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Comparative Identification of Assessment Methods in Multi-Grade and Single-Grade Classrooms

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ABSTRACT

Objective: To comparatively, this study examine the assessment methods used in single-grade versus multi-grade classrooms within the Iranian educational system, considering the structural differences and their impact on measuring learning objectives and improving educational quality.

Methods: This study employed a descriptive-analytical approach utilizing document analysis. Data were gathered through a review of credible scientific sources, research articles, and documented teacher field experiences regarding assessment practices in both classroom settings.

Results: In multi-grade classrooms, flexible and process-oriented methods such as descriptive evaluation, performance-based assessment, portfolio assessment, self-assessment, and direct observation were found to be more effective for measuring learning, enhancing student participation, strengthening academic self-awareness, and improving educational quality. Conversely, single-grade classrooms predominantly focus on final results and grading, which may overlook individual student differences.

Conclusions: The structural and instructional differences between single-grade and multi-grade settings necessitate distinct assessment strategies. Multi-grade classrooms benefit significantly from continuous, process-oriented assessment methods, while the traditional, outcome-focused assessment common in single-grade settings may be insufficient for diverse learning needs.

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Introduction

In Iran's educational system, multi-grade classrooms are recognized as a common structure, particularly in rural and sparsely populated areas. In these classrooms, a single teacher is responsible for simultaneously instructing multiple grade levels, which presents numerous challenges concerning curriculum planning, educational management, and especially academic assessment. Conversely, single-grade classrooms, with their more cohesive structure and homogeneity of students' academic levels, facilitate the utilization of traditional and standardized assessment methods.

Multi-grade classrooms, especially in rural and low-population regions of Iran, are employed as a solution to provide education for students across various grade levels within a shared learning environment. Despite the potential benefits of this structure, such as enhancing social interactions and self-regulation in learning, there are significant challenges in designing and implementing the curriculum, particularly regarding academic assessment (Vafaeyi Far, Ghaderi, & Maleki Avarsin, 2022). Factors such as the lack of assessment models appropriate for the age, level, and cognitive differences of students, the absence of specialized teacher training, and resource limitations jeopardize the effectiveness of assessment in these classrooms (Goudarzi & Ahmadi, 2025; Mohammadi & Rezaei, 2025). In contrast, single-grade classrooms, with their more uniform structure, allow for the use of standardized and consistent assessment methods. Recent research indicates that the disadvantages arising from curriculum implementation in multi-grade classrooms, especially in the assessment domain, can threaten the health of the primary education system (Khamisabadi, Javadipour, Salehi, & Abtahi, 2025). Therefore, identifying the differences, deficiencies, and improvement strategies for assessment in multi-grade compared to single-grade classrooms is a research and practical necessity that can lead to enhancing the quality of primary education in the country (Karimi & Mousavi, 2023).

Academic assessment, as a fundamental pillar of the teaching-learning process, plays a crucial role in identifying the extent to which educational goals are achieved, diagnosing students' strengths and weaknesses, and guiding instructional activities. Given the structural and functional differences between multi-grade and single-grade classrooms, identifying and comparing the assessment methods used in them can lead to a better understanding of educational needs and the design of effective strategies to improve learning quality. Recent studies show that in multi-grade

classrooms, the use of descriptive, performance-based, portfolio, and self-assessment methods is more effective than traditional score-based methods, promoting greater student participation in the learning process (Shokouhi, 2020).

In modern educational theories, assessment is broadly categorized into two main types: formative (process-oriented) assessment and summative (final) assessment. Formative assessment aims to improve learning throughout the instructional process, while summative assessment is used to evaluate students' final performance (Alagheband, 2020). In single-grade classrooms, due to the homogeneity of students' academic levels, the use of traditional assessment methods such as written, oral, and score-based tests is more common. These methods align better with educational standards and allow for the comparison and ranking of students. However, in multi-grade classrooms, where the teacher deals with students from different grades and with varying educational objectives, traditional assessment lacks the necessary efficacy. In such situations, the use of flexible methods like descriptive assessment, portfolios, self-assessment, performance-based assessment, and project-based assessment is recommended (Bigdeli, 2017).

Furthermore, constructivist and active learning theories emphasize the importance of student participation in the assessment process. From these perspectives, assessment should be designed to enable students to engage in recognizing their own strengths and weaknesses and to refine their learning path through effective feedback. This approach is particularly significant in multi-grade classrooms, which require flexible management and attention to individual differences (Mortazavizadeh, 2017). Conversely, research on managing multi-grade classrooms indicates that teachers in these settings face limitations in time, human resources, and the diversity of subject content, which makes effective assessment challenging (Jenabi Namin et al., 2019). Therefore, designing assessment models tailored to the structure of multi-grade classrooms can contribute to improving educational quality, increasing student participation, and achieving educational equity.

