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The Reality of Integrating Cognitive Skills into Algeria's Second-Generation Curricula: A Perspective from Middle School Teachers

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Abstract:
The current study aims to shed light on a crucial component of the educational process: cognitive skills. These are considered one of the fundamental pillars that contribute to elevating educational standards, as they encompass other vital skills such as attention, perception, listening, and various sensorimotor processes. These abilities constitute an integrated whole, forming the cognitive skill, and the educational process itself develops in tandem with them. Therefore, it has become necessary for educational systems to establish frameworks and programs that foster their development, which is the focus of this study.

Keywords: *Cognitive Skills, Student, Middle School Education.*

La réalité de l'intégration des compétences cognitives dans les programmes scolaires de deuxième génération en Algérie : le point de vue des enseignants du collège

Résumé :
Cette étude vise à mettre en lumière une composante essentielle du processus éducatif : les compétences cognitives. Considérées comme l'un des piliers fondamentaux de l'amélioration des normes éducatives, elles englobent d'autres compétences essentielles telles que l'attention, la perception, l'écoute et divers processus sensorimoteurs. Ces aptitudes forment un tout intégré, formant la compétence cognitive, et le processus éducatif lui-même se développe en parallèle. Il est donc devenu nécessaire pour les systèmes éducatifs d'établir des cadres et des programmes favorisant leur développement, ce qui constitue l'objet de cette étude.

Mots-clés : *Compétences cognitives, Élève, Enseignement au collège.*

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1. Introduction:

Societies have evolved, and with them, various social patterns, ideas, and mentalities. This acceleration is largely attributed to technological and cognitive advancements across different fields. Educational systems, with their curricula, programs, and methodologies, cannot remain isolated from this evolution. This development has encompassed all pillars of the educational process, including the **teacher**, the **learner**, **educational programs**, and the principles of their **application and evaluation**—the latter being a critical element of the educational act.

The implementation of any curriculum requires a didactic art to manage its phases, components, and interactions with the elements of the educational process. The **student** is the primary cornerstone of this process, distinguished by the necessary cognitive skills that enable them to meet the cognitive demands for achieving educational objectives. Cognitive skills are among the most important skills forming the educational foundation, as they contain essential elements necessary for implementing educational programs, such as **mental skills** (perception, attention, memory, etc.) and other **innate or acquired skills** (reading, writing, arithmetic, speaking, listening, etc.).

2. Problem Statement:

Cognitive skills are instrumental in enhancing student learning and their engagement with curricula and programs. This necessitates that educational stakeholders prioritize their development and cultivation. Such development can only be achieved through plans and strategies that integrate

and address the students' various **affective and emotional aspects** alongside their learning processes. Several studies support this necessity, including the research by **Ria Abd Al-Hadi Hassan Al-Jubouri and Ali Mahmoud Al-Jubouri (2018)**, entitled: *"Cognitive abilities of preparatory school students with communication disorders and their typical peers"*, which concluded that these students do indeed possess cognitive abilities. Furthermore, the study by **Adnan Walid Sukar and Maha Zahlook (2014)**, which examined: *"The effectiveness of a proposed training program in developing some cognitive skills and self-independence among children with autism"*, found that the proposed training program was effective in developing the aforementioned abilities, showing a noticeable improvement in cognitive skills and self-independence after two months of implementation.

Therefore, based on these preceding studies, we can assert that the cognitive skills of students in the **Intermediate Education stage (Middle School)** have strong links to the inputs and outputs of the educational process. However, these skills require further detailed investigation into their foundations and components. Hence, our study aims to enrich and delve deeper into this topic in order to answer the following main question:

What is the reality of incorporating cognitive skills in the Intermediate Education curriculum under the second-generation reforms?

This main question branches into the following sub-questions:

- What is the reality of incorporating **innate/natural skills** in the Intermediate Education curriculum under the second-generation reforms?

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- What is the reality of incorporating **mental/intellectual skills** in the Intermediate Education curriculum under the second-generation reforms?
- What is the reality of incorporating **performance/procedural skills** in the Intermediate Education curriculum under the second-generation reforms?

3. Significance of the Study:

The significance of this study lies in its investigation into the nature of cognitive skills pertinent to the middle school student, as well as the difficulties faced by educators in developing and nurturing these skills. A study of this nature can assist specialists and stakeholders in the educational field in identifying major obstacles and deficiencies and in selecting appropriate curricula and programs that promote the development of cognitive skills. Furthermore, it provides a clear and comprehensive picture of the current applications, procedures, and practices surrounding this topic.

4. Objectives of the Study:

The objectives of the study are as follows:

- To identify the most important cognitive skills among students.
- To highlight the main obstacles and difficulties facing the development of skills in general and cognitive skills in particular.
- To emphasize the necessity of prioritizing the development of appropriate programs and methods

for the continuous improvement of skills, and to update programs accordingly.

