



## PSYCHOLOGICAL AND PEDAGOGICAL CHARACTERISTICS OF THE FORMATION OF READING LITERACY AMONG LOWER SECONDARY SCHOOL STUDENTS

Karimberdiyev Kodir Komilovich

Chief Specialist of the Department for Assessment and Analysis of  
Students' Learning Outcomes and Apostille Services, Ministry of  
Preschool and School Education of the Republic of Uzbekistan  
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### Abstract

Reading literacy is a core educational competence that underpins academic achievement, social participation, and lifelong learning. In the context of Uzbekistan, where ongoing educational reforms emphasize competency-based standards and alignment with international assessment frameworks such as PISA, the development of reading literacy at the lower secondary level has become a strategic priority. At this stage, the formation of reading literacy becomes increasingly complex due to significant psychological, cognitive, and motivational changes experienced by students. This article provides a comprehensive theoretical analysis of the psychological and pedagogical characteristics that shape the development of reading literacy among lower secondary school students in Uzbekistan. Drawing on cognitive-developmental theory, sociocultural perspectives, and contemporary literacy research, the paper examines key psychological factors—including cognitive processing, metacognition, motivation, and socio-emotional development—as well as pedagogical conditions such as instructional design, teacher mediation, learning environments, and assessment practices within the national educational framework.

**Keywords:** reading literacy, lower secondary education, psychological characteristics, pedagogical conditions, metacognition, motivation

Uzbekistan's participation in the Programme for International Student Assessment (PISA) represents a significant step in the country's efforts to modernize its education system and align it with international quality standards. Uzbekistan first took part in PISA 2022, demonstrating a strategic commitment to evidence-based education reform and international benchmarking. Participation in Programme for International Student Assessment has enabled Uzbekistan to obtain objective data on students' competencies in reading, mathematics, and science, with particular attention to reading literacy as a foundational skill for lifelong learning.

Reading literacy occupies a central position in contemporary educational theory and practice, as it functions not only as a foundational academic skill but also as a key competence enabling individuals to participate effectively in social, cultural, and economic life. In modern interpretations, reading literacy extends far beyond the mechanical decoding of written symbols and literal comprehension of texts. Instead, it is conceptualized as a complex, multidimensional construct involving cognitive, metacognitive, motivational, and sociocultural components (Snow, 2002; OECD, 2019).

According to the competency-based paradigm, reading literacy encompasses the ability to access, understand, interpret, evaluate, and use written information for various purposes. This perspective emphasizes the functional nature of reading literacy, highlighting its role in problem-solving, critical thinking, and lifelong learning (Alexander & Jetton, 2000). Such an

understanding aligns with international assessment frameworks, which conceptualize reading literacy as an applied competence rather than a narrowly defined academic skill.

At the lower secondary level, reading literacy assumes increased complexity due to the expansion of text types and communicative demands. Students are required to engage with narrative, informational, argumentative, and multimodal texts across subject areas. These texts often contain abstract concepts, discipline-specific vocabulary, and implicit meanings that require advanced comprehension strategies and inferential reasoning (Shanahan & Shanahan, 2008). Thus, reading literacy at this educational stage should be viewed as a dynamic process of meaning construction, in which readers actively interact with texts by integrating prior knowledge, applying strategic thinking, and evaluating information within specific contexts. This theoretical framing provides the foundation for examining the psychological and pedagogical characteristics that shape reading literacy formation among lower secondary school students.

Lower secondary school students, typically aged between 11 and 15, undergo significant psychological and cognitive transformations that directly influence their reading behavior and literacy development. From a developmental psychology perspective, this period corresponds to the transition from concrete operational thinking to formal operational thinking, characterized by the emergence of abstract reasoning, hypothetical thinking, and metacognitive awareness (Piaget, 1972). One of the most significant psychological characteristics at this stage is the development of higher-order cognitive processes. Students become increasingly capable of analyzing relationships between ideas, identifying implicit meanings, and evaluating arguments presented in texts. These cognitive advancements create favorable conditions for engaging with complex texts; however, they also increase the cognitive load placed on learners, particularly when instructional support is insufficient (Kintsch, 1998).