In recent years, numerous studies have investigated the challenges, deficiencies, and solutions for assessment in both multi-grade and single-grade classrooms. One of the most significant studies in this area is by Vafaeyi Far, Ghaderi, & Maleki Avarsin (2022), which examined the dimensions and components of qualitative descriptive assessment in multi-grade classrooms. Their findings suggest that despite implementation challenges, descriptive assessment can play an effective role in enhancing learning. This research underscores the importance of designing tools appropriate for

the age and level differences of students. In a similar vein, Khamisabadi, Javadipour, Salehi, & Abtahi (2025), using a grounded theory approach, identified curriculum implementation deficiencies in multi-grade classrooms. They extracted six categories of deficiencies: objectives, teaching methods, students, content, time and place, and assessment, highlighting the complexity of educational management in these classrooms. These findings emphasize the need for revising educational policies and designing support programs for teachers. Regarding the design of assessment models, Goudarzi & Ahmadi (2025) proposed a model for assessing academic progress in multi-grade classrooms, specifically designed based on the unique characteristics of these settings, with its validity confirmed through qualitative methods. This model can serve as a practical guide for teachers in continuous and individualized assessment. At the policy and educational planning level, Mohammadi & Rezaei (2025) presented a conference paper on evaluating the curriculum for empowering multi-grade teachers. This research, utilizing semi-structured interviews with curriculum experts, aimed to design a program for enhancing teachers' assessment competencies.

Furthermore, Karimi & Mousavi (2023) addressed the assessment and evaluation of multi-grade primary schools in another article, presenting suggestions for improving the assessment process by examining the actual conditions of these schools. This article emphasizes the importance of considering environmental conditions, human resources, and instructional tools in the assessment of multi-grade classrooms. Recent studies have shown that assessment in multi-grade classrooms, due to age diversity, level differences, and their specific educational structure, requires approaches different from those used in single-grade classrooms. Vafaeyi Far, Ghaderi, & Maleki Avarsin (2022), in a qualitative study, explored the dimensions and components of qualitative descriptive assessment in multi-grade classrooms, stressing the necessity of designing assessment tools tailored to the characteristics of these classes. In a similar vein, Khamisabadi, Javadipour, Salehi, & Abtahi (2025), using grounded theory, identified curriculum implementation deficiencies in multi-grade classrooms, including challenges related to objectives, teaching methods, assessment, content, and the learning environment. Goudarzi & Ahmadi (2025) also presented a validated model for assessing academic progress in multi-grade classrooms using qualitative methods. Mohammadi & Rezaei (2025), in a conference research, focused on evaluating the curriculum for

empowering multi-grade teachers, emphasizing the role of specialized teacher training in improving the assessment process.

A review of the literature on academic assessment and the management of multi-grade classrooms indicates a growing research interest in the educational challenges of deprived and rural areas in recent years. Jenabi Namin et al. (2019), in their study titled "Management of Multi-Grade Classrooms: Deficiencies and Solutions," also highlighted assessment challenges in these classrooms and stressed the need for empowering teachers in designing assessments appropriate for multi-grade contexts. In contrast, Alagheband (2020), in his book "Sociology of Education," discusses the structure of single-grade classrooms, defining their assessment as based on educational standards and score-based tests. Assessment contributes to achieving educational equity and reducing the learning gap in underserved regions.

The examination of these studies reveals that although research on assessment in multi-grade classrooms exists, comparative studies that directly compare assessment methods in multi-grade and single-grade classrooms are very limited. This research gap underscores the necessity of conducting a comprehensive, comparative study to accurately identify and analyze assessment methods in these two types of educational settings.

The research questions are as follows:

1. What are the assessment methods in single-grade classrooms?
2. What are the assessment methods in multi-grade classrooms?
3. What is a comparative analysis of assessment methods in single-grade and multi-grade classrooms?
4. What are the similarities and differences between assessment methods in single-grade and multi-grade classrooms?

Material and Methods

The present research adopted a qualitative approach using a comparative-descriptive method to identify and compare assessment methods in multi-grade and single-grade classrooms. The required data were collected through library documentation, scientific articles, and teachers' field experiences. For data analysis, the Bordy model was employed, which includes four stages: Description, Interpretation, Juxtaposition (or Proximity), and Comparison.

Description Phase: Common assessment methods in both types of classrooms were gathered and recorded.

Interpretation Phase: The strengths and weaknesses of these methods were examined.

