

(2025-05-10) Accepted النشر (2025-03-26) Received الإرسال (لاستعمال هيئة التحرير)، تاريخ قبول النشر (2025-05-10) Accepted النشر (2025-03-26) Received الإرسال (لاستعمال هيئة التحرير)، تاريخ قبول النشر

أ. سحر أحمد أرجوب	اسم الباحث الأول باللغة العربية	واقع استخدام معلمي العلوم لاستراتيجيات التقويم الواقعي في مديرية تربية وتعليم جنوب الخليل- دراسة تحليلية .
Sahr Ahmed Arjoub	First Researcher's Name in English	
/	اسم الباحث الثاني باللغة العربية:	
/	Second Researcher's Name in English	
/	اسم الباحث الثالث باللغة العربية:	The reality of science teachers' use of realistic assessment strategies in the South Hebron Education Directorate an analytical study
/	Third Researcher's Name in English	
وزارة التربية والتعليم العالي فلسطين	الانتماء المؤسسي (لأول) باللغة العربية	
Ministry of Education and Higher Education, Palestine	Affiliation For First	
/	الانتماء المؤسسي (لثاني) باللغة العربية	Doi: لاستعمال هيئة التحرير
/	Affiliation For Second	
/	الانتماء المؤسسي (لثالث) باللغة العربية	
/	Affiliation For Third	
Sahar.rjoub@students.alquds.edu	* البريد الإلكتروني للباحث المرسل: E-mail:	

الملخص:

الملخص: هدفت الدراسة إلى التعرف على واقع استخدام معلمي العلوم استراتيجيات التقويم الواقعي في مديرية تربية وتعليم جنوب الخليل، في ضوء متغيرات الجنس، وسنوات الخدمة، والدرجة العلمية. وقد اعتمدت الباحثة المنهج الوصفي منهجاً للدراسة، حيث تكون مجتمع الدراسة من (280) معلم ومعلمة في مديرية تربية وتعليم جنوب الخليل، حيث تم اختيار العينة بطريقة عشوائية من أفراد المجتمع، وتكونت من (24) معلم و (64) معلمة، ما نسبته (31.43%) من مجتمع الدراسة للفصل الثاني من العام الدراسي (2024-2025)، ولتحقيق أهداف الدراسة قامت الباحثة باستخدام الاستبانة كأداة للدراسة، مكونة من (5) أبعاد، وتم التحقق من صدقها وثباتها قبل تطبيق الدراسة. أظهرت النتائج أن المتوسطات الحسابية لواقع استخدام معلمي العلوم استراتيجيات التقويم الواقعي في مديرية تربية وتعليم جنوب الخليل قد بلغت (4.26)، وانحراف معياري (0.58)، ونسبة مئوية (85.20%)، وهي نسبة كبيرة، وبينت نتائج الدراسة عدم وجود فروق ذات دلالة إحصائية عند مستوى الدلالة ($\alpha \leq 0.05$) بين المتوسطات الحسابية لواقع استخدام معلمي العلوم استراتيجيات التقويم الواقعي في مديرية تربية وتعليم جنوب الخليل تعزى لمتغير الجنس، و سنوات الخدمة، و الدرجة العلمية. وفي ضوء نتائج الدراسة أوصت الباحثة: إجراء المزيد من الدراسات حول استخدام استراتيجيات التقويم الواقعي على معلمي مواد أخرى وربطها بمتغيرات مختلفة، تعزيز المعلمين المتميزين في تطبيق استراتيجيات التقويم الواقعي عمل دورات تدريبية للمعلمين لتنمية مهارات توظيف استراتيجيات التقويم الواقعي، وإعطاء الأولوية للمعلمين الجدد، والعمل على خفض أعداد الطلبة في الصفوف الدراسية ليتمكن المعلم من تطبيق استراتيجيات التقويم الواقعي و متابعة جميع الطلبة.

كلمات مفتاحية: (استراتيجيات التقويم الواقعي، معلمو العلوم، الفروق الفردية، التنمية المهنية للمعلمين).

Abstract:

This study aimed to investigate the extent to which science teachers in the South Hebron Education Directorate use realistic assessment strategies, considering variables such as gender, years of service, and academic degree. A descriptive research approach was employed, targeting a population of 280 teachers. A random sample of 88 teachers (24 males and 64 females), representing 31.43% of the total population, was selected for the second semester of the 2024–2025 academic year. The researcher used a questionnaire consisting of five dimensions, with validity and reliability verified before implementation. Findings revealed that the overall average score for teachers' use of realistic assessment strategies was 4.26 (out of 5), with a standard deviation of 0.58, equivalent to 85.20%, indicating a high level of application. Additionally, the study found no statistically significant differences in teachers' use of these strategies based on gender, years of service, or academic degree. Based on the results, the study recommends further research on realistic assessment strategies across other subjects and variables. It also encourages training programs to develop teachers' skills in this area, especially for new educators, and emphasizes the need to reduce classroom sizes to enable more effective implementation and monitoring of these strategies.

Keywords: (Realistic assessment strategies, science teachers, individual differences, teacher professional development.)

Introduction

In the twenty-first century, there is a growing awareness of a series of global technologies and scientific advances that create a need for high performance in education at all levels. This has made it necessary to change the roles of both teacher and learner. The teacher's role has evolved to become one of facilitation and the design of purposeful learning situations that focus on the learner, enhance thinking and problem-solving skills, and develop learning abilities, rather than merely emphasizing achievement. This development must encompass objectives, content, methods, activities, resources, and, finally, assessment, which represents the most important stage for judging what learners have acquired in light of the aforementioned elements. Assessment also serves to evaluate the rest of the educational system components and to make practical decisions and actions to address weaknesses and reinforce strengths (Hassan, 2013).

Educational assessment is one of the essential activities in the operation of educational systems and institutions to ensure that they are moving in the direction that achieves their goals, increases their effectiveness and efficiency, and enhances their interaction with the external environment in a way that leads to their development and sustainability. Recently, educators have called for what is known as authentic or real assessment, in which students learn in real-life situations that allow for the observation of their academic development and growth—not only in the final product or project they present but also in the processes they undertake (Mahmoud, 2010).

