

The Reality of Teaching According to the Competency-Based Approach in the Middle School Stage in Algeria (The Subject of Natural and Life Sciences as a Model)

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Received: 12/05/2024; Accepted: 11/03/2025; Published: 05/04/2025

ABSTRACT

This study aims to investigate the reality of teaching Natural and Life Sciences in light of the competency-based approach, from the perspective of middle school teachers, specifically fourth-year middle school teachers. The study seeks to assess the extent to which this approach is compatible with the nature of the subject, in addition to identifying the main difficulties faced by teachers during the teaching process and proposing appropriate solutions to overcome them.

Given the nature of the topic, the descriptive method was adopted as it is suitable for educational research. A semi-structured interview tool was used to collect field data, which was applied to a sample of fourth-year middle school teachers in the second district under the Inspectorate of Natural and Life Sciences in the Wilaya of In Salah.

The results of the study revealed that teaching according to the competency-based approach is largely effective and positive in the subject of Natural and Life Sciences, as students demonstrated an ability to comprehend lessons within this pedagogical framework. However, the study also revealed a number of challenges faced by both teachers and learners, most notably: the limited availability of practical activities, the insufficiency of the allocated time for the subject, and the continued reliance on traditional teaching methods alongside the absence of educational technology integration.

The study recommends reconsidering the time planning of the curriculum, increasing the number of practical activities, and enhancing the use of technological tools to support the teaching and learning process.

Keywords: Didactics, Teaching Natural and Life Sciences, Competency-Based Approach.

1- INTRODUCTION:

The education system is one of the fundamental pillars upon which societies rely to achieve development and progress in various fields. States have given great attention to this system due to its central role in building individuals and developing their abilities, considering it a key indicator of a nation's advancement and sophistication. In this context, the Algerian educational system has undergone several reforms that have affected all levels of education, embodied in the adoption of new curricula aligned with the requirements of the modern era.

Among the most prominent of these reforms is the adoption of the competency-based approach—an educational approach centered on the learner, aiming to equip them with practical competencies that enable them to apply knowledge and acquired skills in dealing with complex situations and solving real-life problems. This approach has been implemented in several subjects, including Natural and Life Sciences, due to its rich scientific content that aims to develop scientific thinking and the ability to understand and analyze among middle school students.

In light of these reforms, the need has arisen to evaluate the actual application of the competency-based approach in teaching Natural and Life Sciences, particularly in the fourth year of middle school, in order to assess its effectiveness, identify the challenges hindering the educational process, and explore the solutions proposed by teachers to overcome these challenges.

2- RESEARCH PROBLEM:

Based on the above, the research problem can be formulated in the following main question:

- What is the reality of teaching Natural and Life Sciences according to the competency-based approach in middle school?

From this central question, the following sub-questions emerge:

- To what extent is the competency-based approach suitable for teaching Natural and Life Sciences in middle school?
- What are the main difficulties faced by teachers when teaching this subject using this approach?
- What solutions do teachers propose to overcome these difficulties and effectively implement the competency-based approach in teaching the subject?

3- THEORETICAL FRAMEWORK OF THE STUDY:

The theoretical framework of this study includes a clarification of the fundamental concepts related to the research topic, with a focus on the competency-based approach as a modern pedagogical orientation in the Algerian educational curricula particularly in the subject of Natural and Life Sciences. It also addresses the assessment of competencies within this framework.

3-1 Key Concepts in the Study:

3-1-1 The Competency-Based Approach:

The competency-based approach is one of the most prominent pedagogical developments included in the Algerian educational curricula as part of comprehensive reforms. It has been adopted as a

central methodology for designing and implementing academic programs, particularly in the subject of Natural and Life Sciences, with the aim of achieving educational objectives that align with the needs of both the learner and society.

First – The Linguistic Definition of Competency and Approach:

The term competency in the Arabic language refers to similarity and equality. Language dictionaries define *kuf'* as an equal or counterpart. The term competency is used to indicate equality in strength, honor, or other qualities, as in the case of marital compatibility (*kafa'ah*). It also denotes sufficiency and the ability to perform or compete. This meaning is affirmed in the Qur'anic expression: "ولم يكن له كفوا أحد" (gouarah, 2016, p. 146).