Juxtaposition Phase: Information was categorized and placed side-by-side to establish a framework for comparison.

Comparison Phase: Similarities and differences were analyzed.

Findings indicated that in single-grade classrooms, due to the homogeneity of students' academic levels, traditional assessment methods such as written tests, oral tests, and score-based evaluation are most commonly used. In contrast, multi-grade classrooms, given the diversity of instructional objectives and differences in student learning levels, require the use of flexible and process-oriented methods such as descriptive evaluation, performance-based assessment, portfolios, self-assessment, and direct observation.

Results suggest that focusing on diverse and participatory methods in multi-grade classrooms can lead to increased motivation, strengthened academic self-awareness, and improved learning quality. Conversely, the emphasis on final results and grading in single-grade classrooms sometimes results in neglecting individual differences among students. Ethical considerations were maintained throughout all stages of data collection, analysis, and reporting.

Results

Stage One: Description

Question 1: What are the assessment methods in single-grade classrooms?

In single-grade classrooms, due to the homogeneity of students' academic levels, assessment is primarily based on traditional and score-based methods. Written tests, oral tests, class assignments, and final exams are among the most important assessment techniques in these classes. The main focus is on the final learning outcomes, and individual differences among students receive less attention. Because students have homogeneous academic levels, these methods are simpler to implement but have limitations in addressing individual differences.

Table 1. Assessment Methods in Single-Grade Classrooms

Factor	Description
Class Structure	Students are of the same level and grade.
Common Assessment Methods	Written tests, oral tests, class assignments, final exams.
Main Feature	Focus on final results and grading (Score-based).
Advantages	Ease of implementation, quantitative comparison of results, speed in measurement.
Challenges	Neglecting individual differences, limitation in assessing process skills.

As observed, assessment in single-grade classrooms is mostly concentrated on quantitative and score-based results. This increases the speed and ease of measurement but, conversely, reduces the ability to identify individual student differences.

Question 2: What are the assessment methods in multi-grade classrooms?

In multi-grade classrooms, one teacher is responsible for simultaneously instructing several academic levels. Therefore, assessment requires flexibility and attention to the learning process. Methods such as descriptive evaluation, performance-based assessment, portfolios, self-assessment, and direct observation are more frequently used. In addition to measuring learning, these techniques lead to increased student participation and enhanced academic self-awareness. Since one teacher is responsible for multiple levels, this complex structure necessitates flexible and process-oriented assessment methods to cover the diversity of instructional objectives and student learning levels.

Table 2. Assessment Methods in Multi-Grade Classrooms

Factor	Description
Class Structure	One teacher is responsible for simultaneously instructing multiple academic levels.
Common Assessment Methods	Descriptive evaluation, performance-based, portfolio, self-assessment, direct observation.
Main Feature	Focus on the learning process and flexibility.
Advantages	Increased student participation, enhanced academic self-awareness, covering individual differences.
Challenges	Requires more time, difficulty in managing the diversity of instructional objectives.

The results show that assessment in multi-grade classrooms is more focused on the learning process and active student participation. While these methods enhance the quality of education, their implementation requires more time and management.

Stage Two: Interpretation

The collected data indicate that assessment in single-grade classrooms focuses primarily on final outcomes and quantitative measurement, whereas in multi-grade classrooms, due to complexity and diversity of educational goals, process-oriented and qualitative assessment holds greater

importance. This difference stems from the educational structure and learning conditions in each class type.

Stage Three: Juxtaposition

By placing the data side-by-side, assessment methods in the two class types can be broadly categorized into two groups:

Traditional and Score-Based Methods (Specific to single-grade classrooms)

Flexible and Process-Oriented Methods (Specific to multi-grade classrooms)

This classification provides a framework for comparing similarities and differences. To clarify these aspects further, the data for single-grade and multi-grade classrooms are placed together in a comparative table.

Table 3. Comparative Analysis of Assessment Methods in Single-Grade and Multi-Grade Classrooms

Factor	Single-Grade Classroom	Multi-Grade Classroom
Assessment Type	Traditional and score-based	Process-oriented and flexible
Main Focus	Final learning outcomes	Learning path and quality
Tools	Written tests, oral tests, final exams	Portfolios, direct observation, self-assessment
Advantages	Speed and ease of measurement	Active participation and attention to individual differences
Challenges	Neglecting individual differences	Time management and diversity of instructional objectives

This comparison shows that each class type requires a specific approach to assessment. Traditional methods are more efficient in single-grade classrooms, but process-oriented and participatory methods are more effective in multi-grade classrooms. Therefore, the choice of assessment method must be appropriate for the class structure and educational objectives.