Authentic assessment emerged in the late twentieth century to reflect learners' achievements through the acquisition and construction of scientific knowledge, their ability to use it in different situations, their mastery of scientific skills, and the measurement of these skills in real-life contexts. It also assesses their ability to address science-related social issues and their embodiment of scientific values, attitudes, and inclinations. Authentic assessment employs constructivist theory from a socio-cultural perspective, which holds that true learning should occur in meaningful, real-life contexts. A learner's cognitive development does not occur in isolation from the social and cultural context of the learner or the learning community (Zaytoun, 2007).

Authentic assessment relies on several assessment strategies, including performance assessment, paper-and-pencil assessment, observation-based assessment, communication-based assessment, and self-review assessment. It uses tools such as checklists, rating scales, verbal rating scales, learning process logs, and anecdotal records (Bani Yassin, 2012).

Teachers' behavior in practicing authentic assessment in science depends on the ideas formed during their preparation and the level of their self-confidence. Therefore, teachers need solid scientific preparation to ensure their success in fulfilling their role, as the massive revolution in information and technology requires teachers to be professionally qualified and to achieve professional growth, enabling them to adapt and assimilate new experiences and technologies (Bandura, 2007).

Study Problem

Based on her experience and practice in teaching science, the researcher believes there is a pressing need to assess students using more than one strategy to improve the educational process, identify strengths and weaknesses in all aspects of the learner's personality, and employ them to serve the educational process and ensure that the learning situation achieves the intended educational goals. Authentic assessment, which reflects the learner's reality, abilities, strengths, and weaknesses to develop their capacities, is what keeps pace with rapid development. This requires considering tests as one form of assessment and practicing authentic assessment strategies that provide teachers with alternative assessment methods alongside tests.

One of the significant educational problems faced by both students and teachers in schools is low academic achievement, which can be attributed to several factors related to the learner, the content, the teacher, teaching strategies, and assessment strategies. Traditional assessment—mainly using tests to evaluate students' learning and measure their memorization of information—cannot raise achievement levels in science or foster learners' motivation for learning.

The teacher is a fundamental element in both the educational and instructional processes, and effective assessment depends primarily on the teacher. No matter how good the curricula are or how valid and reliable the measurement tools are, the teacher remains the cornerstone in utilizing these curricula and tools to achieve the educational and instructional goals sought by the Ministry of Education. The teacher's use of authentic assessment strategies and tools, and their understanding and awareness of the activities involved in each strategy, make their assessment of the learning process more real and effective, and enable them to provide multiple learning opportunities for their students.

As a result of the researcher's work as a science teacher in one of the schools in the Directorate of Education in South Hebron, she noticed a lack of studies addressing authentic assessment strategies. Therefore, this study aims to shed light on the problem of the study, which is the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron.

Study Objectives

This study aims to achieve the following objectives:

1. To identify the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron.
2. To identify the effect of some independent variables (gender, years of service, academic degree) on the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron.

Study Questions

The study seeks to answer the following questions:

- Main Question 1: What is the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron?
- Main Question 2: Does the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron differ according to (gender, years of service, academic degree)?

Sub-questions stemming from the first main question:

1. What is the reality of science teachers' use of performance-based assessment in the Directorate of Education in South Hebron?
2. What is the reality of science teachers' use of communication-based assessment in the Directorate of Education in South Hebron?
3. What is the reality of science teachers' use of observation-based assessment in the Directorate of Education in South Hebron?
4. What is the reality of science teachers' use of self-review assessment in the Directorate of Education in South Hebron?
5. What is the reality of science teachers' use of peer assessment in the Directorate of Education in South Hebron?

Study Hypotheses

First Hypothesis:

There are no statistically significant differences at the significance level of ($\alpha \leq 0.05$) between the means of the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron attributed to the gender variable.

Second Hypothesis:

There are no statistically significant differences at the significance level of ($\alpha \leq 0.05$) between the means of the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron attributed to the years of service variable.

Third Hypothesis:

There are no statistically significant differences at the significance level of ($\alpha \leq 0.05$) between the means of the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron attributed to the academic degree variable.

Significance of the Study

Theoretical Significance:

Teachers and supervisors may benefit from the results of this study by gaining a deeper understanding of the reality of science teachers' use of authentic assessment strategies, increasing their awareness of the importance of such strategies and their impact on student learning and information retention, identifying teachers' training needs, and developing appropriate programs for them. The study may also contribute to achieving quality in student learning and teaching processes by focusing on the use of authentic assessment strategies, which are among the most important variables emphasized by modern educational directives.

Practical Significance:

This study may help in developing assessment strategies used by teachers in general and science teachers in particular. The results may inspire new research ideas for educational researchers, thus deepening educational research on authentic assessment strategies. It may also guide teachers and educational supervisors in developing assessment and student follow-up skills in light of the new educational system, which does not focus solely on tests as an assessment method but rather requires multiple methods for student assessment.

Study Limitations

- Human Limitations:

This study was applied to male and female science teachers at the upper basic stage in basic schools in the Directorate of Education in South Hebron, totaling (280) teachers.

- Spatial Limitations:

The study was conducted in public schools in the Directorate of Education in South Hebron.

- Temporal Limitations:

This study was conducted during the second semester of the 2024/2025 academic year.

- Topical Limitations:

This study was conducted to identify the reality of science teachers' use of authentic assessment strategies.

Key Terms

Authentic Assessment:

One form of assessment in which the learner is engaged through various meaningful tasks and activities that relate to their daily life and responsibilities in the real world they face during and after their studies (Mahidat & Al-Mahasneh, 2009).

Operational Definition by the Researcher:

A form of assessment in which the student is required to perform and accomplish real-life tasks that clearly demonstrate the extent to which they apply the basic knowledge and skills they have acquired and learned, with the aim of assessing the student's ability in a realistic context closer to daily life.

