1992). This definition describes gifted and talented children as those who demonstrate high abilities in areas such as general intelligence, creative thinking, leadership, specialized academic performance, or artistic expression, and who require educational services that go beyond those offered in regular school settings (Jarwan, 2004)

Although this definition identifies five key domains of giftedness, traditional views still dominate in practice, particularly those that focus solely on general intelligence. For instance, Terman set an IQ score of 140 as the threshold for identifying gifted individuals—an approach that many researchers later adopted, albeit with variations in the cutoff point (Minton, 2006)

Despite significant advancements in educational and psychological research, and criticisms of traditional intelligence theories, individual IQ tests like Stanford-Binet and Wechsler remain widely used in identifying intellectually gifted children. Moreover, many specialized schools continue to rely on academic aptitude tests and school achievement scores for practical and logistical reasons, especially given the large number of applicants (Jarwan, F., & Feldhusen, J, 1993)

Historically, the concept of intelligence has been interpreted in various ways. Galton emphasized heredity as the main determinant, while Binet—along with Simon—designed the first practical intelligence test to identify students struggling in regular classrooms. Terman later refined and utilized this test to select gifted children for his research. More recently, Gardner and Sternberg introduced innovative frameworks that redefined intelligence as a multi-dimensional construct, a perspective supported by decades of empirical research.

### **First section: Theory of Multiple Intelligences**

Over the past three decades, the concept of intelligence has undergone a remarkable expansion, and contemporary theories have increasingly been implemented in educational settings. Today, it is no longer feasible for educators or school reform leaders to overlook these evolving perspectives, as they offer profound implications for the identification and development of gifted learners.

## **Firstly:** Gardner's Theory of Multiple Intelligences

Howard Gardner, a professor at Harvard University, introduced his Theory of Multiple Intelligences in his influential book *Frames of Mind* (1983), following extensive research conducted as part of Project Zero alongside a team of psychologists. Gardner defined intelligence as the capacity to solve problems or create products that hold value within a particular cultural or societal context. Initially, he identified seven distinct forms of intelligence:

- Logical–Mathematical Intelligence: The ability to reason logically, solve abstract problems, and handle numerical operations.
- Linguistic Intelligence: The skill to use language effectively, both in speech and writing, including understanding structure, meaning, and sound.
- Spatial Intelligence: The capacity to perceive spatial relations accurately and represent visual ideas mentally.
- Bodily–Kinesthetic Intelligence: Involves controlling bodily movements and handling objects skilfully to convey ideas or emotions.
- Musical Intelligence: The ability to perceive, compose, and perform musical patterns and rhythms.
- Interpersonal Intelligence: The aptitude for understanding and interacting effectively with others through recognition of social cues.
- Intrapersonal Intelligence: The self-awareness of one's emotions, motives, and internal states, and the ability to regulate them.

In (Gardner, 1999), added an eighth type: Naturalistic Intelligence: The talent for identifying, categorizing, and relating to elements of the natural world, such as plants and animals.

Later, in *Intelligence Reframed* (1999), Gardner proposed two more potential types—spiritual and existential intelligence—which remain under investigation through continued research in Project Zero. (Gardner, 1999)

While the theory may seem to contrast with the traditional single-intelligence perspective, it does not reject the idea that individuals can possess multiple gifts or excel in more than one domain. Gardner's book *Creating Minds* features case studies of individuals who achieved remarkable innovation within specific fields, supporting the argument for multiple intelligences—though not necessarily ruling out their potential talents in other areas.

Accepting a single, narrow definition of intelligence may lead us to believe that a brilliant physician cannot also be a gifted poet, or that a successful politician cannot be a talented artist. However, history provides numerous examples of

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polymaths whose diverse talents are often overlooked due to societal focus on only one dimension of their ability.

### **Secondly:** The Theory of Successful Intelligence and Giftedness

Over the past two decades, Robert Sternberg at Yale University has developed several modern theories of intelligence that have significant implications for identifying and educating gifted students. In 1985, he introduced his Triarchic Theory of Human Intelligence, later refined in 1997 as the Theory of Successful Intelligence. According to this theory, successful intelligence is the ability to achieve personal goals within one's cultural and social context, using one's strengths and compensating for weaknesses. This is achieved through coordinated use of analytical, creative, and practical abilities to adapt to, shape, or select one's environment.

