

PAPER

APPLYING BLOOM’S TAXONOMY AS A FRAMEWORK FOR EVALUATING READING LITERACY IN PRIMARY SCHOOL STUDENTS: SCIENTIFIC AND PEDAGOGICAL PERSPECTIVES

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Abstract

This article examines the scientific and pedagogical foundations underpinning the application of Bloom’s Taxonomy as an evaluative tool for reading literacy among primary school learners. Drawing on an analysis of current literature and educational practice, the study explores the multidimensional nature of reading literacy, its constituent elements, and the limitations of conventional assessment approaches. The article argues that Bloom’s Taxonomy, with its hierarchically organized cognitive levels, provides a robust framework for systematically cultivating and measuring students’ thinking skills — from basic recall to higher-order reasoning. Special attention is given to the development of criteria and performance indicators aligned with each cognitive level, the design of cognitively differentiated tasks, and the integration of modern pedagogical methods and digital technologies in assessment practice.

Key words: reading literacy, primary education, Bloom’s Taxonomy, cognitive levels, assessment criteria, performance indicators, pedagogical methodology, educational quality, thinking skills, contemporary assessment systems.

The modernization of contemporary education systems has intensified the demand for pedagogical approaches that cultivate not only subject-specific knowledge but also independent reasoning, analytical thought, and creative problem-solving. Within this context, reading literacy has emerged

as a foundational competency — particularly at the primary school level — that underpins students’ success across all academic disciplines. At its core, reading literacy encompasses a learner’s capacity to decode text, derive meaning, critically interpret content, and draw well-reasoned conclusions

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(OECD, 2019). Traditional assessment methods have frequently fallen short in capturing the full breadth of students' cognitive engagement with text, tending to measure surface-level recall rather than deeper comprehension and evaluative thinking. This gap has prompted growing scholarly interest in evidence-based assessment frameworks capable of addressing higher-order cognitive skills. Among these, Bloom's Taxonomy stands out as one of the most influential and widely applied models in educational research and practice (Anderson Krathwohl, 2001).

Originally developed in the 1950s under the leadership of educational psychologist Benjamin Bloom, the Taxonomy classifies cognitive learning objectives into a hierarchical sequence of six levels: remembering, understanding, applying, analyzing, evaluating, and creating. Each ascending level demands greater cognitive complexity and builds upon the competencies established at lower levels (Bloom, 1956). Applied to reading literacy assessment, this framework enables educators to design instructional tasks and evaluation criteria that reflect the full spectrum of students' cognitive development.

The present article aims to substantiate the scientific and methodological rationale for integrating Bloom's Taxonomy into the assessment of reading literacy at the primary school level, with particular focus on developing aligned criteria, designing cognitively differentiated tasks, and leveraging modern instructional technologies.

Reading literacy is widely recognized in contemporary pedagogy as a multidimensional construct that extends well beyond the technical ability to decode written symbols. Modern scholarship frames it as a complex of interrelated competencies encompassing accurate and fluent reading, semantic comprehension, interpretive engagement with content, and reflective response to text (Fisher & Frey, 2008). This broader conception reflects the understanding that literacy is not merely a tool for academic achievement, but a fundamental prerequisite for personal, social, and intellectual development.

At the primary school stage, children's cognitive architecture is characterized by a predominance of concrete, image-based thinking. Learners at this age acquire new knowledge most effectively

through tangible, relatable examples and narratively engaging content. Consequently, the selection of reading materials — including fairy tales, short stories, and descriptive texts — plays a critical role in both developing technical reading skills and nurturing imaginative thinking. The affective dimension of reading is also significant: intrinsic motivation, curiosity, and a positive orientation toward texts are key drivers of sustained literacy development (Woolfolk, 2016).

International large-scale assessments, notably PIRLS (Progress in International Reading Literacy Study) and PISA (Programme for International Student Assessment), operationalize reading literacy as a practical competency rather than a knowledge domain alone. These frameworks evaluate students' abilities to locate and retrieve information, integrate and interpret textual content, and reflect critically on its form and substance (OECD, 2019). This competence-based paradigm challenges national education systems to rethink assessment practices and align them more closely with real-world literacy demands.

Bloom's Taxonomy was conceived as a scientific response to the vagueness and subjectivity that characterized educational goal-setting in mid-twentieth-century pedagogy. The model introduced a structured, measurable language for articulating instructional objectives and evaluating learner outcomes. Grounded in cognitive psychology and constructivist learning theory, it posits that knowledge acquisition is an incremental process, progressing from simpler to more complex forms of cognitive engagement (Krathwohl, 2002).