Directorate of Education in South Hebron:

One of the directorates affiliated with the Palestinian Ministry of Education, comprising schools and kindergartens located in the southern areas of Hebron. It includes 177 schools, 4,000 teachers, and 55,343 students. Geographical location: Palestine – Hebron Governorate / Dura City – Al-Hijra.

Theoretical Framework

During the period when the learning process was based on the principles of behaviorist theory—which relies on all forms of testing—there began a shift toward adopting cognitive theory to interpret learning processes. As a result, the 1960s in the United States witnessed a significant transformation in educational assessment, both in content and method, through a re-examination of curricula. Many educators, such as Cronbach and Glass, devoted their attention to the field of assessment, making substantial contributions to its development. Today, assessment has become a central focus in the educational process, with its functions, types, and strategies having evolved considerably (Mustafa, 2016).

Definition of Authentic Assessment

Authentic assessment is an approach in educational evaluation that places the learner in real-life situations that simulate reality, observing their responses that enable them to retain information (Oudah, 2015).

According to Al-Salwi (2017), authentic assessment is a systematic and ongoing process that relies on alternative assessment methods rather than traditional tests to evaluate learner performance. It involves utilizing both prior and new experiences in specific situations, allowing the learner to accomplish tasks actively and effectively.

Zaytoun (2007) notes that authentic assessment is linked to real-world tasks, where learning is determined by the type of performance demonstrated by the learner in a given situation, rather than by measuring what is stored in memory. This type of assessment is associated with understanding as a primary approach in teaching science for comprehension.

Objectives of Authentic Assessment

Fostering Self-Assessment Practices:

Authentic assessment aims to develop students' self-assessment abilities so they can evaluate their own performance according to optimal standards. The goal is to master genuine and practical performance, in addition to assessing various aspects of the learner's personality, imparting theoretical, practical, and functional knowledge, and thus preparing them for future careers. It also aims to equip learners with research, inquiry, problem-solving, and higher-order thinking skills (Al-Shahri et al., 2015).

Developing Real-Life Skills:

It seeks to enhance real-life skills, foster creative and innovative thinking and responses, and develop higher-order cognitive skills. Authentic assessment also strengthens students' ability to self-assess and contributes to collecting the necessary data to verify the achievement of learning outcomes and to measure various aspects of the learner's personality (Bani Yassin, 2012).

Promoting Collaboration and Positive Communication:

It provides learners with skills in cooperation and positive communication through engagement in projects and group work, as well as the ability to reflect on achievements and regularly review work. It offers hands-on, practical training with clearly defined procedures (Al-Shahri et al., 2015).

Identifying Strengths and Weaknesses:

Authentic assessment helps identify the strengths and weaknesses in a learner's education, determine their cognitive, social, and psychological development, and reveal the extent to which educational objectives are achieved. It also helps to identify which objectives need to be developed, modified, or changed. Moreover, authentic assessment assists in identifying the strengths and weaknesses of the teacher, curriculum, and teaching methods used in the teaching and learning processes (Da'mas, 2008).

Characteristics of Authentic Assessment

Authentic assessment is characterized by several features that clarify its methods, procedures, and nature, as outlined by Mahidat & Al-Mahasneh (2009):

Realism:

It relies on real-life problems that reflect learners' ability to apply their knowledge and skills to solve problems they encounter and to accomplish tasks needed in their daily lives.

Democracy:

By providing learners the opportunity to assess their own improvement in learning, authentic assessment is considered criterion-referenced. It contributes to improving the teaching and learning processes by providing immediate feedback to learners, teachers, and even parents.

Objectivity and Precision:

It enables the issuance of accurate and objective judgments regarding students' progress in the educational process and the quality of the elements of the educational system.

Additional Characteristics of Authentic Assessment

Diversity of Assessment Methods:

Authentic assessment allows for the use of multiple assessment methods and tools, which raises the quality and standard of assessment programs and positively impacts the quality of the assessment process, thereby enhancing the learning and teaching process.

Opportunities for Practice and Feedback:

It provides students with opportunities to train and practice learning in a real and active manner, enabling them to use their knowledge and skills effectively and to receive feedback on their performance.

Scientific Rigor:

This is achieved through the use of various well-constructed measurement tools that define agreed-upon scientific performance standards, which can be relied upon to determine students' actual learning.

Authentic Assessment Strategies

Performance-Based Assessment:

This strategy relies on the learner's ability to perform tasks by applying their skills in real-life situations, i.e., using them to solve problems they encounter (Ali, 2011).

According to the Ministry of Education (2017), performance-based assessment is the student's ability to interpret their learning by using and applying their skills to solve real-life problems.

Observation Strategy:

Observation provides clear indicators of student learning. It includes everything students do, can do, and cannot do, thus providing the information and data necessary to develop appropriate plans to utilize students' abilities, strengthen their strengths, and improve their weaknesses (Al-Absi, 2010).

Communication-Based Assessment Strategy:

This involves assigning tasks to students, preparing guiding questions, listening to their perspectives and justifications, as well as providing lessons in areas where students face difficulties, with continuous follow-up on their progress, and ensuring they are ready to conduct peer interviews (Al-Eid, 2012).

Self-Assessment Strategy:

This strategy is based on utilizing the learner's previous experience and transforming it into learning by assessing what has been learned and clarifying what will be learned next. Here, the learner performs self-assessment or judges their own performance, all with the teacher's assistance in identifying expected outcomes and preparing the necessary assessment tools (Al-Zaabi, 2013).

Peer Assessment Strategy:

This involves giving the learner some responsibility in judging the quality of their peer's work or that of a group of peers, according to clear and pre-established criteria (Al-Muntashari, 2023).

Paper-and-Pencil Assessment Strategy:

This includes various types of tests that help measure the learner's abilities and skills in areas related to knowledge, understanding, and higher cognitive domains. The aim is to determine the learner's level of mastery of cognitive and performance skills using carefully prepared and validated tools (Oudah, 2015).

Authentic Assessment Tools

Checklist:

Checklists are effective tools for obtaining concise information and for identifying the strengths and weaknesses in mastering required skills for both teachers and students. The teacher prepares a task that includes a set of questions related to effective performance, then uses these questions as a tool to judge the quality of student performance (Al-Ahmadi & Buraikat, 2015).