5. Definition of Terms:

5.1. Skill:

A skill is a broad set of individual experiences and abilities that helps a person perform tasks smoothly and accurately. It depends on the acquisition of various competencies (research, analysis, planning, social integration, etc.). An individual hones their skills to align with the demands of the labor market and human cognitive, psychological, and social needs. In the *Dictionary of Education Terms*, a skill is defined as: "An academic achievement or mental process that reaches a high degree of efficiency and proficiency through practice and training" (Gerges, 2005, p. 115). **Mohamed Al-Samaei** characterized it as: "Not a lesson containing information where the skill is realized merely by understanding it, but rather it requires training, practice, acquiring necessary experience, and self-confidence along with intelligence" (Mohammed, 2017, p. 11). **Operationally**, a skill is defined as: A set of experiences and knowledge that enables an individual to execute their tasks and role smoothly and proficiently, requiring standards, limits, and criteria for its execution and acquisition.

5.2. Cognitive Skill:

In cognitive psychology, it is defined as: "The basic skills the human mind uses to think, read, learn, remember, perceive, and pay attention. These cognitive skills take in incoming information and transfer it to the knowledge bank a person uses daily at school, at work, and in all areas of life." **De Landsheere** (1979, p. 251) defines it as: "The result

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of the interaction between an individual's mental function and their personality, represented in consistent choices, attitudes, and familiar strategies that determine the quality of their cognitive perception, characterize their thinking and memory patterns, their problem-solving methods, and their behavior in situational contexts." The term **cognitive styles** first appeared in psychology in the mid-20th century. **Vernon** noted that the concept was first used by **Klein** (1951), followed by related terms like "cognitive controls" and "cognitive strategies." Although there are differences between these concepts, "cognitive style" is the most indicative term for the forms of cognitive activity an individual engages in during many direct daily situations (Gharib, 2008, p. 29). **Dr. Anwar Mohammed Sharqawi** (1995, p. 13) defined it as: "The styles that reveal individual differences in how people deal with situations they encounter, not only in the perceptual-cognitive domain and other cognitive areas like memory and thinking but also in the social domain and personality studies. These styles are explained more in terms of the activity individuals practice in situations than by the type of activity itself." **Operationally**, we can summarize it as: The primary life skills that characterize humans, organizing their lives and interactions with the social environment. This is achieved through the mastery of the various skills that constitute the overall cognitive skill. It relies on a set of methods for dealing with different life situations and thus distinguishes an individual through their interactions with their surrounding environment.

5.3. Middle School Education:

It is an educational stage between primary and secondary education, lasting four years. Students who have completed the five-year primary stage enroll in it (Nassima & Ahmed, 2020, p. 310). It is also a platform where the educational and pedagogical outcomes from the previous primary stage are demonstrated, while ensuring that the cognitive and methodological training in this stage is interconnected and complementary to what was previously acquired (Ahlam, 2020, p. 55). The **National Education Guiding Law 08-04** of January 23, 2008, states in Articles 50/51: "Middle school education, which lasts for four years in middle schools, is concluded with a final examination that grants the right to a certificate called the Middle School Education Certificate (Brevet d'Enseignement Moyen)." **Operationally**, it is defined as: The stage situated between two important phases, acting as a link between primary and secondary education. It consists of four years and covers a specific age group, encompassing late childhood and the beginning of adolescence, a period that significantly impacts the student's acquisition of knowledge and learning.

6. Types of Cognitive Skills:

Cognitive skills are numerous and vary according to the environment and the individual, but they can be summarized as follows:

A. Skills Acquired through Mental Perception: God honored man with a mind, an instrument to guide his actions and behaviors, and distinguished him with perception. Mental perception is a means of acquiring behavioral skills, through which man interprets different life situations and responds to them with wise reactions that ensure healthy relationships with others (Salem bin Tayeb

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bin Ali, 2011, p. 110). Cognitive strategies deal with how to learn, remember, and transfer ideas reflectively and analytically. As **Gagné and Briggs** (1979) explain, a cognitive strategy is an internally organized skill that influences the learner's intellectual process, which includes understanding problems, learning, and thinking.

B. Experiential Skills (Acquired through Experience):

Haith (2018) argues that: 'Intensive training and practice are essential for transitioning from initial instructions to the proficient and fluid performance of new skills. From a cognitive learning perspective, practice leads to the achievement of **'automaticity,'** which manifests in increased speed of performance and reduced **cognitive load** required to execute the task. This shift in performance is explained by the brain's mechanism of **'caching'** the outcomes of frequently occurring computations, which allows the individual to perform complex tasks with high efficiency and spontaneity. This represents a fundamental goal in skill instruction.' **(Haith et al., 2018, pp. 196-201)**"

7. Elements of Cognitive Skills:

7.1. Mental Skills (Intellectual Skills)

Mental skill is considered the **primary foundation of all skills** as it relies fundamentally on the **cognitive (or mental) aspect**, which in turn is an essential element in all aspects of human life.