Stage Four: Comparison

Similarities: Both types of classrooms require tools to measure the achievement of learning objectives, and in both, assessment plays a guiding role in the teaching process.

Differences: In single-grade classrooms, the focus is on final results and grading, whereas in multi-grade classrooms, descriptive and participatory methods are employed to cover the diversity of learning levels and time constraints.

Table 4. Similarities and Differences in Assessment Methods in Single-Grade and Multi-Grade Classrooms

Factor	Single-Grade Classrooms	Multi-Grade Classrooms	Similarities
Assessment Type	Traditional and score-based	Process-oriented and flexible	Both are designed to measure the achievement of learning objectives.
Main Focus	Final learning outcomes	Learning path and quality	Assessment plays a guiding role in the process of education in both.
Tools	Written tests, oral tests, class assignments, final exams	Descriptive evaluation, performance-based, portfolio, self-assessment, direct observation	Both utilize educational tools to assess learning.
Advantages	Ease of implementation, speed in measurement, quantitative comparability	Increased student participation, attention to individual differences, enhanced academic self-awareness	Both contribute to improving the quality of education.
Challenges	Neglecting individual differences, limitation in assessing process skills	Requires more time, difficulty in managing diverse instructional objectives	Both face implementation limitations.

This comparative analysis demonstrates that the selection of the assessment method must be appropriate for the class structure; traditional methods are more efficient in single-grade classrooms, but utilizing process-oriented and flexible approaches in multi-grade classrooms can significantly enhance learning quality and student participation.

Discussion

The present study aimed to conduct a comparative analysis to identify assessment methods in multi-grade and single-grade classrooms. The research findings revealed that assessment methods in single-grade and multi-grade classrooms, despite sharing the common goal of measuring the achievement of learning objectives, have fundamental differences in execution style and focus.

In single-grade classrooms, the homogeneity of students' academic levels has led to assessment being primarily based on traditional and score-based methods such as written tests, oral tests, and class assignments. While this approach provides ease and speed in measurement, it often ignores individual student differences and emphasizes final results.

Question 1: Assessment Methods in Single-Grade Classrooms

As indicated in Table 1, assessment in single-grade classrooms is mainly based on traditional, score-based methods like written tests, oral tests, and final exams. The primary focus of these methods is on measuring final outcomes and the quantitative comparability of student performance within a single curriculum framework. This approach aligns perfectly with the traditional view in educational assessment, where standardized tests are used as the primary tool for judging learning

and teaching effectiveness (Shokouhi, 2020; Alagheband, 2020). The main advantage of these methods is the ease of implementation, speed in measurement, and clear possibility of ranking. However, its major weakness—ignoring individual differences and limiting the assessment of process skills—is directly inconsistent with the criticisms raised in the literature review. Modern educational studies assert that a sole focus on scores can reduce intrinsic motivation for learning and present an incomplete picture of a student's holistic development.

Question 2: Assessment Methods in Multi-Grade Classrooms

Based on Table 2, the complex structure of multi-grade classrooms necessitates that the teacher employs flexible, qualitative, and process-oriented methods. Techniques such as descriptive evaluation, portfolios, self-assessment, and direct observation are the primary tools used in this environment. This approach is strongly consistent with the theoretical foundations of constructivism and active learning theories mentioned in the literature (Mortazavizadeh, 2017). These theories emphasize active student participation in the assessment process, the provision of constructive and qualitative feedback, and attention to individual growth along the learning path. Studies such as that by Vafaeyi Far et al. (2022) also confirm the efficiency of descriptive assessment in such environments. However, the operational challenges of these methods—including the need for significantly more time and difficulty in simultaneously managing diverse curricular objectives—are entirely consistent with the findings of research like Khamisabadi et al. (2025), which emphasize the deficiencies stemming from a lack of time and teacher workload in multi-grade classrooms.

Question 3: Comparative Analysis of Assessment Methods

The comparative analysis, clearly displayed in Table 3, shows that the choice of assessment method is a direct function of the class structure and the prevailing educational philosophy. On one end of this spectrum, single-grade classrooms are positioned as quantitative, uniform, and result-oriented, allowing for standardized and nationwide comparative assessment. On the other end, multi-grade classrooms are centered on qualitative, flexible, and process-oriented measurement, aiming to cover the diversity of learning needs and foster social and self-management skills. This dual contrast largely aligns with the classic division between traditional and modern assessment in the literature. However, findings from recent research, such as Goudarzi & Ahmadi (2025), suggest that this strict boundary is blurring in practice. By designing practical

models, they have shown that even in complex environments like the multi-grade classroom, it is possible to integrate elements of valid assessment (reliability) and process assessment (attention to growth) through intelligent design.

