



Teachers' Understanding and Implementation of Authentic Assessment in the Integrated Curriculum for Grades 1 to 3: The Case of Nepal

Manoj Kumar Paudel *

Naruto University of Education, Naruto City, Tokushima Prefecture, 772-0051, Japan

Abstract

This study explores the implementation and understanding of authentic assessment within Nepal's integrated curriculum for grades 1-3, which emphasizes the development of soft skills alongside academic learning—utilizing a convergent mixed-methods design, including quantitative surveys of 280 teachers and qualitative interviews with eight teachers, conducted in December 2023. The findings identify significant gaps between the theoretical principles of authentic assessment and its practical application. While approximately two-thirds of teachers report familiarity with authentic assessment, many continue to rely on traditional methods such as rote memorization and paper-pencil tests. Key challenges include resource constraints, inadequate professional development, and time limitations. The findings underscore the need for enhanced teacher training, clear policy guidelines, and improved resources to better align assessment practices with the goals of the integrated curriculum, thereby fostering a more holistic educational experience that effectively nurtures academic competencies and soft skills in early-grade learners.

Keywords: authentic assessment, integrated curriculum, soft skills, early grade education, Nepal

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* **Corresponding author:** Manoj Kumar Paudel: paudelmanoj30@gmail.com

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Introduction

In education, three interconnected pillars guide the learning process: curriculum, teaching-learning, and assessment. The curriculum defines educational goals, teachers facilitate the learning process to achieve these goals, and assessment measures the outcomes of this learning (Syaifuddin, 2020)

Assessment is essential in education, as it evaluates student learning, informs instructional adjustments, and provides feedback to support improvement. It takes various forms, each serving distinct functions: summative assessment measures students' cumulative knowledge at specific points, such as the end of a term, while formative assessment is conducted continuously to offer feedback and guide learning adjustments. As an alternative to traditional methods, authentic assessment provides a holistic view of students' growth by using real-life tasks that allow students to demonstrate and apply their skills in meaningful contexts.

Traditionally, assessment focused primarily on measuring knowledge at a single point, often through standardized tests or exams, known as 'assessment of learning.' However, contemporary approaches have evolved to embrace a broader perspective, known as assessment for learning, which emphasizes ongoing monitoring of students' progress and understanding. Unlike traditional assessments that rely on one-time tests, authentic assessments capture a fuller view of students' development by documenting their knowledge, understanding, and skills over time (Fischer *et al.*, 2024). Through diverse and contextualized tasks, these assessments accurately reflect students' abilities and support long-term learning outcomes.

Authentic assessment, in particular, emphasizes assessing students based on how they apply knowledge and skills in real-world contexts rather than merely testing memorized content. According to (Gulikers, Bastiaens and Kirschner, 2004), authentic assessment tasks are designed to simulate real-life scenarios that require students to engage in complex thinking, problem-solving, and the integration of various skills. The essence of authentic assessment lies in its ability to provide a more comprehensive and accurate picture of a student's abilities by assessing what they know and how they apply this knowledge in practical situations.

Authentic assessment is especially important for early-grade learners because it aligns with their developmental needs. The integrated curriculum for grades 1-3, which cohesively connects different subjects, benefits significantly from assessment methods reflecting knowledge's interconnected nature (Curriculum Development Centre, 2019). As Wiggins (1998) observed, authentic assessment encourages students to demonstrate their learning meaningfully, which is crucial for fostering deeper understanding and long-term retention (Gulikers, Bastiaens and Kirschner, 2006).

Assessment within a curriculum is a continuous process of gathering information about students learning. An integrated curriculum enables holistic learning by eliminating rigid subject boundaries

fostering lifelong education. Students relate their learning experiences to real-life contexts, promoting deeper engagement and understanding (Siahaan, 2020). The integrated curriculum for grades 1-3 adopts a multidisciplinary approach, closely aligned with STEAM principles, integrating various subjects to nurture creativity, critical thinking, and problem-solving skills (Koirala and Neupane, 2023). This curriculum incorporates 19 themes across four disciplines- Mathematics, English, Nepali, and Our surrounding subjects aiming to establish interrelationships to achieve soft skills (CDC, 2019).