Cognitive processes, including **attention, perception, memory, and thinking**, are viewed as a continuum of cognitive activity practiced by individuals in various life situations. It is largely difficult to separate these processes

because they are interdependent. Addressing each process individually is only for the sake of **precise study**, aiming to reveal the activity embedded within each process—activity which often relies on the function of the other processes. The way to understand the function of each of these processes and their mutual influence is to study how individuals **form and process information** (Anwar, 1995, p. 111).

Mental skill is composed of a set of secondary skills that constitute it, forming an integrated group of elements that can be summarized as follows:

A. Perception Skill:

— Concept of Perception:

Perception means the manner in which **sensory signals are interpreted and detected**. It requires the individual to have sufficient **sensory capacity** to receive signals from the surrounding environment and that the intensity of the sensory stimuli is adequate for the individual to become **aware of them** and subsequently interpret them. Sensory signals are neither limited nor static; they change with the scene and vary in shape, color, size, importance, and location. Perception demands continuous organization and a flexible, changing interpretation of these impressions (Shada & Mustafa, 2021, p. 27).

In Islamic philosophy, perception primarily refers to the presence of the object's image in the intellect, whether that object is abstract or material, particular or universal, present or absent (Benevich, 2020, pp. 229–264). **but in modern philosophy,** perception is understood as a mental process that transcends raw sensation, where meaning is conferred upon sensory stimuli through the interaction between **affective and intellectual aspects**. The distinction between

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sensation and perception is fundamental to understanding consciousness and knowledge; sensation involves receiving isolated properties, while perception is the **construction of overall meaning**. Furthermore, perception is affirmed to be a creative mental process that is acquired and developed within the **social context through language**, actively aiding the learner in understanding and interpreting sensory stimuli (Damasceno, 2020, pp. 15–24).

— Operational Definition of Perception:

Operationally, perception is the **occurrence of a response to and interpretation of external sensory stimuli**. The degree of the response depends on the strength or weakness of the stimulus, which is typically an external sensory stimulus originating from the environment and resulting from the individual's interaction with material and non-material properties.

B. Memory Skill (Recall):

Memory holds an important place among mental skills due to its significance in managing and executing mental operations. It acts as a bridge linking various other mental skills, such as perception and attention. Accordingly, a set of definitions can be summarized as follows:

Al-Zarrad (2003) defined memory as: "The higher mental function by which a human being is able to preserve the results and effects of their interaction with the external world, within the context of their daily life, from the moment of birth until death; it is one of the human mental processes."

It is also defined as: "The process of **conscious and deliberate recall** or retrieval of past events, experiences, or information" (A'idh ben A'idh, 2011, p. 19).

Graham & Robinson (1989) defined it as: "Specific abilities that students are likely to use individually or in groups, to learn the content of their curriculum, from the beginning of reading it until performing the examination on it" (Graham, 1989, p. 125).

It is also defined as: "One of the mental functions that stores information, experiences, and knowledge that we have encountered or learned, and retrieves them when needed" (Ansi Muhammad, 1999, p. 198).

Operationally, memory is a fundamental link in the mind, characterized by its ability to **store and retrieve** events and situations that a person goes through throughout their life, from childhood to old age, thereby contributing to and executing various mental operations.

C. Attention Skill:

Dr. Fathi El-Zayyat defines it as a process that involves specific distinguishing characteristics, the most important of which are **selection, focus, intention (purpose), and interest or inclination** towards the subject of attention. It is viewed in light of its saturation with motivational and affective factors, and by others in light of its saturation with cognitive-mental factors, describing it as the **concentration of mental effort** on mental or sensory events (Fathi, 2007, p. 220).

The definition of attention in the Dictionary of Psychiatry and Mental Health states that it is the **selective activity** that characterizes mental life, where the mind is confined to a single element of experience, increasing the clarity of that

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element compared to others. It is also a sensory adaptation that results in a state of maximum alertness or an adaptation in the organism's nervous system, making it easier for it to respond to a specific stimulus or situation (Khaddrawi, 2021, p. 53).

It is the reception of sensation from a stimulus, whether this sensation is at the level of external senses, internal sensations, or the level of mental perception, such that the individual feels this sensation clearly. An individual's attention at any given moment is usually directed towards a specific subject. However, attention does not stop but shifts continuously and rapidly within fractions of a second, indicating that the field of attention is wide and diverse.

Attention is associated with two senses: sight and hearing. For example, when a football player hears a sound from a certain direction, which belongs to a teammate during an attack, or when he sees him from a distance based on the angle of view, he will automatically pay attention and direct his movement, adapt to the performance in the appropriate direction, and pass the ball to him (Maher, 2012, p. 108).