Rating Scales:

This tool breaks down the required educational skills into a set of skills, based on a sequence of 4–5 levels (e.g., absent, rarely present, strongly present), or according to a numerical progression (1, 2, 3, 4, 5), aimed at showing the extent to which the student possesses the required skill (Ibrahim, 2017).

Verbal Rating Scale:

Similar to the previous tool (rating scales), but more detailed. It includes a set of descriptions for the student's performance level, providing formative assessment, and allows the teacher to break down the skill into several levels (Al-Harabsheh, 2016).

Learning Process Log:

The success of this tool requires a teacher capable of giving students the opportunity to express their feelings without fear or anxiety about their academic achievement. The student's written expression allows the teacher to learn about students' opinions and responses through their description of their learning process and connecting what they have learned to prior experiences (Khair, 2015).

Anecdotal Record:

This tool is a brief description by the teacher, requiring significant time to write, monitor, and interpret. The teacher records what the student does and their state during observation, noting

the most important observations for later reporting. The teacher should design a special system for keeping anecdotal records for each student to track those observed, ensure objective judgments, and be ready to write at any time, as signs of growth and change may appear at unexpected times (Da'mas, 2008).

Reflections of Authentic Assessment on Educational Process Elements

Teacher:

Authentic assessment provides the teacher with a clear picture of the skills students can perform, as well as the methods they use to achieve the required results and cognitive competence. The teacher gains a broader understanding of the information students need and the best ways to deliver it, as well as the most effective ways for learners to achieve curriculum objectives.

Learner:

Authentic assessment, by requiring the performance of tasks that relate to the learner's daily life, provides many skills that prepare them for future life and how to deal with it. It also increases their sense of responsibility, abilities, and thinking.

Educational Objectives:

Authentic assessment achieves the desired educational objectives by enabling the student to acquire real-life skills that provide sufficient cognitive competence to cope with daily life and apply these skills throughout their life. This is one of the most important educational goals, making the student's achievements clear to the teacher and allowing the student to self-assess (Mahidat & Al-Mahasneh, 2009).

A Comparison Between Traditional Assessment and Authentic Assessment

The following are the key differences between traditional assessment and authentic assessment as outlined by Zaytoun (2007):

No.	Traditional Assessment	Authentic Assessment
1	Takes the form of an achievement test.	Takes the form of real-life tasks that students are expected to perform or complete.
2	Requires the learner to recall prior information.	Requires the learner to apply and integrate their knowledge and skills to complete the assigned task.
3	Engages lower-order thinking skills (recall, comprehension, application).	Engages higher-order thinking skills (analysis, synthesis, evaluation).
4	Takes a relatively short amount of time.	Takes a relatively long amount of time.
5	The student responds to the test individually.	A group of students may collaborate to complete the task.
6	The student's performance is evaluated based on the score obtained for correct answers.	The student's performance is evaluated based on scoring rubrics.

Previous Studies

Al-Alawi & Haji (2023):

This study aimed to explore the extent to which high school Arabic language teachers employ authentic assessment strategies, the challenges they face in implementation, and the impact of

gender, experience, and training hours. It used the descriptive survey method and employed a questionnaire administered to a sample of 30 teachers. The findings indicated a high use of authentic assessment strategies, particularly self-assessment, followed by observation, communication-based assessment, and performance-based assessment. The main challenges were related to parents, followed by the learning environment, school administration, students, teachers, and finally, the curriculum. The study recommended providing a guiding manual, linking assessment strategies to teacher performance evaluations, and offering intensive training programs.

Al-Muntashiri (2023):

This study investigated the reality of using authentic assessment strategies in the early grades of schools in Al-Qunfudhah governorate. Using the descriptive analytical method, it applied a questionnaire to 305 teachers and 6 educational supervisors. The results showed a high level of practice (mean score of 4.01), with no statistically significant differences based on academic qualifications or years of experience, but differences were found based on specialization and training courses. The study recommended preparing a guide for implementation and providing training courses.

Asiri (2021):

This study examined the use of authentic assessment methods by high school physics teachers in the Mahayel Asir governorate. Using the descriptive survey method, a questionnaire was applied to 28 teachers. Results highlighted the importance of student involvement in practical activities. The main challenges were teacher workload and the need for material resources. The researcher recommended preparing guides that include assessment methods and tools.

Abu Dahrouj & Abu Hajar (2019):

This study aimed to identify the extent to which female teachers in basic education possess authentic assessment skills and ways to enhance them in Gaza schools. It used the descriptive analytical method and applied an observation checklist to a purposive sample of 31 teachers. The results showed a low use of performance and self-verification strategies, but a high use of observation. The study recommended follow-up on strategy implementation and providing training courses.

Al-Hammad (2019):

This study aimed to explore the application of authentic assessment among middle school science teachers in Najran city. Using the descriptive survey method, a questionnaire was applied to 83 teachers. The results highlighted the effectiveness of performance-based assessment, with no statistically significant differences related to qualifications or experience. Recommendations included organizing workshops and training sessions, encouraging the use of this assessment type, and reducing class sizes.

Abu Rezeq (2018):

This study investigated the extent to which English language teachers use authentic assessment strategies in middle schools in Gaza. Using the descriptive analytical method, it applied a questionnaire to 90 teachers and conducted interviews with 25 of them. The results indicated a moderate level of usage (54.24%), with no significant differences based on gender or experience. The study recommended conducting training courses for teachers.

Al-Diab (2017):

This study measured the extent of authentic assessment strategy use among English language teachers in the Bani Kenana district and examined the effects of experience, qualifications, and student levels. It used a descriptive analytical method and applied a 19-item questionnaire to a

sample of 50 teachers. Results showed frequent use of all strategies, especially the paper-and-pencil strategy. The study recommended organizing workshops and training sessions and expanding research to cover other curricula and regions.