Nepal's education system has traditionally been dominated by subject-centered curricula at the basic level, as noted by (Gyawali, 2021). This approach, characterized by rote memorization and examination-centric learning, hinders students' creativity, critical thinking, and individuality, leading to intellectual stagnation. In contrast, an integrated curriculum combines multiple subjects into thematic units, encouraging students to connect across disciplines and apply their knowledge to real-world contexts. This approach promotes holistic learning, fostering essential problem-solving, creativity, and collaboration skills. This study is motivated by concerns over the disconnect between the goals of Nepal's integrated curriculum and the assessment practices currently employed in classrooms. Despite adopting an integrated curriculum, many teachers continue to rely on traditional forms of assessment that do not fully capture the richness and diversity of student learning. Such outdated assessment methods risk undermining the curriculum's potential to develop critical thinking, creativity, and problem-solving skills among young learners.

My interest in this topic stems from my experiences as an educator in Nepal, where I observed firsthand the challenges teachers face in implementing authentic assessment. These challenges include inadequate resources, insufficient professional development, and unfamiliarity with authentic assessment principles. Motivated by these observations, this study aims to investigate the current state of authentic assessment practices within the integrated curriculum for grades 1-3 in Nepal. The following questions guide the research:

1. How do teachers understand the concept of authentic assessment?
2. How do teachers implement authentic assessment in the mathematics classroom?

Methodology

Research design

This study employed a convergent mixed-methods design, integrating both quantitative and qualitative data collection and analysis. The research utilized a triangulation approach, wherein quantitative and qualitative data were collected simultaneously to comprehensively understand authentic assessment practices in grade 1-3 mathematics classrooms in Nepal. Grades 1-3 were chosen as the focus because these early years are foundational for students' cognitive and skill development, making them an ideal stage for implementing and observing the impact of authentic assessment. Furthermore, since the launch of Nepal's new integrated curriculum, no studies have yet examined how authentic assessment is applied in these early grades. This gap highlights the need for research to understand better the alignment between assessment practices and the curriculum's goals. Grounded in pragmatism, this approach values numerical insights and qualitative narratives to capture teachers' perspectives (Johnson & Onwuebuze, 2006).

Quantitative data was gathered through a Google survey, following the post-positivist paradigm, from 280 teachers in Koshi and Bagmati provinces, collected in December 2023. The sample of 280 teachers for the quantitative survey was selected using stratified random sampling to ensure a representative distribution across urban and rural settings. This data provided a quantifiable measure of teachers' attitudes, perceptions, and practices regarding authentic assessment. Complementing this, qualitative insights were obtained through semi-structured purposive interviews with eight teachers, guided by a constructivist approach that values individual experiences and interpretations (Creswell, 2018). The eight interview participants were chosen based on their experience with the integrated curriculum, ensuring diverse perspectives on the challenges and practices associated with authentic assessment and considering researcher feasibility. The study provided a holistic view of teachers' perspectives and practices regarding authentic assessment by converging these methods.

Data Collection Tools

The primary data collection tool was a structured survey questionnaire developed using Google Forms. The questionnaire was designed to address the research questions and included categories such as teachers' understanding and knowledge of authentic assessment, their implementation of assessment practices, and perceived challenges. To ensure content validity, the questionnaire was reviewed by three educational experts, who provided feedback on clarity, relevance, and alignment

with the study's objectives. A pilot test was conducted with 15 teachers, and necessary revisions were made based on their responses.

In addition to the survey, semi-structured interview guidelines were employed to gather deeper insights into teachers' experiences and perspectives. The interview guide covered key areas, including rapport building, contextualization, assessment concepts, implementation strategies, and specific challenges faced in authentic assessment. Ethical clearance was obtained from a few participant teachers, ensuring that participants were informed of the study's purpose, assured of confidentiality, and provided with the option to withdraw at any stage.

Analyzing of Data

Quantitative data analysis was conducted using SPSS 20, with descriptive statistics computed to assess awareness levels, conceptual understanding, assessment processes, and practical challenges. Descriptive statistics were chosen to highlight trends and frequencies within key categories, providing a clear snapshot of the data. For qualitative data, thematic analysis was performed manually, categorizing responses into themes that offer deeper contextual insights into teachers' perspectives. These themes were drawn from interview excerpts, complementing the quantitative findings and providing a comprehensive view of teachers' understanding and practices regarding authentic assessment.