Attention is considered one of the sensory processes, as well as a skill primarily dependent on the senses of **hearing and sight** by sending sensory cues that trigger a rapid reaction expressing the strength of the attention skill between sensory and motor processes. It is also related to perception, as it is an integral part and cause of the perception process. The degree of attention skill may differ between individuals and between sensory-motor stimuli based on the strength or weakness of the latter.

7.2. Performance Skills (Linguistic Skills):

Performance skills vary widely, similar to linguistic skills, which indicate the richness of the components of cognitive skill and their importance in a person's personal life and acquisition of knowledge. Among the most important components are the following:

A. Reading:

Reading is one of the most important and first pillars of performance skills. **Khawla Al-Sayyed** mentioned that it is: "Considered the third level or the third stage of the stages of linguistic development in the child. Reading skill is one of the basic skills constituting the cognitive dimension for the individual, a main goal of the school, and a primary way to access knowledge." Linguistic development passes through five main stages, beginning with the level of listening to expressive language, then the third stage, which is the reading of language, followed by the fourth stage, which is language acquisition, and finally, the stage of employing spoken and written language in daily life (Khawla & Majida, 2007, p. 75).

Abdul Aleem Ibrahim (1978) stated that it is: "A process intended to establish a link between the language of speech and written symbols. The language of speech consists of meanings and the words that convey those meanings. This implies that the elements of reading are three: the mental meaning, the word that conveys it, and the written symbols" (Sakkadi, 2015, p. 74).

Reading has two types:

1. **Oral Reading:** It relies on the verbal expression of written symbols and has features primarily represented in the style of rhetoric and expression,

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participation, enjoyment, and discussion of scientific frameworks. It also depends on the quality of performance and the representation of meaning.

2. **Silent Reading:** It involves the mental representation of symbols and meanings without verbalization, relying on the sense of sight, its perception, and the analysis of its meanings. This type of reading is characterized by allowing the learner to proceed with their reading without shyness or boredom, and it grants the learner the freedom to analyze ideas, simplify meanings, and reflect upon them.

B. Writing Skill:

Writing is an activity that proceeds according to **rules of motor production**. These rules distinguish between the writing of children and adults, and they are represented in grammatical, morphological, and metaphorical rules, which inherently define the automated rules for drawing shapes and letters (Sha'bani, 2015, p. 244).

It is conceived as a **mental activity** that relies on the conscious selection of what the individual intends to express, and the ability to organize experiences and present them in a manner suitable for the purpose of the writing (Nazik, 2018, p. 21).

The activity of writing consists of three main pillars: **dictation (spelling), handwriting, and composition (essay writing)**, which interact to give the writing skill a distinctive form.

The requirements for writing skill are characterized by producing beautiful linear output, formulating ideas, meanings, and sentences that express conjectures and

thoughts, translating them into connotations and symbols, and ensuring the correct drawing of letters and words.

C. Calculation Skill (Arithmetic):

This is the performance of a mathematical task, such as conducting operations, discovery, or inference, with **speed, accuracy, and mastery**. Through it, the learner carries out many calculations without using paper, a pen, or a calculator, relying on the mind to reach the facts and results of the calculations (Yahya, 2011, p. 118).

The National Council of Teachers of Mathematics defines arithmetic as **essential life skills** that help develop confidence in learners and enable them to possess the skill to solve mathematical problems accurately and quickly.

Assaf defines it as: "The skill by which the learner performs calculations without resorting to writing or any other external representations, giving an accurate answer with no room for approximation" (Mahmoud, 2016, p. 243).

Calculation skill varies into **manual motor skills** relying on drawing, measurement, etc., and **cognitive learning skills** such as application, classification, and detection skills. It also includes a set of other controls like mathematical analysis, implication, and planning.

Thus, we can state that performance skills include other elements, such as the skills of **speaking and listening**, among others, which are no less important than the skills we mentioned and which largely depend on the senses for their execution.

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8. Field Study Methodology:

8.1. Procedures and Location:

The study was conducted in the middle schools of the Mansoura municipality, within the province of Bordj Bou Arreridj. It included three schools over a period of one month, from April 3, 2023, to May 2, 2023. A questionnaire was constructed and distributed to the study sample, consisting of middle school teachers of various subjects, to survey their opinions on the extent of cognitive skills inclusion in the current curricula.

8.2. Study Sample:

A simple random sampling method was used. The study sample consisted of **39 male and female teachers** from various academic subjects, representing **41%** of the total population of 93 teachers.

Table 01: Sample Distribution by Gender:

Gender	Sample (Frequency / N)	Percentage
Male	29	74.4%
Female	10	25.6%

Table 02: Sample Distribution by Subject Taught:

Subjects	Frequency (n)	Percentage (%)
Arabic Language	19	48.7%
Physical Sciences	02	5.1%
Natural Sciences	02	5.1%
French Language	05	12.8%
Mathematics	04	10.3%
Social Studies	07	17.9%

8.3. Psychometric Properties of the Instrument:

- **A. Validity:** Content validity was calculated using **Lawshe's method**. The questionnaire was reviewed by 7 experts, and some items were modified. The final Content Validity was :

Content Validity Index (CVI) = 0.80

- **B. Reliability:** To measure the reliability of the study, **Cronbach's alpha coefficient** was calculated using SPSS v 21.