As for approach (*muqārabah*), it is derived from the verb *qārabah*, meaning to get closer to something or to reach a certain level. In the educational context, the term approach refers to any procedure or method that brings the learner closer to achieving specific educational outcomes or facilitates the attainment of the required competency.

Second – The Terminological Definition of the Competency-Based Approach:

The competency-based approach is defined as a methodology for organizing educational programs, based on the competencies that learners are expected to acquire. These competencies are observable, measurable, and assessable according to pre-established criteria. The competency-based approach consists of a set of steps and procedures aimed at enabling the learner to reach a certain level of performance aligned with what is specified in the official curricula (Qouarh, 2016).

The concept of "competency" is characterized by ambiguity and multiplicity of meanings, to the extent that some researchers have described it as a "sponge word," as noted by Albert Jacquard, who likened the concept to a sponge that gradually absorbs everything it encounters. Likewise, competency takes on multiple meanings depending on the context in which it is used (Jacquard, 1993). It is a concept shared across several fields, with its usage ranging from psychology where it is understood as a cognitive and motivational process independent of the content of the activity to human resource management, where it is seen as an analysis of performance related to a specific professional task. As a result of this variation, more than a hundred definitions of competency have emerged in economic, organizational, engineering, and educational contexts (Zaytoun, 2005).

From an engineering perspective, competency is defined as the ratio between inputs and outputs that is, it expresses the degree to which objectives are achieved using the least amount of resources. From an economic perspective, it is the achievement of the maximum possible return at the lowest cost and effort. In the professional field, competency is understood as the ability to perform practical activities derived from specific professional tasks with a certain level of proficiency.

UNESCO (1978) summarized the concept as "the quality of sound action, understanding, and evaluation required for a specific task or function" (UNESCO, 1978). In the educational context, Louis D'hainault defined competency as "a set of social and emotional behaviors, and psychomotor skills that enable effective performance of a specific role, function, or activity" (D'hainault, 1986). Pierre Gilet added that competency means the ability to act appropriately and adapt in problematic situations and can be summed up as mastery of educational action (*savoir-faire*), supported by a set of integrated knowledge and skills in coherent situations, which can be observed and measured through specific indicators (Gilet, 1992).

In this context, a distinction is made between competency and effectiveness. Effectiveness is defined as a measurable comparison between expected results and actual outcomes, while competency is considered a fundamental condition for effectiveness (Zaytoun, 2005, p. 50).

3-1-2 Operational Definition of Competency:

In this study, the operational definition of competency is adopted as stated in the official documents of the new Algerian educational curricula, in order to ensure consistency between the theoretical framework of the research and the educational reality in the field. This definition is understood as “a methodological approach to delivering lessons and implementing curricula, summarized in the response to a set of central questions, namely:

- What does the student acquire at the end of each stage in terms of knowledge, behaviors, abilities, and competencies?
- What are the most effective and meaningful teaching-learning situations for acquiring these competencies and transforming prior knowledge into new learning?
- How can the learner’s performance be assessed to verify the extent to which the targeted competency has been achieved?

Accordingly, assessment is considered an integral part of this comprehensive educational strategy.” (Ministry of National Education, 2003, p. 3).

3-2 Didactics (Educational Science):

The term didactics, or what is referred to in Arabic as *ta‘līmiyyah*, emerged as a result of the developments witnessed in educational and linguistic sciences during the second half of the twentieth century. These developments gave rise to a new field of specialization that reexamines the methods of teaching academic subjects, moving away from the traditional perspective that relied on the personal efforts and improvisation of teachers, and instead granting the educational process a scientific dimension based on analysis and methodology (Dreeg, 2011).

3-2-1 Linguistic Definition:

In Arabic, the term *ta‘līmiyyah* is a derived noun formed from the word *ta‘līm* (teaching), which itself originates from the verb *‘allama*, meaning to mark or to place a sign indicating something. In *Lisan al-Arab*, the verb *‘allama* is used in the sense of informing or indicating, as in the expression: “*‘allamahu al-‘ilma wa a‘lamahu iyyāhu fata‘allamahu*”, meaning “he taught him the knowledge and informed him of it, so he learned it.” It also mentions: “*rajulun mu‘allam*” (a marked man), referring to someone whose position in battle is known by a distinctive sign (Ibn Manzūr, n.d.).