Commentary on Previous Studies

Most of these studies aimed to explore the reality of using authentic assessment strategies and highlighted their importance and the positive role they play in enhancing both students' and teachers' performance. The findings indicated that authentic assessment practices significantly influence the quality of education and contribute to developing teachers' expertise. Some studies revealed that teachers using authentic assessment develop a better understanding of how to nurture students' skills and become more familiar with modern educational methods and technologies. Authentic assessment was found to play a major role in enhancing both student and teacher skills. Moreover, previous research emphasized that authentic assessment equips teachers with the competencies and attitudes necessary for professional growth, thereby improving educational quality.

Data Collection Tools Used:

Questionnaire only: Al-Alawi & Haji (2023), Al-Muntashiri (2023), Asiri (2021), Al-Diab (2017), Al-Hammad (2019).

Observation Checklist: Abu Dahrouj & Abu Hajar (2019).

Questionnaire + Interviews: Abu Rezeq (2018).

Participants' Perspectives Used:

Teachers only: Al-Alawi & Haji (2023), Asiri (2021), Abu Rezeq (2018), Al-Diab (2017), Al-Hammad (2019), Abu Dahrouj & Abu Hajar (2019).

Teachers and Supervisors: Al-Muntashiri (2023).

Methodological Approaches:

Descriptive Survey Method: Al-Alawi & Haji (2023), Asiri (2021), Al-Hammad (2019).

Descriptive Analytical Method: Al-Muntashiri (2023), Al-Diab (2017), Abu Rezeq (2018), Abu Dahrouj & Abu Hajar (2019).

Study Methodology

To achieve the objectives of the study, the researcher employed the descriptive method, which is used to study a current phenomenon, event, or issue to obtain information that answers the research questions without the researcher interfering.

Study Population

The study population consisted of all science teachers at the upper basic level in the Directorate of Education of South Hebron during the second semester of the 2024/2025 academic year, totaling 280 male and female teachers.

Study Sample

The study sample included 88 male and female teachers selected randomly from the study population, representing 31.43% of the total. Table (1) presents the distribution of sample participants whose responses were analyzed according to their demographic variables.

Table (1): Distribution of Study Sample Members by Their Characteristics

Variable	Category	Number	Percentage
Gender	Male	24	27%

Variable	Category	Number	Percentage
	Female	64	73%
Years of Service	Less than 5 years	10	11.36%
	5–10 years	68	77.27%
	More than 10 years	10	11.36%
Academic Degree	Bachelor's	77	87.50%
	Postgraduate	11	12.50%
Total		88	100%

Study Tool

In this research, a questionnaire was used as the study tool. The questionnaire consisted of two main sections. The first section was dedicated to personal data: gender (with two levels: male and female), years of service (three levels: less than 5 years, 5–10 years, and more than 10 years), and academic degree (two levels: Bachelor's and Postgraduate). The second section comprised 39 items distributed over five dimensions:

- The first dimension: Performance-based assessment strategy (8 items)
- The second dimension: Communication-based assessment strategy (7 items)
- The third dimension: Observation-based assessment strategy (10 items)
- The fourth dimension: Self-assessment strategy (7 items)
- The fifth dimension: Peer assessment strategy (7 items)

The items were formulated according to a five-point Likert scale: Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree.

Instrument Validity

The researcher designed the initial version of the questionnaire and then verified its validity by presenting it to five experts in the field, who provided feedback regarding the clarity of language, linguistic accuracy, coverage of the studied aspect, and suggested any additions or modifications. Based on their feedback, the final version of the questionnaire was produced.

Instrument Reliability

The reliability of the instrument was verified by calculating the total reliability coefficient for the study domains using Cronbach's Alpha. The reliability coefficient for the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron was (0.98), indicating that the questionnaire has sufficient reliability for the purposes of the study. The following table shows the reliability coefficients for the dimensions and the total score:

Table (2): Reliability Coefficients for Study Dimensions and Total Score

Dimension	Number of Items	Reliability Coefficient
Performance-based Assessment	8	0.94

Dimension	Number of Items	Reliability Coefficient
Communication-based Assessment	7	0.93
Observation-based Assessment	10	0.94
Self-assessment	7	0.98
Peer Assessment	7	0.95
Total Score	39	0.98

Study Variables

- Independent Variables:

Gender (Male, Female)

Years of Service (Less than 5 years, 5–10 years, More than 10 years)

Academic Degree (Bachelor's, Postgraduate)

Dependent Variable:

The reality of science teachers' use of authentic assessment strategies.

Statistical Processing

Statistical processing of the data was carried out by calculating means, standard deviations, and percentages for each questionnaire item, as well as using the t-test, one-way ANOVA, and Cronbach's Alpha equation for reliability measurement. The Statistical Package for Social Sciences (SPSS) was used for data analysis.

Study Results and Discussion

The results obtained by the researcher regarding the topic of the study—the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron—and the effect of each variable were analyzed based on the responses of the sample and the statistical data. To determine the means for the responses, the following scale was adopted:

Degree	Mean Range
Low	2.33 or less
Moderate	2.34–3.67
High	3.68 or more

Results Related to the Main Question

Main Question:

What is the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron?

To answer this question, means, standard deviations, and percentages were calculated for the responses of the sample on the questionnaire dimensions, as shown in Table (3):

Table (3): Means, Standard Deviations, and Percentages for the Reality of Science Teachers' Use of Authentic Assessment Strategies

Dimension	Mean	Std. Dev.	Percentage	Degree
Performance-based Assessment	4.20	0.55	84%	High
Communication-based Assessment	4.21	0.63	84.20%	High
Observation-based Assessment	4.14	0.65	82.80%	High
Self-assessment	4.37	0.57	87.40%	High
Peer Assessment	4.40	0.61	88%	High
Total Score	4.26	0.58	85.20%	High

It is clear from Table (3) that the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron is high, with an overall mean of (4.26) and a percentage of (85.20%). The fifth dimension (peer assessment strategy) ranked first with a mean of (4.40) and a percentage of (88%), followed by the fourth dimension (self-assessment strategy) with a mean of (4.37) and a percentage of (87.40%). The second dimension (communication-based assessment strategy) came third with a mean of (4.21) and a percentage of (84.20%), followed by the first dimension (performance-based assessment strategy) with a mean of (4.20) and a percentage of (84%). The third dimension (observation-based assessment strategy) ranked fifth with a mean of (4.14) and a percentage of (82.80%).