Table 03: Reliability Statistics:

Reliability Statistics	
Cronbach's Alpha	**Respondents (N)**
,927	**47**

The table shows that the overall reliability coefficient for the study is high at **0.927**, applied to all 47 items across 3 axes. This indicates that the questionnaire has a high degree of reliability and can be depended upon, as it exceeds the minimum acceptable threshold of 0.80 suggested by **Nunnally**.

8.4. Study Instrument:

A questionnaire consisting of **45 items** was constructed, divided into three axes representing cognitive skills: **innate skills, mental skills, and performance skills**. The questionnaire is a common scientific research tool for describing and analyzing phenomena with high accuracy.

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8.5. Range Calculation:

To assign qualitative ratings to the mean scores, the following steps were taken: The range of the 3-point scale is 2.00 (3-1). Dividing the range by the number of alternatives (3) gives a class interval of **0.66**.

Table 05: Range Intervals for Sample Responses:

Range	Choices
2.000	03

By dividing the range value (2.000) by the alternatives [or number of categories], we get the result (0.66), which represents the value of the category width.

If we add this value iteratively (each time), we reach the upper limit of the category, estimated at (03), as illustrated in the following table:

Table (05): Shows the Categorical Ranges for the Sample's Responses

low degree	moderate degree	high degree
1 to 1.66	1.67 to 2.33	2.34 to 3.00

9. Analysis and Interpretation of Results:

An electronic questionnaire with 45 items was distributed across three axes: innate skills, mental skills, and performance skills.

Table 06: Means and Standard Deviations for the Innate Skills Axis:

Items	Mean	Standard Deviation
1. Innate skill stimulates the learner's motivation.	1.41	0.49
2. Innate skill guides the learner toward the required response.	1.56	0.59
3. Innate skill helps consolidate ideas and information in the learner's mind.	1.43	0.50
4. Innate skill helps the student acquire necessary experiences.	1.59	0.49
5. Innate skill contributes to controlling psychological energy.	1.58	0.49
6. Innate skill helps organize the learner's cognitive structure.	1.64	0.62
7. Innate skill helps regulate anxiety and emotion.	1.92	0.57
8. Innate skill allows the student to express what is on their mind.	1.56	0.55
9. Innate skill enhances self-confidence.	1.38	0.54
10. Innate skill aids in social interaction.	1.38	0.54
11. Second-generation curricula work to develop innate skill.	1.87	0.57
12. Current curricula reduce innate behavioral disorders.	2.07	0.62
13. Current curricula seek to nurture	1.84	0.70

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and develop innate experiences.		
14. Teaching methods focus on honing the learner's innate skill.	1.74	0.67
Overall's Mean	**1.74**	**0.60**

The results in Table 06, which address the inclusion of innate skills in middle school curricula, show a **medium** level of agreement from the sample. The overall mean for this axis was **1.74** with a standard deviation of **0.60**, falling within the "medium degree" range {1.67-2.33}. This suggests that innate skills are considered important in the curricula. This focus is attributed to the fact that innate skills are an integral part of the self and cannot be ignored. Most educational reforms have aimed to cultivate these skills. However, the issue lies in the degree of attention and the methods used for their development. For instance, item 11 ("Second-generation curricula work to develop innate skills") had a mean of 1.87, indicating a medium level of agreement. In contrast, items such as item 1 ("Innate skills work to arouse the learner's motivation") (M=1.41) and item 9 ("Innate skills enhance self-confidence") (M=1.38) fell into the "low degree" category. This suggests that teachers perceive the current curricula as focusing more on performance aspects of innate skills rather than on aspects related to the self. In conclusion, the answer to the first sub-question is that **innate skills are included to a medium extent** within the middle school curricula.

Table 07: Means and Standard Deviations for the Mental Skills Axis:

Items	Mean	Standard Deviation
1. Innate skill stimulates the learner's motivation.	1.41	0.49
2. Innate skill guides the learner toward the required response.	1.56	0.59
3. Innate skill helps consolidate ideas and information in the learner's mind.	1.43	0.50
4. Innate skill helps the student acquire necessary experiences.	1.59	0.49
5. Innate skill contributes to controlling psychological energy.	1.58	0.49
6. Innate skill helps organize the learner's cognitive structure.	1.64	0.62
7. Innate skill helps regulate anxiety and emotion.	1.92	0.57
8. Innate skill allows the student to express what is on their mind.	1.56	0.55
9. Innate skill enhances self-confidence.	1.38	0.54
10. Innate skill aids in social interaction.	1.38	0.54
11. Second-generation curricula work to develop innate skill.	1.87	0.57
12. Current curricula reduce innate behavioral disorders.	2.07	0.62
13. Current curricula seek to nurture and develop innate experiences.	1.84	0.70