In *Al-Qāmūs al-Muḥīṭ*, it is stated: “*‘allamahu al-‘ilma ta‘līman, wa a‘lamahu iyyāhu fata‘allamahu*”, confirming the same use. The word *‘alāmah* is mentioned as meaning a sign or indication, and *mu‘allam al-shay’* refers to something through which another thing is identified (al-Fayrūzābādī, 2005).

3-2-2 Terminological Definition:

In European languages, the term didactics is derived from the Greek word *Didacticos*, meaning “let us learn,” which in turn originates from the ancient Greek verb *Didaskein*, meaning “to teach.” This

concept gradually evolved from the idea of “teaching methods” used in subject instruction (Al-Sabbah, 2006).

The terminological definitions of didactics vary between two main perspectives: The first views didactics merely as a descriptor of the activity performed by the teacher in the classroom, thus linking it to the applied context of the teaching process. The second regards it as an independent science within the field of educational sciences, concerned with analyzing the various processes involved in teaching academic subjects (Dreeg, 2011).

In this context, Jean-Claude Gagnon (J.C. Gagnon) defined didactics in his 1973 study titled *La Didactique d'une discipline* as a “dynamic problematic” that encompasses three essential dimensions:

- Reflecting on the nature of the subject matter and the objectives of teaching it.
- Constructing instructional hypotheses based on recent findings in psychology, pedagogy, and sociology.
- Theoretical and practical study of the pedagogical act related to teaching the subject (Bennani, 1991, p. 39).

3-2-3 Operational Definition of Didactics:

Didactics is considered a scientific study focused on educational content and methods, with the aim of achieving the set objectives through the effective organization of the teaching process. It represents a specific analytical approach to addressing educational problems, concentrating on two main issues: one related to the nature of the subject matter, and the other connected to the learner in a learning situation. This approach seeks to achieve practical goals by establishing appropriate strategies for the teaching and learning process (Lorsi, 2015, p. 23).

3-3 Natural Sciences:

In its general sense, natural sciences refer to a group of disciplines concerned with the study of nature, including the Earth, the universe, living organisms, and inanimate matter. They are also known as experimental or applied sciences due to their reliance on observation and experimentation characteristics that distinguish them from the human, religious, legal, and literary sciences. These sciences encompass various fields such as biology, earth science, physics, chemistry, astronomy, as well as interdisciplinary fields like biophysics, ecology, biochemistry, biogeography, and others.

In a narrower sense, the term often refers specifically to the fields of geology and biology, due to the focus of school curricula on these two areas within the subject of Natural and Life Sciences (Baji, n.d., p. 54).

3-3-1 Didactics of Natural and Life Sciences:

The didactics of Natural and Life Sciences is defined as the scientific study of the processes related to the teaching and learning of this subject, aiming at the continuous development and improvement of these processes. This field involves the systematic analysis and organization of teaching methods to facilitate the transmission of scientific knowledge to the learner, in addition to equipping them with practical skills that enable effective interaction with the natural environment and living organisms (Boukramah, 2006, p. 154).

3-4 Competency-Based Teaching in the New Curricula:

The idea of utilizing knowledge is not new in the educational system; however, what is new lies in the effort to achieve a balance between theoretical and practical knowledge, ensuring that this knowledge remains renewable and mobilizable in accordance with the demands of real-life practice, as stated by Louis Beterf (Beterf, 1988, p. 104). Based on this approach, the new educational curricula were built on the competency-based approach, which places the learner at the center of knowledge construction and application, without neglecting the importance of the content knowledge itself.