The Taxonomy encompasses three domains — cognitive, affective, and psychomotor — of which the cognitive domain has achieved the broadest application in classroom practice. The revised edition by Anderson and Krathwohl (2001) refined the original framework, replacing static noun-based categories with action-oriented verbs and repositioning "creating" as the apex of the hierarchy. The six cognitive levels are:

- Remembering: Retrieving factual information from memory (e.g., identifying main characters, recalling events).
- Understanding: Explaining ideas or concepts in one's own words, demonstrating comprehension of meaning.

- Applying: Using acquired knowledge in new or practical contexts, such as connecting text themes to everyday situations.

- Analyzing: Breaking information into component parts, identifying relationships, and distinguishing main ideas from supporting details.

- Evaluating: Making judgments about the value or credibility of information based on established criteria.

- Creating: Synthesizing information to generate new ideas, products, or interpretations — for example, composing an alternative story ending or constructing an argument.

This hierarchical architecture allows educators to design instructional sequences and assessment tasks that progressively challenge learners' cognitive capacities, ensuring a balanced development of both lower-order and higher-order thinking skills.

The application of Bloom's Taxonomy to reading literacy assessment addresses a longstanding limitation of conventional evaluation practices — namely, their overreliance on reproductive knowledge and failure to capture analytical and creative thinking. When assessment tasks are designed in alignment with the Taxonomy's cognitive levels, they provide a more comprehensive and valid picture of learners' literacy development (Solso, 2001).

For primary school students, it is methodologically advisable to begin with lower-order tasks before gradually introducing higher-order challenges. This scaffolded approach respects learners' developmental trajectories and ensures that foundational comprehension skills are securely established before more demanding cognitive operations are expected. The teacher's role in this process is not merely instructional but also facilitative and motivational — guiding students through increasingly complex engagements with text while attending to individual differences in readiness and pace.

Assessment criteria grounded in Bloom's Taxonomy must be explicit, measurable, and developmental in character. Each criterion should be accompanied by concrete performance indicators that specify observable evidence of competency at each cognitive level. For instance, at the “remembering” level, a student should be able

to locate specific information within a text; at the “analysis” level, the student should be able to compare textual segments and articulate logical relationships between them.

Key methodological principles for developing such criteria include clarity, consistency, objectivity, and systemic coherence.

Qualitative indicators — such as the quality of reasoning demonstrated in open-ended responses — should complement quantitative measures, thereby enabling a richer assessment of students' cognitive engagement with text.

Effective task design is central to the successful integration of Bloom's Taxonomy into reading literacy assessment. Tasks should be organized across cognitive levels to ensure progressive challenge:

- Lower-order tasks (remembering, understanding): Locating specific facts within a text; retelling content in one's own words; answering comprehension questions.

- Mid-level tasks (applying): Explaining how a character's actions relate to a familiar real-life situation; applying a text-based concept to a new context.

- Higher-order tasks (analyzing, evaluating, creating): Comparing characters' perspectives; evaluating the author's choices; composing a continuation or an alternative ending to the text.

Diversifying assessment formats is equally important. Effective instruments include closed-format tests, open-ended questions, creative writing tasks, concept mapping (clustering), and text extension exercises. Each instrument should be accompanied by transparent scoring criteria. Differentiated task design — accommodating the full range of learners' abilities and learning profiles — further ensures equitable and meaningful assessment (Fisher & Frey, 2008).

Contemporary educational technologies significantly enhance the efficiency and reach of literacy assessment. Digital platforms, interactive applications, multimedia texts, and electronic testing tools not only increase student engagement but also enable more timely and nuanced feedback. The integration of both formative and summative assessment modes — informed by students' self-reflection on their learning progress — creates a comprehensive and responsive evaluation

environment.

The formative dimension of assessment is particularly valuable in primary education, as it enables teachers to monitor learning in real time and adjust instructional strategies accordingly. Summative assessments, when designed through the lens of Bloom's Taxonomy, can capture the full arc of students' cognitive development across the course of a unit or academic period.

This article has argued that Bloom's Taxonomy constitutes a scientifically grounded and pedagogically effective framework for the assessment of reading literacy in primary education. By structuring assessment criteria and instructional tasks in alignment with the six cognitive levels of the Taxonomy, educators can move beyond surface-level evaluation toward a more holistic understanding of students' literacy competencies.

The systematic application of this framework supports the progressive development of thinking skills — from basic recall to creative synthesis — and ensures that assessment is both rigorous and developmentally appropriate. When complemented by modern instructional technologies, differentiated task design, and reflective learning practices, Bloom's Taxonomy-informed assessment offers a powerful means of enhancing the quality of primary literacy education.

Future research might productively explore the longitudinal effects of Bloom's Taxonomy-based assessment on students' reading trajectories, as well as the specific adaptations required to implement this framework effectively across diverse educational contexts and cultural settings.

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