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14. Teaching methods focus on honing the learner's innate skill.	1.74	0.67
Overall's Mean	**1.74**	**0.60**

It is clear from Table (07), which represents the second axis in the questionnaire regarding the reality of the inclusion of cognitive skills in intermediate education, that the overall responses from the sample members were rated as moderate. This is indicated by the overall mean score for the Cognitive Skill axis, estimated at (1.71) with a standard deviation of (0.55), which falls within the categorical range for a moderate degree, {1.67 /2.33}. We recorded a variation in the responses regarding the items, as confirmed by Item No. (10): "You believe that the process of information accumulation is sufficient for developing the learner's thinking skill," which had a mean score of (2.02) and a standard deviation of (0.70), representing the highest estimated score in the axis. Item No. (03) shared a similar result: "The current curricula harmonize the stimulus and the learning environment to facilitate the perception process," with a mean score of (2.00) and a standard deviation of (0.51), which also falls within the moderate categorical range of {1.67 / 2.33}.These two items share the same trend as items {4, 5, 12, 13, 15, 16}, all of which fall within the moderate degree categorical range. These results suggest that the current curricula focus to a greater extent on major cognitive abilities such as thinking, perception (or cognition), and attention, which are fundamental and important mental operations in the execution of cognitive processes. However, some items' responses fell within the

categorical range of {1 / 1.66}, indicating a low degree. Among these is Item No. (09): "You believe that the task of developing the learner's thinking ability is an important educational objective," which had a mean score of (1.23) with a standard deviation of (0.42), the lowest estimate in the axis. It is aligned with items No. {1, 2, 6, 7, 8, 11, 14, 18}, which are all within the low degree categorical range of {1, 1.66}.These results confirm what was previously mentioned: current curricula focus highly on fundamental cognitive abilities compared to the processes associated with them. Thus, we can conclude that cognitive skill is an important part of cognitive processes, the organization of learning, and the implementation of curricula. Second-Generation curricula work to integrate and update these skills to contribute effectively to the execution of programs and learning by considering the foundations of these skills and working to develop them. Based on these results, we can answer the second question by confirming that cognitive skills are included in the Second-Generation curricula**.**

Table No. (08): Mean Scores and Standard Deviations for the Performance Skill Axis:

Items	Mean	St/ Deviation
1-The curriculum simplifies the ability for **visual analysis** of words and phrases.	1.69	0.61
2-(Curricula) work to train on comprehension and **decoding** of word and phrase symbols.	1.64	0.53
3-(Curricula) work to train the learner on **accuracy of pronunciation** and	1.48	0.55

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articulation of letters.		
4-(Curricula) help the learner **apply ideas** in light of prior experience.	1.64	0.58
5-You believe that the educational programs address the ability to observe appropriate **intonation and rhythm** for the reading style.	1.89	0.64
6-Current programs work to observe **writing rules**.	1.74	0.63
7-Programs prescribed in the textbook work to impart **writing skill** to the learner.	1.97	0.66
8-(Curricula) pay attention to the **aesthetic and morphological aspects** of writing in notebooks.	1.76	0.62
9-(Curricula) prioritize the **silent reading skill** when presenting reading texts.	1.61	0.63
10-Current programs take into account the development of **arithmetic skills** (calculation skills).	1.61	0.59
11-Programs and curricula work to train the student to **translate numerical data**.	1.84	0.70
12-Arithmetic skill works to develop the learner's **mental capacities**.	1.56	0.55
13-Educational programs provide sufficient time for training on **arithmetic skill**.	2.07	0.66
14-Arithmetic skill develops the spirit of	1.41	0.54

initiative and intellectual excellence.		
15-Programs and curricula work to train the student on **solving mathematical problems**.	1.69	0.69
Overall Axis Mean	**1.70**	**0.61**

It is clear from Table No. (08), which includes the results regarding the inclusion of performance skills (Psychomotor Skills) in the intermediate education curricula, that the overall results were acceptable, as represented by the results of the third axis (Performance Skills). The mean score for the axis was estimated at (1.70) with a standard deviation of (0.61), falling within the categorical range of {1.67, 2.33\}, indicating a moderate degree and reflecting an acceptable level of consensus. Item No. (13): "Educational programs provide sufficient time for training on arithmetic skill," received the highest score, estimated at a mean of (2.07) and a standard deviation of (0.66). This is followed by items with similar scores, such as Item No. (07): "Programs prescribed in the textbook work to impart writing skill to the learner," with a mean score of (1.97) and a standard deviation of (0.66). Other items, specifically {5, 6, 8, 11, 15}, are similar to these two and all fall within the categorical range of {1.67, 2.34\}, indicating a moderate degree. As discussed in the Cognitive Skills axis, this suggests that the current curricula focus on the basic and core skills that constitute the performance skill, such as arithmetic, reading, and writing skills. Given the rapid cognitive development, the sample members believe it is essential to give these skills paramount importance. The Second-Generation curricula have integrated dedicated sessions and subjects that focus on them, including listening comprehension sessions in Arabic,