Question 4: Similarities and Differences

The main similarity in both environments, emphasized in Table 4, is that assessment ultimately serves to measure the achievement of learning objectives and to guide and improve the educational process (Shokouhi, 2020). Both approaches grapple with implementation constraints and aim for educational quality improvement. Key differences are summarized across several dimensions:

Type and Focus: Single-grades are result-oriented and quantitative, while multi-grades are process-oriented and qualitative.

Tools: The dominant tools in single-grades are standardized written and oral tests, while in multi-grades, qualitative tools such as portfolios, observation, and self-assessment are used.

Structural Challenges: The main challenge in single-grade classrooms is the unintentional neglect of individual differences under the guise of standardization. In contrast, the primary challenge in multi-grade classrooms is managing resources (especially time) and coordinating diverse curricular goals in a context where the teacher lacks adequate support and specialized training—an issue corroborated by research such as Mohammadi & Rezaei (2025).

In conclusion, the analysis of the literature and the findings of this report challenge the apparent duality between “traditional single-grade methods” and “modern multi-grade methods.” The future direction of educational assessment lies not in the exclusive choice of one of these two poles, but in moving toward “integrated and context-aware assessment models.” These models must be capable of combining the benefits of valid and standard measurement (such as clarity and comparability) with the benefits of qualitative and formative assessment (such as attention to individual differences and growth-focused feedback) through creative instructional design and technology. The success of such a transformation hinges primarily on three key actions: revising policies and curricula to create flexibility, designing localized operational resources and models (similar to Goudarzi & Ahmadi’s proposed model, 2025), and most importantly, making a serious investment in continuous professional training and support for teachers as the main agents of change in both classroom types.

Conversely, multi-grade classrooms, due to their complex structure and the presence of students at varying academic levels, require flexible and process-oriented assessment methods. The use of descriptive evaluation, performance-based assessment, portfolios, self-assessment, and direct observation in these classes not only enables more accurate measurement of learning but also increases student participation, strengthens academic self-awareness, and improves educational quality. Although implementing these methods requires more time and management, their results are highly effective in promoting sustainable learning and attending to individual differences.

Overall, the comparative analysis demonstrates that the choice of assessment method must be commensurate with the class structure and educational conditions. While traditional methods remain effective in single-grade classrooms, a combination with process-oriented methods can enhance educational quality. In multi-grade classrooms, the focus on participatory and descriptive methods is necessary to manage the challenges arising from diverse instructional goals and time constraints. The final conclusion is that educational policymakers and teachers must adopt an integrated and context-appropriate assessment approach by accurately recognizing the structural differences between these two class types—an approach that pays attention to both final results and the individual learning process and growth of students. Such a perspective can lead to improved educational quality and better achievement of learning objectives within the education system. The research findings demonstrated that assessment in single-grade and multi-grade classrooms, despite the shared goal of measuring learning objective attainment, has fundamental differences in execution. In single-grade classrooms, the homogeneity of student levels has resulted in the prevalence of traditional and score-based methods like written and oral tests. Although this approach offers speed and ease of measurement, it often ignores individual differences. In contrast, multi-grade classrooms, due to their complex structure and the presence of students at different levels, require flexible and process-oriented assessment methods. The use of descriptive evaluation, performance-based assessment, portfolios, self-assessment, and direct observation in these classes increases student participation, strengthens academic self-awareness, and enhances educational quality.

Based on the research findings, it is suggested that educational policymakers in single-grade classrooms dedicate a portion of the measurement process to descriptive and qualitative methods, in addition to using traditional assessment methods. This action can help better identify individual

student differences and prevent an exclusive focus on grading. Furthermore, revising assessment regulations to allow for greater flexibility in teachers' choice of methods is essential. In multi-grade classrooms, teachers need specialized training and empowerment workshops to effectively implement process-oriented assessment methods such as portfolios, self-assessment, and direct observation. Institutional support for teachers in time management and designing diverse assessment tools can enhance learning quality. Moreover, the use of educational technology and digital tools can help mitigate time constraints and increase accuracy in assessment. Generally, it is recommended that the education system adopt an integrated approach to assessment—one that considers final results while also accounting for the individual learning process and growth of students. This perspective can lead to an improvement in educational quality in both types of classrooms and pave the way for developing more effective educational policies. Finally, creating more research opportunities to investigate the effectiveness of assessment methods in the real-life conditions of schools will aid in evidence-based and scientific decision-making.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by the ethics committee of Islamic Azad University. The patients/participants provided their written informed consent to participate in this study.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection, and analysis. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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