3.1. Awareness Level of Authentic Assessment

To assess teachers' familiarity with authentic assessment, respondents were asked, "Have you heard about authentic assessment?" The responses from 280 teachers across two geographical regions (municipalities and rural municipalities) are presented in Table 1:

Table 1: Awareness Level of Authentic Assessments

Familiarity	Municipality	Rural Municipality	Total
Yes	109	78	187
%	67.7%	65.5%	66.8%
No	52	41	93
%	32.3%	34.5%	33.2%
Total	161	119	280
	100.0%	100.0%	100.0%

The data shows that approximately two-thirds (66.8%) of the teachers are familiar with the concepts of authentic assessment. The similarity between responses from municipalities and rural municipalities indicates a consistent level of awareness across different regions. However, a significant proportion (33.2%) of teachers remain unfamiliar with the concept, highlighting a gap in knowledge.

To further explore this, the responses from 100 teachers regarding examples of authentic assessment were analyzed and categorized into four levels: Unfamiliar, Basic, Moderate, and Proficient:

Unfamiliar (30%): These teachers either provided no examples or confused authentic assessment with traditional testing methods. For example, one teacher simply mentioned ‘exams and quizzes,’ showing a lack of understanding.

Basic (25%): Teachers in this category showed limited understanding, offering vague examples such as ‘projects’ without specifying how these align with authentic assessment. One teacher mentioned, ‘I sometimes give group projects,’ but did not elaborate on how these projects connect to real-life tasks.

Moderate (25%): Teachers correctly identified authentic assessment methods, such as portfolios or observational tasks, but lacked depth in their application. A teacher shared, ‘I assess students through ongoing observations and discussions,’ yet did not clarify how these methods mirror real-life contexts.

Proficient (20%): Teachers in this category provided detailed and meaningful examples of authentic assessment, aligning closely with its principles. One teacher described hands-on projects like constructing geometric shapes with materials such as bamboo sticks or zinc wire or activities like measuring garden areas to help students demonstrate their learning in a real-world context. One teacher shared:

Students engage in hands-on projects, like constructing geometric shapes using materials like bamboo sticks or zinc wire rope, measuring garden areas, or counting household items, to showcase their learning.

3.2 Implementation of Authentic Assessment in Geometry Concepts:

Table 2 presents the methods teachers reported using to assess students' understanding of geometric concepts, such as tracing shapes and measuring lengths:

Table 2: Utilization of Assessment Methods in Geometry Concepts

Authentic Assessment in Geometry Concept	N	Percent in cases
Paper pencil test	55	19.6%
Rote learning method	20	7.1%
Measuring tape to measure the length and width	105	37.5%
Pattern block to create various shapes and designs	199	71.1%

*Multiple responses allowed

Although a substantial proportion of teachers (71.1%) use practical tools like pattern blocks and 37.5% use measuring tapes for assessing students' geometry skills, Table 2 also shows that a portion of teachers still rely on traditional methods like paper-pencil tests (19.6%) and rote learning (7.1%). Despite these diverse approaches, only 66.8% of teachers recognize their assessment methods as authentic, as indicated by Table 1.

Qualitative data from interviews with eight teachers highlighted varied levels of implementation of authentic assessment. Three-fourths of the respondents exhibited superficial knowledge of authentic assessment, and their implementation was limited to oral or written tests designed around daily activities. One teacher shared:

Authentic assessments are often interpreted as oral or written tests or fill-in-the-blank quizzes reflecting daily life activities or involving solving problems related to daily life.

While these assessments were intended to reflect real-life contexts, they fall short of the deeper, more hands-on application that authentic assessment requires.

This shallow interpretation shows a disconnect between theory and practice. For instance, when assessing the learning outcome, "To trace the shapes of triangles, quadrilaterals, and circles," many

teachers relied on rote memorization or repetitive drills, mistakenly considering these as authentic assessments. One example shared was:

Students are given a worksheet or picture with shapes like triangles, quadrilaterals, and circles. They are instructed to label each shape with its respective name and characteristics based on rote memorization and written tests.