3-4-1 Teaching Knowledge:

For many years, the Algerian educational curricula—like other educational systems focused on transmitting large amounts of knowledge to students through traditional approaches known as the "content-based approach." This mode of teaching is characterized by the following features:

- Prioritizing the quantity of information delivered to learners.
- Centering the educational process around the teacher's instructional activity.
- Aiming to complete the curriculum within the set deadlines to avoid administrative accountability.
- Presenting content in a linear fashion, which relegates understanding to a secondary level.
- Relying on rote learning and imitation.
- Assigning the learner a passive role: receiving, memorizing, and reproducing information during tests and exams.
- Focusing assessment on a single aspect of the learner's personality namely memory and recall ability.
- Making the primary purpose of assessment the determination of rewards or punishments.

The outcomes of this type of education often fail to benefit learners in practical life, leaving them unable to perform real-world tasks. This is what Philippe Meirieu referred to as "functional illiteracy", which reflects the external inefficiency of the educational system. It is considered one of the factors contributing to the decline in learning levels, increased failure and dropout rates, and ultimately the weakness of the educational system's output in both quantity and quality (National Economic and Social Council, 1995, p. 35).

3-4-2 Competency-Based Teaching:

In light of the growing challenges facing the educational system such as the increasing number of learners across all levels, the rising demand for infrastructure and teaching staff, and the heightened social and economic demand for employment conditioned by competency it has become essential for Algerian curricula to adopt the principle of competency as both a fundamental goal and a starting point for building academic programs.

Competency-based teaching is distinguished by several pedagogical features that set it apart from other approaches, most notably:

- Enabling the learner to acquire knowledge, skills, and behaviors that are later integrated to form competencies that can be mobilized.
- Focusing education on the learner's own activity, whereby they construct knowledge independently and learn how to learn.
- Raising the learner's awareness of the value of acquired knowledge through their appreciation of its practical usefulness.
- Adopting a spiral and developmental instructional approach that considers the learner's holistic personal growth.
- Shifting the teacher's role from a transmitter of knowledge to a guide, facilitator, and monitor of the learning process.
- Making assessment an integral part of the teaching process, rather than merely a tool for judgment or classification.
- Focusing assessment on evaluating learners' actual performances as indicators of achieved competencies.
- Structuring the educational process into integrated stages: the initiation phase, the phase of constructing core learning, and finally the phase of applying learning theoretically and practically in productive contexts.
- Employing problem-situations (situation-problème) that simulate real-life scenarios and require the mobilization of knowledge to solve them.
- Relying on pre-defined assessment criteria understood by all educational stakeholders, to ensure coherence between education institutions, the labor market, and higher education (Ministry of National Education, 2007).

3-4-3 Competency Indicators in the New Curricula:

The modern educational curricula include a set of general indicators that serve as a reference for determining the extent to which the learner has acquired competency, regardless of the educational level or field. These indicators are used by teachers during formative and summative assessment processes and are as follows:

- **Action:** The true integration of learning is reflected in the learner's ability to perform practically, such as executing complex projects or producing reports, which indicates their awareness of the usefulness of learning.
- **Understanding:** Competency cannot be developed without possessing a foundational base of knowledge and skills, which necessitates identifying difficulties related to the learner's understanding of content.
- **Autonomy:** The learner's ability to handle new situations should be reinforced, while reducing the teacher's interventions, in order to achieve a higher degree of independence in performance. (Accompanying Document for First Grade Curricula, 2003, p. 129).

3-4-4 Stages of Competency Development in the New Curricula:

This approach does not aim to address competency development from a purely academic perspective; rather, it seeks to highlight the procedural nature of this development as presented in the educational reform curricula. The curriculum design committees adopted a classification of the targeted competencies according to integrated stages, with terminology that may vary from one subject to another, but which follows a common logical sequence. These stages can be summarized as follows:

- **Basic Competencies:** These represent the essential knowledge and skills that the learner must master by the end of each unit or instructional theme, and they form the foundation for learning subsequent competencies.
- **Intermediate Competencies:** These consist of a set of basic competencies acquired over a partial time period, such as at the end of a month or academic term.
- **Terminal Competencies:** These represent the final outcome of the integration of knowledge, skills, and behaviors, and mark the learner's achievement at the end of a specific educational stage.
- **Cross-Curricular Competencies:** These are horizontal competencies shared across multiple fields or subjects, and they serve as points of intersection between different areas of study. (National Center for Educational Documentation, n.d., p. 19).