Sternberg's model includes three key components:

- Analytical intelligence: the capacity for analysis, judgment, evaluation, and logical reasoning.
- Creative intelligence: the ability to innovate, imagine, and generate original ideas.
- Practical intelligence: the ability to solve every day, real-world problems and apply knowledge effectively.

Based on these, he classifies gifted individuals into four categories:

- Analytically gifted – excels in reasoning, analysis, and traditional academic tasks.
- Creatively gifted – demonstrates originality and innovation, often not captured by standard intelligence tests.
- Practically gifted – shows strengths in applying knowledge in real-life situations, with a keen sense of environmental demands.
- Balanced gifted – possesses and appropriately uses all three types of intelligence.

The theory is also grounded in three interrelated cognitive processes:

- Metacomponents – responsible for planning, monitoring, and decision-making.
- Performance components – used in executing tasks like inference and comparison.

- Knowledge-acquisition components – involved in learning, connecting new information to prior knowledge, and synthesizing it.

In a comparative study, (Sternberg and Grigorenko , 2002) analyzed their model against others like Renzulli's three-ring model, Gardner's multiple intelligences, and Gagné's differentiation between giftedness and talent. They concluded that successful intelligence is not contradictory to these models but may complement and fill their gaps. This leads to a critical reflection: should our identification tools for giftedness continue to focus solely on analytical intelligence? And in the context of increasing interest in gifted education in the Arab world, is it appropriate to rely on assessments designed primarily to measure just one facet of intelligence?

### **The first Topic: Application Procedures and Results Analysis.**

In light of the theoretical and methodological frameworks adopted in this study, the phase of application procedures and results analysis represents the practical benchmark for testing the hypotheses and evaluating the effectiveness of both the Unifactor Intelligence Test (TONI-2) and the Multiple Intelligences Battery (Hammil) in identifying gifted individuals. The application was carried out through systematically organized steps that took into account the sample variables, as well as the cultural and educational context, while adhering to appropriate statistical standards for data analysis. This stage is critical in highlighting the usefulness of employing diverse approaches in measuring giftedness and drawing conclusions about the compatibility and differences between the two measures. Ultimately, it provides a foundation for offering recommendations regarding identification tools and support strategies.

### **The first requirement: Study Methodology, Population, and Sample of the Study**

In this section, the researcher discussed the methodological framework adopted for this research paper, justifying the choice as the most appropriate for achieving the study's objectives and addressing its questions. The researcher also defined the target population for the field study, outlining its general characteristics and relevance to the research topic. Furthermore, the sampling method was described—whether random or purposive—along with the criteria used for selecting participants. Finally, the distribution of the sample across the geographical area in which the study was conducted was presented to ensure adequate representation of the target groups and enhance the credibility of the findings.

**First section:** Study Methodology

Research methodologies in psychological and educational sciences vary depending on the topics and differ from one scientific field to another, based on the nature and objectives of each study. In the present study, we employed the descriptive method as it is suitable for the nature of this research. The descriptive approach aims to provide accurate descriptions of the characteristic or trait being studied in order to reach objective facts.

In this context, (Fraenkel, J. R., & Wallen, N. E, 1993) define the descriptive method as a form of organized scientific analysis and interpretation used to describe a specific phenomenon or problem quantitatively. This is done by collecting standardized data and information about the phenomenon or problem, classifying it, analysing it, and subjecting it to thorough study.

**Second section:** Population and Sample of the Study

**Firstly:** Population of the Study

The study population includes all the elements and individuals related to the problem or phenomenon being investigated. It refers to everyone to whom the study's results can be generalized. In our study, the population consists of all fourth-year middle school students enrolled in the following educational institutions in the province of Aïn Defla: Bouchareb Tahar Middle School, Ahmed Rachdi Middle School, Rabah Bitat Middle School, and Mohamed Zaidok Middle School.

**Secondly:** Sample of the Study

The study sample consisted of 30 students representing four different middle schools in the province of Aïn Defla. This sample was intentionally selected from among students who showed indicators of giftedness and high achievement. The selection was based on students' academic performance in the previous school years (first, second, and third year of middle school), in addition to the observations and evaluations of teachers working in the four selected schools. The following table shows the distribution of the sample according to the middle schools from which the students were selected:

Table Illustrating the Distribution of the Study Sample Across Middle Schools

| n | Middle School                 | Number Students | Selected Sample | P(%) |
|---|-------------------------------|-----------------|-----------------|------|
| 1 | Bouchareb Tahar Middle School | 183             | 09              | 4.76 |
| 2 | Ahmed Rachdi Middle School    | 194             | 10              | 5.15 |
| 3 | Rabah Bitat Middle School     | 158             | 05              | 3.16 |
| 4 | Mohamed Zaidouk Middle School | 169             | 06              | 3.55 |

It is evident from Table that Ahmed Rachdi Middle School had the highest number of fourth-year students, totaling (194) students. In contrast, Rabah Bitat Middle School had the lowest number, with only (158) students ( $n=158$ ). This refers to the study population. As for the study sample, Ahmed Rachdi Middle School ranked first in terms of the number of students ( $n=10$ ), representing (5.15%). Conversely, Rabah Bitat Middle School recorded the lowest percentage of high-achieving students, at (3.16%).

### **Thirdly:** Study Instruments

In this study, the researcher utilized two main instruments: the Toni-2 Nonverbal Intelligence Test and the Hammill Multiple Intelligences Battery

#### **a- Toni-2 Nonverbal Intelligence Test**

The Toni-2 test was originally developed by L. Brown, R. Sherbon, and S. Jobnsen in its first version in (1982) (Brown, L., Sherben, R., & Johnsen, S., 1982). It was later adapted into Arabic by (Morsi, 1999)

Purpose and Applications:

The Toni-2 test aims to assess cognitive ability or mental capacity in individuals aged 5 to 18 years, especially those with speech or language impairments, such as:

- Individuals with speech difficulties
- The deaf or hard of hearing
- Behavioral disorders
- Slow learners
- Learning disabilities
- Learning impairments
- Non-Arabic speakers

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This makes the test particularly suitable for:

Classifying individuals based on their cognitive abilities, especially in survey studies focusing on intellectually gifted, mentally challenged, or slow learners.

Supporting case study findings for diagnosing and identifying intellectually gifted students.

Description of the Test:

Toni-2 is a nonverbal individual intelligence test, free from cultural, educational, motor, or verbal biases. It does not require reading or writing. The test includes two equivalent forms (Form A and Form B), each consisting of 55 core items and training examples.

Each item requires solving a problem using abstract shapes that vary in features such as:

- Shape
- Position
- Direction
- Sequence
- Organization
- Extension
- Progression in color, form, size, length, quantity, or movement.

### **b- Hammill Multiple Intelligences Battery**

Authors and Publication:

The test was developed by Donald D. Hammill, Brian R. Bryant, and Nills A. Pearson in 1998.

Purpose and Applications:

The Hammill Battery consists of eight subtests designed to assess various aspects of cognitive ability in children aged 6 to 17 years. These subtests are derived from Hammill's own Detroit Test of Learning Aptitude – Fourth Edition (DTLA-4, 1998). The battery is used to:

- Identify strengths and weaknesses in a child's cognitive development.
- Detect children who exhibit significant deficits in mental abilities compared to their peers.

Description of the Battery:

As noted, the Hammill Battery comprises eight subtests, each targeting a specific cognitive skill:

- 1- Word Opposites – Measures verbal reasoning and vocabulary through recognition of antonyms.
- 2- Design Sequences – Assesses visual-spatial reasoning by ordering shapes or patterns.
- 3- Sentence Imitation – Evaluates auditory memory and syntactic awareness by having the child repeat spoken sentences.
- 4- Design Reproduction – Tests visual-motor coordination and memory through reproduction of geometric patterns.
- 5- Basic Information – Measures general knowledge and information recall.
- 6- Symbolic Relations – Assesses abstract reasoning through symbol-based comparisons.
- 7- Word Sequences – Evaluates verbal sequencing and memory by asking the child to arrange words in a logical order.
- 8- Story Sequences – Tests narrative understanding and logical thinking through ordering story events

### **The second requirement:** Study Results

In this section, the researcher undertook a comprehensive analysis of the study's hypotheses. The following steps were carried out: presentation of the statistical results obtained from the data analysis, interpretation of these results in light of the research objectives and theoretical framework, critical discussion of the findings in comparison with previous studies, and verification of the validity of each hypothesis, determining whether it was supported or rejected based on empirical evidence. This structured approach ensures a rigorous assessment of the study's assumptions and contributes to the overall credibility of the research outcomes.

### **First section:** Presentation, Analysis, and Discussion of the First Hypothesis Results

Hypothesis Statement: The criteria (benchmarks) have the ability to identify gifted students.