The results of this study differ from those of Abu Rezeq (2018), which showed that the degree of teachers' use of authentic assessment strategies was moderate. They also differ from Al-Hammad (2019), which found that the most prominent authentic assessment strategy suitable for science teaching was the performance-based assessment strategy, and from Al-Diab (2017), which showed that the paper-and-pencil strategy ranked first, followed by the communication strategy, and finally the observation strategy. The results also differ from Abu Dahrouj and Abu Hajar (2019), which showed a low level of practice of authentic assessment strategies. However, the results agree with Al-Alawi and Haji (2023), who found that the degree of Arabic language teachers' use of authentic assessment strategies was high, and that the peer assessment strategy was...

Peer assessment strategy came in fourth place, and the results agreed with the study of Al-Muntashari (2023), which showed that teachers' practice of authentic assessment strategies was high.

Results of the Sub-Questions

Result of the First Sub-Question:

What is the reality of science teachers' use of the performance-based assessment strategy in the Directorate of Education in South Hebron?

Table (4): Means, Standard Deviations, and Percentages for the Reality of Science Teachers' Use of the Performance-Based Assessment Strategy in the Directorate of Education in South Hebron (in descending order by mean):

No.	Statement	Mean	Std. Dev.	Percentage	Degree
-----	-----------	------	-----------	------------	--------

No.	Statement	Mean	Std. Dev.	Percentage	Degree
1	I make sure that students complete all the tasks required of them.	4.42	0.50	88.40%	High
4	I assess students' ability to apply what they have learned in real-life contexts.	4.40	0.56	88%	High
8	I provide students with immediate feedback on their mastery of scientific skills and experiments.	4.29	0.57	85.80%	High
3	I encourage students to produce simple scientific handcrafts of their own.	4.27	0.60	85.40%	High
6	I determine the learning outcomes that the learner must demonstrate.	4.19	0.52	83.80%	High
5	I set a timetable for preparing and conducting scientific experiments.	4.16	0.58	83.20%	High
2	I assess students' performance through scientific activities and projects.	3.94	0.69	78.80%	High
7	I design enrichment worksheets that include solving real-life problems scientifically.	3.90	0.81	78%	High
	Overall Mean	4.20	0.55	84%	High

From Table (4), which presents the means, standard deviations, and percentages for the responses of the study sample regarding the use of the performance-based assessment strategy, the overall mean was (4.20) with a percentage of (84%), indicating a high level of use. All items achieved a high degree, with item (1) "I make sure that students complete all the tasks required of them" scoring the highest mean (4.42) and percentage (88.40%), and item (7) "I design enrichment worksheets that include solving real-life problems scientifically" scoring the lowest mean (3.90) and percentage (78%).

Result of the Second Sub-Question:

What is the reality of science teachers' use of the communication-based assessment strategy in the Directorate of Education in South Hebron?

Table (5): Means, Standard Deviations, and Percentages for the Reality of Science Teachers' Use of the Communication-Based Assessment Strategy in the Directorate of Education in South Hebron (in descending order by mean):

No.	Statement	Mean	Std. Dev.	Percentage	Degree
-----	-----------	------	-----------	------------	--------

No.	Statement	Mean	Std. Dev.	Percentage	Degree
3	I accept students' questions.	4.61	0.51	92.20%	High
1	I determine the behavior to be observed.	4.50	0.50	90%	High
4	I record students' behavior at the same time as the educational situations occur.	4.44	0.54	88.80%	High
2	I monitor students' responses without them noticing.	4.43	0.49	88.60%	High
5	I use clear criteria and indicators to assess students' performance and outcomes.	4.38	0.55	87.60%	High
6	I conduct individual and group interviews with students to assess their progress and problem-solving approaches.	3.72	0.83	74.40%	High
7	I use the conference method to assess students' progress in a specific topic.	3.42	0.84	68.40%	Moderate
	Overall Mean	4.21	0.63	84.20%	High

From Table (5), the overall mean was (4.21) and the percentage (84.20%), indicating a high level of use of the communication-based assessment strategy. Six items scored high, and one item scored moderate. The highest mean (4.61) and percentage (92.20%) was for the item "I accept students' questions," and the lowest mean (3.42) and percentage (68.40%) was for "I use the conference method to assess students' progress in a specific topic."

Result of the Third Sub-Question:

What is the reality of science teachers' use of the observation-based assessment strategy in the Directorate of Education in South Hebron?

Table (6): Means, Standard Deviations, and Percentages for the Reality of Science Teachers' Use of the Observation-Based Assessment Strategy in the Directorate of Education in South Hebron (in descending order by mean):

No.	Statement	Mean	Std. Dev.	Percentage	Degree
8	I reinforce students' positive behavior in front of their peers.	4.53	0.59	90.60%	High
10	I use observation results to improve students' learning.	4.29	0.55	85.80%	High
2	I monitor students' responses without them noticing.	4.26	0.52	85.20%	High

No.	Statement	Mean	Std. Dev.	Percentage	Degree
1	I determine the behavior to be observed.	4.22	0.53	84.40%	High
3	I prepare educational situations to discover students' attitudes.	4.08	0.65	81.60%	High
9	I record both positive and negative student behavior during projects and experiments in the observation log.	4.08	0.76	81.60%	High
6	I design a log for observing students during learning and experiments.	4.07	0.68	81.40%	High
5	I use clear criteria and indicators to assess students' performance and outcomes.	4.05	0.63	81%	High
4	I record students' behavior at the same time as the educational situations occur.	3.94	0.70	78.80%	High
7	I inform parents about their children's observation records.	3.86	0.84	77.20%	High
	Overall Mean	4.14	0.65	82.80%	High

From Table (6), the overall mean was (4.14) and the percentage (82.80%), indicating a high level of use of the observation-based assessment strategy. All items scored high, with the highest mean (4.53) and percentage (90.60%) for "I reinforce students' positive behavior in front of their peers," and the lowest mean (3.86) and percentage (77.20%) for "I inform parents about their children's observation records."