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problem-solving sessions in Mathematics, the introduction of 'Situational Learning' (Situations-Problèmes), dictation sessions, and writing training through integrative situations across all axes and fields of the Second-Generation curricula. The axis also included a set of items that showed variability and a non-expressive degree. Item No. (14): "Arithmetic skill develops the spirit of initiative and intellectual excellence," had the lowest expressed degree with a mean score of (1.41) and a standard deviation of (0.54). Item No. (03): " (Curricula) work to train the learner on accuracy of pronunciation and articulation of letters," shared a close result with a mean score of (1.48) and a standard deviation of (0.55). Other items, specifically {2, 4, 9, 10, 12}, are similar to these two, all falling within the categorical range of {1.00, 1.67}, indicating a low degree. However, the fact that these low-scoring items are close to the moderate range suggests that, in addition to the fundamental skills constituting the performance skill, the curricula and educational programs include some secondary methods and details that make up the performance skill, such as training and assistance in implementing the sub-elements of this skill. Therefore, based on the results of this axis, we can conclude that the current curricula do include performance skills, and they are considered an important part of the educational programs and curricula.

Conclusion:

Cognitive skill is considered one of the most important pillars of educational systems due to the capacities it contains for organizing the student's data, information, and abilities. These skills vary from person to person, differing according to **morphological** (structural) and **psychological** makeup. Consequently, modern science has paid great attention to them by searching for the most effective ways to enhance these capacities, organize ideas, and develop programs, curricula, and methods based on studies of these skills. This study has resulted in a set of **recommendations and suggestions**, as follows:

- **Regarding Innate Skill (Innate Ability):** It is essential to establish programs and foundations for it in the **early developmental stages** to foster its development and encourage its activation.
- **Innate Skill** is considered a crucial **self-related** component through which learning is constructed, and educational methods and programs are formulated.
- **Regarding Cognitive Skills:** Diagnostic procedures for **cognitive abilities and skills** must be provided to organize curricula and programs in alignment with these capacities.
- Work on **diversifying instructional methods** and providing educational alternatives that contribute to **mental growth** processes.
- **Regarding Performance Skills (Psychomotor Skills):** They are considered among the most **observable** skills, as they are easily measured. Therefore, efforts should be made to control, regulate, and organize

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methods and programs that contribute to their development, highlighting them and presenting them in a purposeful manner.

- **Performance skills** are **acquired skills** that interact with **mental structures** (cognitive structures). The latter are innate but develop according to external sensory stimuli that crystallize their formation as the individual's age increases.
- **Innate, Performance, and Cognitive skills** are all complementary to one another, with their elements interacting to form the **Cognitive Skill**.
- Assisting the student in **adapting** to the requirements of the accelerated **cognitive and technological development** the world is currently witnessing.
- The acquisition of **qualitative cognitive skills** by the learner is an imperative necessity dictated by global conditions in various fields.
- **Cognitive skills** are manifold and diverse, required by the individual throughout their life stages and in various social and educational contexts. Therefore, possessing and excelling in qualitative skills helps the individual achieve happiness, advancement, enhance **cognitive capacity**, and promote **social integration**.
- The **Intermediate Education stage** is a critical period for the **formation and crystallization of cognitive skills**, as it encompasses an important age stage where the learner's personality, including its cognitive aspects, is built.
- The **Second-Generation reforms** have worked to integrate a large set of skills that constitute the

cognitive skill, but their implementation requires a broad set of **control and scrutiny** measures.

References :

1. **Abu Sha'ar, A. (1997).** *Samples and their applications in social research.* General Administration of Research.
2. **Afifi, Z. M. M. K. (2016).** Efficacy of using some mental arithmetic strategies in achievement and development of numerical intelligence. ***International Journal of Educational Research, 39***(1), 237–261.
3. **Al-Ameri, M. M. A. (2012).** *Psychology of cognitive mental processes* [Unpublished doctoral dissertation], Al-Mustansiriya University.
4. **Al-Kaabi, K. M. (2021).** *Psychology and Cognitive Processes.* Dar Al-Mureed for Publishing and Distribution.
5. **Alhumairak, N. (2018).** *The effectiveness of applying the VAK learning model (visual, auditory, kinesthetic) for promoting writing skill* [Unpublished master's thesis], Sunan Ampel State Islamic University.
6. **Al-Jubouri, R. A. H., & Al-Jubouri, A. M. (2018).** *Cognitive abilities of preparatory school students with communication disorders and their typical peers*. ***Journal of Human Sciences, 2****5*(1), 290–309. Retrieved from.
http://search.mandumah.com/Record/899039
7. **Al-Samei, M. (2017).** *The Arabic language: Skills, grammar, spelling, literature, and rhetoric.* **Al-Jazeera College for Health Sciences.**
8. **Al-Thobaiti, A. B. A. B. H. (2011).** *Memory processes among secondary and university students in Taif Governorate*

Soumission : **12/02/2025** **Acceptation** : **12/06/2025** **Publication** : **15/08/2025**

[Unpublished master's thesis], Umm Al-Qura University.