Metacognitive development represents another critical psychological characteristic of lower secondary students. Metacognition refers to learners' awareness of their own cognitive processes and their ability to regulate these processes intentionally (Flavell, 1979). In the context of reading, metacognition manifests in activities such as planning reading strategies, monitoring comprehension, and evaluating understanding after reading. Research consistently demonstrates that students with higher levels of metacognitive awareness achieve better reading outcomes, particularly in tasks requiring deep comprehension and critical evaluation (Zimmerman, 2002).

Motivational and affective factors also play a decisive role during this developmental stage. Adolescence is often accompanied by fluctuations in motivation, increased sensitivity to peer evaluation, and changes in self-concept (Eccles et al., 1993). Students' beliefs about their reading ability, interest in texts, and perceived relevance of reading tasks significantly influence their engagement and persistence. Low motivation can undermine even well-developed cognitive skills, leading to surface-level reading and avoidance of challenging texts (Guthrie et al., 2004). Therefore, the psychological profile of lower secondary school students suggests that reading literacy formation cannot be addressed solely through cognitive instruction. Instead, it requires pedagogical approaches that simultaneously support cognitive development, foster metacognitive regulation, and sustain motivation and emotional engagement with reading activities.



Pedagogical conditions play a mediating role in transforming students' psychological potential into actual reading literacy competence. Effective reading literacy formation depends on how learning environments are structured, how instruction is designed, and how teachers interact with students during the reading process. One of the key pedagogical characteristics of effective reading instruction is its learner-centered orientation. Research indicates that traditional teacher-centered approaches, which focus primarily on reproduction of textual information, are insufficient for developing higher-order reading skills (Duke & Pearson, 2002). Instead, instructional practices should engage students in active meaning-making processes, such as discussion, interpretation, comparison of perspectives, and justification of opinions using textual evidence.

Teacher mediation is particularly important in lower secondary education. Drawing on sociocultural theory, learning is understood as a socially mediated process in which teachers scaffold students' interaction with texts through modeling, questioning, and guided practice (Vygotsky, 1978). Effective teachers explicitly demonstrate reading strategies, encourage strategic reflection, and gradually transfer responsibility for comprehension to students. Assessment practices constitute another essential pedagogical condition influencing reading literacy formation. Formative assessment, which focuses on providing feedback during the learning process, has been shown to significantly enhance students' understanding and self-regulation (Black & Wiliam, 1998). When assessment tasks require interpretation, evaluation, and application of information, they reinforce the functional and competency-based nature of reading literacy. Moreover, pedagogical alignment is crucial. Curriculum goals, instructional strategies, and assessment practices must be coherently aligned with contemporary definitions of reading literacy. Misalignment—such as teaching higher-order skills but assessing only factual recall—can hinder students' literacy development and reduce instructional effectiveness.

The formation of reading literacy among lower secondary school students requires a systematic and theoretically grounded approach that integrates psychological characteristics of learners with pedagogical conditions of instruction. Fragmented or isolated instructional practices—such as teaching reading strategies without addressing motivation, or assessing comprehension without supporting metacognitive development—have been shown to produce limited and short-term effects (Duke & Pearson, 2002; Guthrie et al., 2012).

A psychological-pedagogical model serves as an organizing framework that explains how reading literacy develops through the interaction of learner-related and instruction-related factors. From a systems perspective, reading literacy formation is not the result of a single instructional intervention, but rather the outcome of a structured educational process involving goals, content, methods, learning activities, assessment, and feedback mechanisms. Lower secondary education is a particularly appropriate context for model-based instruction, as students at this stage demonstrate increasing cognitive autonomy but still require structured pedagogical guidance. Therefore, the development of a comprehensive model allows for the alignment of psychological readiness, instructional design, and assessment practices in a coherent system.

The proposed model of reading literacy formation is grounded in three complementary theoretical perspectives:

- (1) cognitive-developmental theory,



- (2) sociocultural theory of learning, and
- (3) competency-based education.