To test this hypothesis, the raw scores obtained in each individual test were converted into deviation percentages.

#### a- Nonverbal Intelligence Test

Table: Participants' Results on the Nonverbal Intelligence Test

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| Participant | Raw Score | IQ Score | Participant | Raw Score | IQ Score | Participant | Raw Score | IQ Score |
|-------------|-----------|----------|-------------|-----------|----------|-------------|-----------|----------|
| 1           | 91        | 125      | 11          | 97        | 129      | 21          | 93        | 127      |
| 2           | 86        | 124      | 12          | 99        | 131      | 22          | 86        | 124      |
| 3           | 87        | 125      | 13          | 98        | 130      | 23          | 94        | 128      |
| 4           | 79        | 103      | 14          | 87        | 125      | 24          | 96        | 129      |
| 5           | 92        | 126      | 15          | 102       | 133      | 25          | 89        | 126      |
| 6           | 92        | 127      | 16          | 96        | 129      | 26          | 97        | 129      |
| 7           | 88        | 125      | 17          | 87        | 125      | 27          | 85        | 123      |
| 8           | 85        | 123      | 18          | 95        | 127      | 28          | 92        | 127      |
| 9           | 87        | 125      | 19          | 88        | 125      | 29          | 94        | 128      |
| 10          | 95        | 127      | 20          | 84        | 118      | 30          | 79        | 103      |

From Table, it can be observed that the raw scores of the study sample ranged between (79) and (102). The IQ scores of most participants fell between (115) and (129), indicating above-average intelligence levels. A total of (26) students obtained IQ scores within this range. In contrast, only (2) students demonstrated gifted-level intelligence, with IQ scores equal to or exceeding (130). The remaining (2) students displayed average intelligence, with scores ranging from (84 to 114).

### b- Hammill Multiple Intelligences Battery

Table Participants' Results on the Hammill Multiple Intelligences Battery

| Participant | Raw Score | IQ Score | Participant | Raw Score | IQ Score | Participant | Raw Score | IQ Score |
|-------------|-----------|----------|-------------|-----------|----------|-------------|-----------|----------|
| 1           | 150       | 13       | 11          | 168       | 14       | 21          | 170       | 16       |
| 2           | 146       | 13       | 12          | 170       | 16       | 22          | 140       | 12       |
| 3           | 148       | 13       | 13          | 170       | 16       | 23          | 167       | 14       |
| 4           | 134       | 11       | 14          | 158       | 13       | 24          | 168       | 14       |
| 5           | 154       | 13       | 15          | 173       | 18       | 25          | 159       | 13       |
| 6           | 156       | 13       | 16          | 167       | 14       | 26          | 171       | 17       |
| 7           | 147       | 13       | 17          | 141       | 12       | 27          | 147       | 13       |
| 8           | 140       | 12       | 18          | 174       | 18       | 28          | 157       | 13       |
| 9           | 154       | 13       | 19          | 154       | 13       | 29          | 162       | 14       |
| 10          | 170       | 16       | 20          | 152       | 13       | 30          | 139       | 12       |

From Table, it is observed that the raw scores of the study sample ranged between (134) and (174). Additionally, most participants obtained scores ranging between (13) and (14), representing students with an average level of intelligence (n = 18).

A total of four students scored between (15) and (16), indicating a high level of intelligence.

As for the remaining participants, their scores were distributed as follows:

- Three students scored between (17) and (20), representing the group of very gifted students.
- Five students obtained scores between (8) and (12), placing them in the category of low-average intelligence.

Interpretation and Critical Discussion of the Results:

The findings suggest that the process of identifying gifted students becomes significantly more precise and reliable when grounded in objective, standardized criteria that minimize subjective bias. As shown in the results, out of the 30 students initially selected based on alternative indicators—such as academic achievement and teachers' judgments, and considered as demonstrating potential signs of giftedness—only 7 students were confirmed as gifted according to the Multiple Intelligences criterion, while just 2 students met the threshold based on the Unidimensional Intelligence criterion, after being assessed using objective diagnostic tools.

This outcome underscores the importance of employing a variety of identification criteria when assessing giftedness, as it leads to more trustworthy and scientifically valid results. The rationale behind this is that the process of identifying gifted individuals constitutes the foundational step for any meaningful educational program aiming to nurture their talents and fulfil their developmental needs.