Self-Assessment Strategy Usage by Science Teachers

No.	Statement	Mean	Std. Dev.	Percentage	Degree
4	I enhance students' ability to take responsibility for their own learning.	4.43	0.54	88.60%	High
6	I encourage students to correct their own mistakes in scientific experiments.	4.39	0.51	87.80%	High
1	I give students the opportunity to assess their own performance.	4.38	0.51	87.60%	High
7	I benefit from students' reflections to address their weaknesses.	4.38	0.53	86.60%	High

No.	Statement	Mean	Std. Dev.	Percentage	Degree
2	I encourage students to engage in self-reflection.	4.36	0.57	87.20%	High
3	I encourage students to determine the desired performance levels for tasks and activities.	4.34	0.64	86.80%	High
5	I encourage students to self-correct their work according to specific criteria.	4.32	0.62	86.40%	High
	Overall Score	4.37	0.57	87.40%	High

The table above reflects the mean, standard deviation, and percentage of responses regarding the use of self-assessment strategies by science teachers.

The overall mean is 4.37 and the overall percentage is 87.40%, indicating a high level of strategy usage.

The highest mean was for "I enhance students' ability to take responsibility for their own learning" (4.43, 88.60%).

The lowest mean was for "I encourage students to self-correct their work according to specific criteria" (4.32, 86.40%).

Peer Assessment Strategy Usage by Science Teachers

No.	Statement	Mean	Std. Dev.	Percentage	Degree
1	I guide students to respect and appreciate their peers' performance.	4.49	0.53	89.80%	High
7	I encourage students who take the initiative to help their peers.	4.49	0.52	89.80%	High
6	I guide outstanding students to help their low-achieving peers.	4.43	0.60	88.60%	High
2	I encourage students to provide each other with feedback on assigned tasks.	4.42	0.60	88.40%	High
3	I enhance students' leadership and management skills.	4.39	0.58	87.80%	High
5	I choose teaching methods based on cooperative learning when planning lessons.	4.31	0.68	86.20%	High
4	I explain to students the methods and ways to assess their peers.	4.27	0.72	85.40%	High

No.	Statement	Mean	Std. Dev.	Percentage	Degree
	Overall Score	4.40	0.61	88%	High

- The overall mean is 4.40 and the overall percentage is 88%, indicating a high level of peer assessment strategy usage.
- The highest mean was for "I guide students to respect and appreciate their peers' performance" (4.49, 89.80%).
- The lowest mean was for "I explain to students the methods and ways to assess their peers" (4.27, 85.40%).

Study Hypotheses Results

First Hypothesis:

There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the means of the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron attributed to gender.

Gender	Number	Mean	Std. Dev.	df	t-value	p-value
Male	24	4.28	0.51	86	1.13	0.26
Female	64	4.42	0.51			

- The differences between male and female teachers were not statistically significant ($t = 1.13$, $p = 0.26$).
- This means there is no significant difference between male and female teachers in their use of authentic assessment strategies.

Second Hypothesis:

There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the means of the reality of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron attributed to years of service.

Years of Service	Number	Mean	Std. Dev.
Less than 5 years	10	4.29	0.50
5–10 years	68	4.40	0.52
More than 10 years	10	4.35	0.46

- Apparent differences exist, but further analysis (One Way ANOVA) is needed to determine statistical significance (as referenced in the following table in the original data).

Summary

- Self-assessment and peer assessment strategies are used at a high level by science teachers in South Hebron.
- No significant differences were found in strategy use based on gender or years of service, indicating similar practices among teachers regardless of these variables.

Table: Analysis of Variance (ANOVA) for Years of Service

Source of Variance	Sum of Squares	Degrees of Freedom	Mean Square	Calculated "F" Value	Statistical Significance (P)
Between Groups	0.12	2	0.06	0.23	0.79
Within Groups	22.29	85	0.26		
Total	22.42	87			

- The table shows that the differences between the means of science teachers' use of authentic assessment strategies in the Directorate of Education in South Hebron, attributed to years of service, were not statistically significant ($F = 0.23$, $P = 0.79$).
- This means the null hypothesis is accepted: there are no significant differences due to years of service.
- This result can be explained by the similarity of teachers' experiences, regardless of years of service, due to training courses organized by the directorates to train teachers on authentic assessment strategies and tools.
- These findings are consistent with the results of Al-Muntashari (2023) and Abu Rezeq (2018), which also showed no statistically significant differences in the use of authentic assessment strategies based on years of service.

Table: Independent Samples t-test for Academic Qualification

Academic Degree	Number	Mean	Std. Dev.	Degrees of Freedom	Calculated "t" Value	Statistical Significance (P)
Bachelor's	77	4.41	0.52	86	1.44	0.24
Postgraduate	11	4.21	0.40			

- The differences between the means of science teachers' use of authentic assessment strategies attributed to academic qualification were not statistically significant ($t = 1.44$, $P = 0.24$).
- This supports the null hypothesis: there are no significant differences due to academic qualification.
- This can be explained by technological advancements and access to various sources of knowledge, which have reduced barriers between different academic degrees. The significant information and technology revolution requires teachers to engage in professional development to adapt and assimilate new experiences and techniques.
- These results are consistent with the findings of Al-Muntashari (2023), which also showed no statistically significant differences in the use of authentic assessment strategies based on academic qualification.

Recommendations

1. Conduct further studies on the use of authentic assessment strategies with teachers of other subjects and link them to different variables.

2. Support and encourage outstanding teachers in implementing authentic assessment strategies.
3. Organize training courses for teachers to develop their skills in employing authentic assessment strategies, with priority given to new teachers.
4. Work on reducing class sizes so teachers can effectively apply authentic assessment strategies and follow up with all students.
5. Design training programs for teachers on the use of observation tools.
6. Conduct studies on the impact of authentic assessment on students' motivation.