3-4-5 Graduation Profile:

The new curricula in the Algerian educational system adopted the term "Graduation Profile" to refer to the set of characteristics that a student should possess in terms of learning, behavior, and personality upon completing a specific educational stage. The graduation profile represents an integrated combination of knowledge, skills, and behaviors that constitute the learning outcomes in their cognitive, practical, psychomotor, and emotional dimensions (Ghrib, 2003).

3-5 Competency Assessment in the New Curricula:

Competency assessment is considered a comprehensive process that involves evaluating the integrated resources contributing to the formation of competency, including knowledge, skills, and abilities, and identifying these elements as objectives that vary according to the learners' levels after completing a specific training path.

With the development of this system, assessment is no longer limited to assigning grades or scores at the end of an educational stage; it has become an integral part of the continuous educational process. Assessment is now a fundamental element in teaching and learning strategies, integrated into the teaching process rather than being a separate activity.

This approach reflects a shift in perception: assessment is no longer merely a tool for judging performance but has become a means of supporting the educational process and achieving the desired development in learner performance (Ghrib, 2003, p. 217).

4- METHODOLOGICAL FRAMEWORK OF THE STUDY:

4-1 Research Method:

The nature of the study necessitated the use of the descriptive method, which is the most appropriate for examining how teaching is practiced according to the competency-based approach in the subject of Natural and Life Sciences at the middle school level, based on the perspectives of teachers of the fourth year of middle school. The descriptive method aims to provide a comprehensive picture of the reality of teaching the subject and the implementation of the competency-based approach through the analysis of responses from the individuals involved in the study.

4-2 Research Tools:

A single tool was used for data collection: the semi-structured interview. It consisted of a questionnaire with open-ended questions distributed to fourth-year middle school teachers. The interview took place during the study day organized by the Ministry of National Education on 26/10/2022 at Martyr Hafawi El-Hadj Ali Secondary School in In Salah. The questions were answered in writing, followed by a discussion between the researcher and the respondents to interpret their answers.

The questionnaire included personal data such as gender and years of experience, in addition to the following questions:

- Is the number of weekly periods allocated for teaching the subject sufficient? Why?
- Are the teaching materials used in lessons drawn from the textbook, other sources, or prepared by the teacher? Why?
- Do you prefer teaching with the three-hour system or the four-hour system? Why?
- How appropriate is the curriculum to the students' level? Why?
- Is the competency-based approach suitable for teaching Natural and Life Sciences? Why?
- What difficulties do you face in teaching the subject according to the competency-based approach?
- What solutions do you consider appropriate to overcome these difficulties?

4-3 Research Sample:

The study sample consisted of 15 fourth-year middle school teachers from the Wilaya of In Salah. The sample was selected intentionally (purposive sampling). A total of 20 copies of the questionnaire were distributed to the concerned teachers during the study day, and only 15 copies were returned and used for data analysis.

4-3-1 Sample Characteristics:

The current study sample has the following characteristics:

Table 1: Characteristics of the Sample According to the Study Variables

Variables	Indicators	Frequency	Percentage
Gender	Male	07	47%
	Female	08	53%
	Total	15	100%
Seniority	From 1 to 10	08	53.33%
	From 11 to 20	02	13.33%
	From 21 to 30	02	13.33%
	and above 31	03	20%
	Total	15	100%

It is observed from Table 1 that the percentage of female teachers of Natural and Life Sciences exceeds that of male teachers, which is a common feature of the teaching profession in general, where female participation is significantly higher in this sector. The table also shows that the vast majority of the sample belongs to the category with less than ten (10) years of experience, representing 53%, while the percentage of the remaining categories did not exceed 20% each.

This distribution is attributed to the phenomenon of mass early retirement in the education sector in recent years, which opened the door to the recruitment of a large number of new teachers.

5- PRESENTATION OF RESEARCH RESULTS:

This section presents the study data, analyzes them, and draws conclusions from the findings.

5-1 Presentation of the Results for the First Question:

- Is the number of weekly periods allocated for teaching Natural and Life Sciences sufficient? Why?