In this context, a review of the relevant literature reveals a substantial body of criticism directed at traditional identification methods—particularly psychometric assessments that focus narrowly on intelligence, creativity, or academic performance. (El-Ashaal, 1997) proposed alternative research designs in which standardized test scores are not the sole means of identifying giftedness. Instead, greater emphasis is placed on diverse performance patterns, such as academic mastery and creative output across multiple domains. This perspective reinforces the growing consensus that a multifaceted and diversified approach is essential for accurately identifying gifted and talented students.

**Second section:** Presentation, Analysis, and Discussion of the second Hypothesis Results

Hypothesis Statement: "A student identified as gifted according to the first criterion (Toni-2 Nonverbal Intelligence Test) may not necessarily be identified as gifted according to the second criterion (Hammill Multiple Intelligences Battery)."

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Table Distribution of Gifted Students by Type of Criterion

| Criterion | Sample Size | Number of Gifted Students | Student Numbers | Number of Highly Gifted Students | Student Numbers |
|-----------|-------------|---------------------------|-----------------|----------------------------------|-----------------|
| Toni 2    | 30          | 02                        | 1213 ,          | 00                               | -               |
| Hammill   | 30          | 04                        | 21,13,12,10     | 03                               | 26,18,15        |

Table reveals that the results from the Toni-2 Nonverbal Intelligence Test identified only (02) gifted students within the study sample. In contrast, the Hammill Multiple Intelligences Battery identified (04) gifted students and an additional three highly gifted students. Notably, the (02) students classified as gifted by the Toni-2 test also appeared among the gifted group identified by the Hammill Battery. However, the Toni-2 test did not identify any students as highly gifted.

### Interpretation and Critical Discussion of the Results:

These findings point to a clear discrepancy between the two approaches to identifying giftedness: the unidimensional approach, which relies solely on general cognitive ability (IQ), and the multiple intelligences approach, which views intelligence as a multidimensional construct that includes a variety of capabilities beyond intellectual reasoning.

According to the first criterion (Toni-2), only (2) out of (30) students were classified as gifted. This limited number may be attributed to the narrow scope of the test, which focuses primarily on cognitive ability, overlooking other forms of potential. In contrast, the second criterion (Hammill Battery) identified (7) out of (30) students as gifted or highly gifted, reflecting its broader evaluative framework that incorporates additional types of intelligence.

This difference stems from the theoretical foundations underlying each approach. The multiple intelligences theory posits that intelligence is not a single entity but comprises various domains—such as linguistic, musical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal intelligence—each representing a unique area in which individuals can excel.

In this context, (Zahlouq, 1996) argues that giftedness manifests in diverse forms, often in domain-specific ways. For example, a child may be gifted in music or art without necessarily scoring highly on traditional IQ tests. The concept of genius, as she explains, refers to individuals whose knowledge and talents are exceptional and often span multiple domains—e.g., one might be a genius in mathematics, while another in literature or creative arts.

Moreover, giftedness may also take the form of creativity, which involves original thinking, invention, planning, and design—traits that are not adequately captured by unidimensional intelligence tests. The unidimensional models, in contrast, often overlook such attributes.

Abdel-Muttalib Al-Quraiti (1989) emphasizes this limitation, noting that relying solely on general cognitive ability—even though it is important—can prevent the identification of many individuals who possess specialized or creative talents. (Al-Quraiti, 1989)

Taken together, these findings support the conclusion that the multiple intelligences approach offers a more inclusive and effective framework for identifying gifted students, particularly those whose talents lie outside traditional academic or logical domains.

### **Conclusion:**

The study concluded that identifying giftedness through the lens of the Multiple Intelligences Theory is grounded in solid scientific foundations. It proves highly effective when employing diagnostic criteria derived from this theory to identify and support gifted and talented individuals. In contrast, the traditional reliance on the Unitary Intelligence Theory, which focuses solely on intellectual ability, continues to prioritize — and in some cases rely exclusively on — conventional IQ tests as the primary means of identifying gifted individuals.

The findings further revealed that the accuracy and reliability of identifying gifted students improve significantly when objective, unbiased assessment tools are used. Therefore, the study emphasizes the importance of diversifying identification criteria to ensure more accurate judgments about who qualifies as gifted.

Regarding the difference between the two theoretical approaches, the study found a notable discrepancy in how giftedness is identified. The unitary perspective relies solely on cognitive ability as an indicator of giftedness, whereas the multiple intelligences approach recognizes intelligence as a multi-dimensional construct, in which logical-mathematical intelligence is only one among several essential domains.

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