References

- Ibrahim, K. (2017). Degree of teachers' use of alternative assessment strategies and tools: Teachers in Sohag Governorate as a model (In Arabic). *Alexandria Journal of Education College*, 1(27), Egypt.
- Abu Dahrouj, I. N., & Abu Hajar, I. J. H. (2019). The extent of elementary female teachers' possession of authentic assessment methods and ways to develop them (In Arabic). *Journal of Islamic Education College for Educational and Human Sciences*, (42).
- Al-Ahmadi, R., & Barbakeet, A. (2015). Effectiveness of a proposed strategy based on integrating flipped classrooms and alternative assessment in developing grammatical skills among second secondary female students (In Arabic). *Arab Studies in Education and Psychology*, (58), Saudi Arabia.
- Bani Yaseen, O. (2012). Modern educational assessment strategies (In Arabic). *Palestine University Journal for Research and Studies*, (3), 514–553.
- Al-Harashah, K. (2016). Reality of science teachers' use of alternative assessment strategies and tools in upper basic stage in Jordan (In Arabic). *Al-Manara Journal for Research and Studies*, 22(4), 335–371.
- Hassan, I. (2013). Reality of elementary mathematics teachers' practice of alternative assessment and its relation to their beliefs (In Arabic). *Arab Studies in Education and Psychology*, (29), 174–202.
- Al-Hamad, K. S. (2019). Reality of applying alternative assessment among science teachers in intermediate stage in Najran city (In Arabic). *Arab Journal for Educational and Social Studies*, (14), 259–301.
- Khair, A. N. (2015). Alternative educational assessment and its positive role in measuring students' achievement and evaluating their performance at different educational stages (In Arabic). *Faculty of Education Journal*, 30(2), 1–29, Menoufia University.
- Da'mis, M. (2008). Modern educational assessment strategies and tools (In Arabic). Amman, Jordan: Ghaida Publishing and Distribution.
- Al-Za'bi, A. (2013). Degree of knowledge and practice of mathematics teachers for authentic assessment strategies and tools (In Arabic). *Islamic University Journal of Educational and Psychological Studies*, 21(3), 165–197.
- Zeitoun, A. (2007). Constructivist theory and science teaching strategies (In Arabic). Amman, Jordan: Al-Shorouk Publishing and Distribution.
- Al-Shahri, M., Zakari, A., & Qablan, Y. (2015). Strategies and tools of authentic assessment (In Arabic). National Authority for Quality Assurance and Accreditation.
- Al-Salwi, M. (2017). Reality of science teachers' practice in Al-Ardah Governorate for alternative assessment methods (In Arabic). *Arab Studies in Education and Psychology*, (88), 403–422.
- Al-Absi, M. (2010). Authentic assessment in the teaching process (In Arabic). Amman, Jordan: Al-Maseerah Publishing and Distribution.
- 'Asiri, A. R. (2021). Reality of physics teachers' use of alternative assessment methods in high schools in Mahayel Asir Governorate (In Arabic). *Youth Researchers Journal in Educational Sciences*, (7), Faculty of Education, Sohag University, 296–337.
- Al-Alawi, W., & Haji, K. (2023). Employment of alternative assessment strategies and its obstacles from the perspective of secondary Arabic language teachers (In Arabic). *Journal of Educational and Psychological Sciences*, 7(38), 104–126.
- Ali, M. (2011). Modern trends and applications in curricula and teaching methods (In Arabic). Amman, Jordan: Al-Maseerah Publishing and Distribution.
- Ouda, K. (2015). The impact of alternative assessment on the achievement of ninth-grade students and their attitudes towards science in schools of Nablus Governorate (In Arabic) [Unpublished master's thesis]. An-Najah National University, Nablus, Palestine.
- Al-Eid, W. (2012). The effect of teaching a proposed unit based on the 7E's strategy on developing mathematical communication skills in geometry and retention among ninth-grade

- female students in Gaza (In Arabic) [Unpublished master's thesis]. Al-Azhar University, Gaza, Palestine.
- Abu Rahma, M, Al-Zaim, M, and Abu Laila,. 2022. Proposed models for applying authentic assessment strategies in evaluating lower-grade students in schools in the southern governorates of Palestine. *Journal of the Palestinian Educators Association for Literature, Educational and Psychological Studies*, Vol. 1, No. 3, pp. 52-70. <https://search.emarefa.net/detail/BIM-1574749>
- Mahmoud, S. D. (2010). *Measurement and educational assessment in the teaching process* (4th ed.) (In Arabic). Amman, Jordan: Al-Maseerah Publishing and Distribution.
- Al-Muntashri, J. H. B. (2023). Reality of using alternative assessment strategies in early grades in schools of Al-Qunfudhah Governorate from the perspective of teachers and supervisors (In Arabic). *Arab Journal of Educational and Psychological Sciences*, 7(34), 79–126.
- Mustafa, A. (2016). Reality of Islamic education teachers' practice of alternative assessment methods and ways to develop them in the lower basic stage in Gaza (In Arabic) [Unpublished master's thesis]. Islamic University, Gaza, Palestine.
- Muhaydat, A. H., & Al-Mahasneh, I. (2009). *Authentic assessment* (In Arabic). Amman, Jordan: Jarir Publishing and Distribution.
- Ministry of Education. (2017). *Curriculum training guide, Directorate of Training, Qualification and Educational Supervision, Directorate of Educational Training* (In Arabic). Amman, Jordan.
- Al-Diab, N. (2017). *The Degree of Using Alternative Evaluation Strategies Among English Teachers in BaniKinana According to Some Demographic Variables*. Language Center, Yarmouk University, Irbid, Jordan.
- Bandura, A. (2007). Much Ado Over a Faulty Conception of Perceived self-efficacy Grounded in Faulty Experimentation. *Journal of Social and Clinical Psychology*, 26(6), 641- 658.
- Abu Rezeq, K. (2018). The Level Of Using Alternative Assessment Strategies Among English Language Teachers In The Preparatory Stage In Government Schools In Gaza. *Journal of Al-Quds Open University for Educational and Psychological Research and Studies*, 8(24).