3.3 Practical Application and Process of Authentic Assessment

The responses highlight teachers’ familiarity with various components of the authentic assessment process. Table 3 presents data on teachers’ responses regarding four key steps in authentic assessment based on Muellers, (2005) framework:

Table 3: Process of Authentic Assessment

Process of authentic assessment	Yes	No
Standard/competency taken from the curriculum	274 (97.9%)	6 (2.1%)
Selection of authentic task	264 (94.3%)	16 (5.7%)
Identify the Criteria of the task	259 (92.5%)	21 (7.5%)
Creating a rubric	231 (82.5%)	49 (17.5%)

These components are foundational to authentic assessment. According to Mueller (2005):

Standard/Competency Taken from the Curriculum: This step ensures alignment with curriculum objectives and competencies.

Selection of Authentic Task: Teachers select tasks that mirror real-life applications, helping students demonstrate practical understanding.

Identifying the Criteria of the Task: Clear criteria guide students’ performance and clarify assessment expectations.

Creating a Rubric: Rubrics provide a structured way to assess students’ performance across various levels, promoting consistency in evaluation.

While most teachers demonstrate familiarity with curriculum alignment, task selection, and criteria identification, fewer incorporate rubrics, suggesting the need for further training in consistent and objective evaluation practices.

The interview data reveals that 75% of respondents hesitate to use rubrics due to time constraints, perceived complexity, pressure, and lack of peer support. One teacher stated:

To be honest, I rarely use rubrics in my assessments. It's not that I don't understand their importance, but creating rubrics can be time-consuming, and I find it challenging to clearly articulate the criteria. Since my colleagues don't use rubrics, I don't feel pressured to incorporate them either. I rely on intuition and experience when evaluating students.

These findings reveal that despite good intentions and awareness, practical challenges hinder their full adoption of the authentic assessment process.

3.4. Challenges faced by the teachers

Quantitative and qualitative data were analyzed to identify the key challenges in implementing authentic assessment.

Table 4: Challenges in Implementing Authentic Assessment*

Challenges	N	Percent of cases
Lack of resources	202	72.1%
The abilities and characteristics of students differ	201	71.8%
Time limitation	161	57.5%
Difficulty in developing the rubric	141	50.4%
Parental understanding and support	138	49.3%
large number of students in a classroom	124	44.3%
Lack of competence	87	31.1%

*Multiple responses allowed

The qualitative insights further highlight the multifaceted nature of these challenges, including issues related to government policies, resource constraints, teacher competence and training, student-related issues, and parental involvement. These qualitative responses are categorized accordingly into six categories:

Table 5: Challenges Faced by Teacher

Categories	Sub-categories	Frequency
Government Policy and Administrative challenges	<ul style="list-style-type: none"> Unclear policy, frequent changes, emphasis on grades over holistic learning, Gap in policy and implementation. 	6
Resource Constraints	<ul style="list-style-type: none"> Insufficient teaching materials and technical support. Limited internet access, digital appliances, hindering digital tools. 	8
Training, upskilling, and Exposure	Lack of skills and resistance from older teachers towards new assessment techniques, as well as insufficient training opportunities.	8
Student-related Challenges	<ul style="list-style-type: none"> Varying student backgrounds, Language barriers Student's low or uneven participation. 	7
Parental Involvement and Support	Parental illiteracy; limited engagement in students' academic progress; limited ability to support academic activities.	8
School Environment and Operational Challenges	Maintaining student interest during assessments, Coordination issues, lack of monitoring, Lack of appropriate physical and technological infrastructures.	7

These qualitative insights underscore the multifaceted challenges teachers face, emphasizing the need for comprehensive support, including clear policies, adequate resources, targeted training, and effective communication with parents.

Discussion

The findings provide valuable insights into the understanding and implementing authentic assessment practices in grades 1-3 integrated curricula. Although 66.8% of teachers report familiarity with authentic assessment concepts (Table 1), there remains a significant conceptual understanding and application gap. As Mueller (2005) emphasizes, authentic assessment must closely align with real-world tasks to genuinely reflect students' competencies. However, the results suggest that many

teachers adopt practices that superficially align with authentic principles without fully grasping the core concepts, as shown by reliance on traditional methods (Table 2).