The responses of the sample were as shown in the following table:

Table 2: Distribution of Responses Regarding the Sufficiency of the Weekly Periods Allocated for Teaching the Subject

Variables	Frequency	Percentage (%)
Sufficient	06	40%
Insufficient	09	60%
Total	15	100%

The teachers who participated in the study unanimously agreed that the allocated time for teaching Natural and Life Sciences set at two hours per week according to the official curriculum is insufficient to achieve the intended educational objectives. They explained that one of the two hours is usually reserved for practical work according to the grouping system, while the other is dedicated to theoretical instruction with the full class, which does not allow for adequate coverage of all the knowledge and content required.

Their responses to the second part of the question also indicated that this time allocation does not align with the volume of knowledge and concepts targeted in the curriculum, which hinders pedagogical progression and negatively affects the quality of learning and student achievement.

5-2 Presentation of the Results for the Second Question:

- Are the materials presented in the lesson taken from the textbook, other sources, or created by the teacher? Why?

The responses of the sample were as shown in the following table:

Table 3: Distribution of Responses Regarding the Nature of the Materials Used in Teaching Natural and Life Sciences

Examples	From the textbook	Created by the teacher	From other sources	From all sources	Total
Number of Responses: 15	03	02	02	08	15
Percentage (%)	20%	13.33%	13.33%	53.33%	100%

The results of the participants' responses, as shown in Table 3, indicate that teachers do not limit their use of instructional materials to the textbook alone. Many of them also rely on other educational sources, in addition to materials they have personally prepared.

Teachers attribute this diversity of sources to their desire to explain scientific concepts more accurately and to address certain shortcomings that may exist in the textbook whether in terms of the currency of information or its suitability to the pedagogical context. They also cite the need to respond positively to students' needs and varying cognitive levels.

5-3 Presentation of the Results for the Third Question:

- Do you prefer teaching under the three-hour system or the four-hour system? Why
 The responses of the sample were as shown in the following table:

Table 4: Preferred Teaching Hours System According to Natural and Life Sciences Teachers

Variables	Frequency	Percentage (%)
Three-hour system	04	27%
Four-hour system	11	73%
Total	15	100%

The results of the teachers' responses, as shown in Table 4, indicate that 6 teachers believe the curriculum content is appropriate for the students' level, while 5 teachers consider it somewhat appropriate, and 4 teachers view it as inappropriate.

Based on these results, it can be concluded that the majority of teachers believe the curriculum content generally aligns with the students' level, although it may contain difficulties in certain parts, making it only "somewhat appropriate" in some cases.

According to the teachers' observations, these difficulties are due to the presence of relatively new and complex concepts for middle school students particularly in the Health and Human Biology units. These are areas where students have only limited prior knowledge, which requires a specific pedagogical intervention to simplify the concepts and reinforce them with supportive practical activities.

5-4 Presentation of the Results for the Fourth Question:

- To what extent is the curriculum appropriate for the students' level? Why?

The responses of the sample were as shown in the following table:

Table 5: Extent of Curriculum Appropriateness to the Students' Level

Curriculum	Appropriate	Inappropriate	Somewhat appropriate	Total
Number of Responses: 15	06	04	05	15
Percentage (%)	40%	27%	33%	100%

The opinions of the participants, as shown in Table 5, indicate a relative consensus among teachers that the competency-based approach is suitable for teaching Natural and Life Sciences, due to the nature of the subject, which focuses on linking theoretical knowledge to the learner's real-life context.

Teachers justified this view by stating that the approach offers learners opportunities to actively engage in the educational process through fieldwork and practical activities that foster problem-solving and critical thinking skills, thereby supporting the gradual development of competencies.

However, some pointed out challenges in implementing this approach, most notably the limited teaching time, the lack of educational resources, and the variation in students' levels, which may hinder the effective achievement of its intended goals.

5-5 Presentation of the Results for the Fifth Question:

Is the competency-based approach suitable for teaching Natural and Life Sciences? Why? The responses of the sample were as shown in the following table:

Table 6: Extent of the Suitability of the Competency-Based Approach for Teaching Natural and Life Sciences

Approach	Yes	No	Total
Number of Responses: 15	13	02	15
Percentage (%)	87%	13%	100%

13 teachers responded that the competency-based approach is suitable for teaching Natural and Life Sciences, while only 2 teachers indicated that it is unsuitable.