9. **Al-Uraimi, S. B. T. B. A. (2011).** *Behavioral, cognitive, and emotional skills in social interaction in light of the Prophetic Sunnah* [Unpublished master's thesis]. Riyadh Saudi University.
10. **Attia, A. (2020).** *Evaluation in the middle school stage in light of the second generation results* [Doctoral dissertation], Mohamed Khider University of Biskra.
11. **Boumaraaf, N., & Saidi, A. (2020).** *The implications of educational reform in Algeria on the academic achievement of middle school students.* ***Journal of Educational Studies, 45***(2), 359–374.
12. **Damasceno, B. (2020).** *Research on cognition disorders: Theoretical and methodological issues.* **Springer.**
13. **De Landsheere, G. (1979).** *Dictionnaire de l'évaluation et de recherche en éducation.* **Presses Universitaires de France.**
14. **Eisa, M. M., & Muhammad, S. A. (2021).** *Modern trends in cognitive psychology* (1st ed.). Dar Al-Masirah for Publishing and Distribution.
15. **El-Sharkawy, A. M. (1995).** *Cognitive styles in Arabic psychology research and its applications in education.* Anglo-Egyptian Bookshop.
16. **El-Zayyat, F. (2007).** *Cognitive foundations for mental formation and information processing.* Dar Al-Nasher Lil Jam'at.
17. **Benevich, F. (2020).** *Perceiving things in themselves*: Abū l-Barakāt al-Baġdādī's critique of representationalism. ***Arabic Sciences and Philosophy, 30***(2), 229–264. https://doi.org/10.1017/S095742392000003X

18. **Gharib, E. (2008).** *The homogeneity of cognitive style for both student and professor and its effect on academic achievement* [Unpublished doctoral dissertation], University of Oran.
19. **Girgis, M. G. (2005).** *Dictionary of education terms.* **Dar Al-Nahda Al-Arabiya for Printing, Publishing, and Distribution.**
20. **Graham, K. J., & Robinson. (1989).** *Study skills handbook: A guide for all teachers.* **International Reading Association**.
21. **Haith, A. M., & Krakauer, J. W. (2018).** *The multiple effects of practice: Skill, habit and reduced cognitive load*. ***Current Opinion in Behavioral Sciences, 20***, 196–201. https://doi.org/10.1016/j.cobeha.2018.01.015
22. **Helmers, C. (2009).** *The formation and evolution of childhood skill acquisition: Evidence from India, Manasa Patnam.*
23. **Issa, A. M., & Qasim, A. (1999).** *Educational psychology.* Alexandria Center for Books.
24. **Khaddraoui, N. (2011).** *The effect of a proposed program of physical and sports activities on developing some mental skills among middle school students* [Unpublished doctoral dissertation], Mohamed Boudiaf University of M'sila.
25. **Laamash, S., & Gallati, I. (2011).** *The comprehensive guide in school legislation.* Dar Al-Huda for Publishing and Printing.
26. **Madi, Y. (2011).** *The gifted and the development of thinking skills in mathematics.* Dar Dibino for Publishing and Distribution.
27. **Sa'adeh, J. A. (2003).** *Teaching thinking skills with hundreds of applied examples.* **Dar Al-Shorouk.**

Soumission : **12/02/2025** **Acceptation : 12/06/2025** **Publication** : **15/08/2025**

28. **Seghadi, L. (2015).** *The role of special education teaching methods in improving reading skills for children with mild intellectual disability* [Unpublished master's thesis], Abul-Kacem Saâdallah Algiers 2 University.
29. **Sha'bani, M. (2015).** *The role of mental readiness in developing cognitive skills for preparatory section children and its relationship to maturity and school adaptation* [Unpublished doctoral dissertation], Abul-Kacem Saâdallah Algiers 2 University.
30. **Sukar, A. W., & Zahlook, M. (2014).** *The effectiveness of a proposed training program in developing some cognitive skills and self-independence among children with autism* [Unpublished doctoral dissertation]. **Damascus University, Faculty of Education.** Retrieved from http://www.damascusuniversity.edu.sy
31. **Suyitno, I. (2017).** Cognitive strategies use in reading comprehension and its contributions to students' achievement. ***IAFOR Journal of Education, 5***(3), 107–121.
32. **Yahya, K. A., & Obeid, M. E. (2007).** *Activities for typical children and children with special needs in the preschool stage.* Al-Masirah House for Publishing and Distribution.