This inconsistency is supported by Frey et al.s (2012) framework, which emphasizes student-centered learning and active engagement in meaningful tasks as essential for authentic assessment. Although 71.1% of teachers use pattern blocks as a relevant tool for geometry tasks, only 66.8% recognize these activities as genuinely aligned with authentic assessment principles. This disconnect indicates that while some practices are implemented, they often lack a full understanding of the underlying educational philosophy, as highlighted by studies Syaifuddin (2020). These studies reveal that many teachers equate authentic assessment with merely using real-life examples without integrating the cognitive complexity required for true authentic tasks.

The practical challenges identified in this study further underscore this disconnect. Resource limitations, inadequate professional development, and time constraints (Tables 4 and 5) continue to hinder the effective implementation of authentic assessment, reflecting concerns raised by Frey (2012) and Gulikers et al. (2004). Notably, teachers' reluctance to use rubrics, an essential component in Mueller's framework due to perceived difficulty and lack of support, highlights the need for targeted interventions. This should include professional development programs, resource enhancement, and clear policy direction to support teachers in adopting authentic assessment.

Qualitative insights from this study confirm that even when teachers believe they are applying authentic assessments, they often revert to rote memorization or routine drills, indicating a significant misalignment between theory and practice. Enhancing teachers' pedagogical content knowledge and conceptual clarity is crucial for bridging this gap. Training on authentic assessment principles, coupled with a systemic shift towards holistic learning outcomes, is essential, as both Mueller (2005) and Frey et.al. (2012) argue.

In conclusion, while there is emerging awareness and partial implementation of authentic assessment practices in Nepal's early-grade classrooms, significant gaps remain in fully integrating these practices. Addressing these challenges requires a multifaceted strategy, encompassing policy support, targeted professional development, and the provision of essential resources tailored to the Nepalese context. Only through such comprehensive efforts can authentic assessment be fully realized, fostering the development of critical thinking, creativity, and problem-solving skills among young learners.

Conclusion

This study's findings highlight that while most teachers possess some awareness of authentic assessment, substantial gaps persist in their conceptual understanding and practical application. Despite introducing relevant tools and tasks within the integrated curriculum, many teachers' continue to rely on traditional assessment methods, revealing a significant misalignment between theoretical knowledge and practical implementation. This disconnect underscores the need for targeted interventions to bridge the gap between theory and practice. The challenges identified, ranging from resource limitations to inadequate professional development and time constraints, indicate that teachers are often unable to fully realize the potential of authentic assessment in fostering students' critical thinking, creativity, and problem-solving skills. Addressing these challenges is critical for aligning assessment practices with the goals of the integrated curriculum in Nepal.

Implications

Based on the study findings, several targeted implications emerge to promote the effective implementation of authentic assessment practices:

Clarifying Policies and Support: The findings indicated inconsistencies in teachers' understanding and application of authentic assessment, possibly due to policy communication and support gaps. To address this, policymakers should ensure that policies related to authentic assessment are clearly communicated to teachers' and school leaders. Consistent guidance from leadership will help align teachers' practices with the curriculum's expectations.

Focused Professional Development: The study revealed varying levels of teachers' familiarity with authentic assessment. Professional development programs should be designed to enhance teachers' conceptual understanding and practical skills in implementing authentic assessment methods. This includes training on selecting tasks, setting clear criteria, and utilizing rubrics to support accurate assessment. Providing ongoing support through refresher courses could further help teachers build confidence in these practices.

Provision of Adequate Resources and Infrastructure: Some teachers reported difficulties due to limited access to materials and digital tools, which can hinder effective assessment implementation. Addressing these resource constraints requires focused investments in educational resources, including access to teaching materials and technology to support diverse assessment methods.

Ensuring equitable distribution of resources will enable teachers in both urban and rural areas to implement authentic assessments more effectively.

Encouraging Collaborative Support at the School Level: Teachers highlighted challenges such as varying student engagement and better instructional support. Schools can play a pivotal role in fostering a collaborative culture where teachers can exchange ideas, receive feedback, and jointly tackle challenges in implementing authentic assessment. Providing structured opportunities for peer collaboration and shared planning time will enable teachers to refine their practices and build on each other's experiences.

In conclusion, by addressing these specific areas with an evidence-based approach, schools and policymakers can help close the gap between teachers' knowledge of authentic assessment and its practical application. Through sustained and well-supported efforts, authentic assessment practices can align with the integrated curriculum's goals and better prepare students for real-world challenges in Nepal's educational context.

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