The teachers who considered the approach suitable justified this view by stating that it significantly contributes to building the student's scientific personality, as it encourages them to put in more effort when preparing lessons. On the other hand, those who felt it was unsuitable noted that this approach requires the student to build themselves independently. In the absence of a solid foundational level, it becomes difficult for the student to do so, making the teacher's intervention essential to complete the lesson process (Ghrib, 2003).

6- Difficulties and proposed solutions

6-1. Challenges Faced by Teachers While Teaching the Subject According to the Competency-Based Approach:

The responses revealed that teachers face several challenges when teaching Natural and Life Sciences using the competency-based approach, including the following:

- **Weak foundational knowledge of students:** Many students struggle with limited prior knowledge, particularly in the area of "Human and Health," which leads to poor understanding and difficulty in acquiring the required competencies.
- **Lack of motivation to learn:** Teachers face difficulties in motivating some students during lessons.
- **Weak ability to build learning:** Some students have difficulty constructing their learning correctly, which hinders their comprehension and application of knowledge in different contexts.
- **Difficulty in handling materials and auxiliary resources:** Some students struggle to use materials and resources effectively, reducing their ability to benefit from solving different problems.

- **Overcrowded classrooms:** This increases the difficulty of the teachers' task and limits students' opportunities to actively participate in building the lesson.
- **Limited teaching hours:** Teachers believe that the two hours allocated per week for this subject are insufficient to cover the curriculum in an effective manner (Ghrib, 2003).

6-2. Proposed Solutions to Overcome Challenges:

Teachers provided a set of solutions that could help improve the teaching of Natural and Life Sciences, including the following:

- **Increase weekly teaching hours:** By raising the coefficient allocated to the subject, especially since it will become a specialized track for students in the secondary stage.
- **Focus on activities and applications:** By intensifying practical exercises to address different situations.
- **Enhance students' abilities and motivation:** Through diversifying extracurricular activities and utilizing scientific clubs to boost motivation for learning.
- **Reconsider the curricula:** In terms of length and content, to ensure they meet the needs of students.
- **Reduce class size:** By applying the grouping system, which proved successful during the COVID-19 period (Ghrib, 2003).

7- GENERAL CONCLUSION:

It can be observed from the responses that teaching Natural and Life Sciences at the fourth-year middle school level using the competency-based approach is generally successful, despite the challenges faced by both students and teachers. On one hand, the curriculum aligns with the students' level in many topics, especially those previously studied in earlier stages, such as "Human Nutrition" in the first-year middle school curriculum. Additionally, the teaching situations and materials used are diverse and available from multiple sources, including the textbook and teachers' own creations, which enhances students' ability to absorb and understand the content.

However, some shortcomings exist, such as the lack of practical applications and activities, which can be attributed to the limited time allocated for the subject. Teachers believe that the limited teaching hours do not provide sufficient opportunities to implement a variety of applications and activities related to the topics presented.

8- CONCLUSION:

This research addressed the reality of teaching Natural and Life Sciences at the fourth-year middle school level using the competency-based approach. The results showed that this approach is effective and positive in most cases, as it enables students to understand the subjects and develop their skills. However, it was also found that there are some challenges faced by both students and teachers, such as the lack of time allocated for the subject, reliance on traditional teaching methods, and insufficient practical applications. Based on these results, it is recommended to increase the weekly teaching hours for Natural and Life Sciences, integrate technology into education, and

provide continuous professional development for teachers to enhance their teaching skills in line with the competency-based approach (Ghrib, 2003).

9- FUTURE PROSPECTS:

Considering the results obtained, some future prospects can be explored, such as:

- **Increasing the variety of teaching situations:** To ensure that students grasp various content areas.
- **Incorporating modern educational tools:** And using educational technology to motivate students and enhance their learning motivation.
- **Continuous teacher training:** To develop their skills in teaching according to the competency-based approach.

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