From a cognitive-developmental perspective, reading literacy formation is linked to the progressive development of higher-order cognitive processes, including inference, abstraction, and evaluation (Piaget, 1972; Kintsch, 1998). These processes underpin students' ability to engage with complex texts and construct meaning beyond literal comprehension. Sociocultural theory emphasizes the role of social interaction, language, and mediation in learning (Vygotsky, 1978). Within this framework, reading is viewed as a socially situated activity, in which meaning is co-constructed through dialogue, questioning, and guided participation. Teacher mediation and peer interaction thus become central components of literacy development.

The competency-based approach frames reading literacy as a transferable and functional competence that can be applied across academic disciplines and real-life contexts (OECD, 2019). This perspective requires instructional practices and assessment tasks that simulate authentic reading situations and emphasize application, reflection, and evaluation. Together, these theoretical foundations inform the structure and functioning of the psychological-pedagogical model proposed in this chapter.

The model of reading literacy formation among lower secondary school students consists of five interrelated components:

1. target component,
2. content component,
3. procedural component,
4. psychological component, and
5. evaluative component.

**The target component** defines the overall goal and specific objectives of reading literacy formation. The primary goal is the development of students' ability to understand, interpret, evaluate, and apply information from written texts in academic and real-life contexts.

Specific objectives include:

- development of higher-order reading comprehension skills;
- formation of metacognitive reading strategies;
- enhancement of motivation and positive attitudes toward reading;
- ability to work with diverse text types and formats.

These objectives reflect contemporary definitions of reading literacy and provide direction for instructional and assessment practices.

**The content component** encompasses the selection and organization of texts, tasks, and learning materials used in instruction. At the lower secondary level, content must reflect increasing text complexity, disciplinary diversity, and cognitive demand. Texts included in the instructional process should vary in genre, structure, and purpose, including narrative, informational, argumentative, and multimodal texts. Such diversity supports the development of flexible reading strategies and prepares students for cross-curricular literacy demands (Shanahan & Shanahan, 2008).

In addition to textual content, the content component includes explicit instruction in reading strategies, such as predicting, questioning, summarizing, and evaluating textual credibility.

**The procedural component** refers to instructional methods, forms of interaction, and learning activities through which reading literacy is developed. This component emphasizes active, student-centered learning approaches that engage learners in meaningful interaction with texts.

Key procedural elements include:

- dialogic reading and discussion-based instruction;
- scaffolded strategy instruction;
- collaborative learning and peer interaction;
- gradual release of responsibility from teacher to student.

These methods promote deeper comprehension and support the transition from guided reading to independent literacy practices (Duke & Pearson, 2002).

**The psychological component** reflects learner-related factors that influence reading literacy formation, including cognitive processes, metacognitive regulation, motivation, and affective engagement.

This component emphasizes:

- support for cognitive processing through structured guidance;
- development of metacognitive awareness and self-regulation;
- enhancement of intrinsic motivation and reading self-efficacy;
- creation of a psychologically safe learning environment.

Addressing these psychological factors ensures that instructional practices are developmentally appropriate and responsive to students' needs (Eccles et al., 1993; Zimmerman, 2002).

**The evaluative component** includes assessment criteria, tools, and feedback mechanisms used to monitor and support reading literacy development. This component prioritizes formative assessment practices that provide actionable feedback and promote learner reflection.

Assessment tasks should measure not only comprehension outcomes, but also strategy use, interpretation, and application of information. Such alignment between instruction and assessment reinforces the functional nature of reading literacy (Black & Wiliam, 1998).

The effectiveness of the proposed psychological–pedagogical model depends on a set of pedagogical conditions that support its implementation in lower secondary education. **First**, teachers must possess a clear understanding of reading literacy as a multidimensional competence. Professional development should focus on strategy instruction, formative assessment, and student-centered pedagogies. **Second**, instructional coherence is essential. Curriculum goals, instructional activities, and assessment practices must be aligned with the model's objectives. Inconsistent or fragmented practices can undermine students' literacy development. **Third**, learning environments should encourage active participation, dialogue, and reflection. Such environments support motivation and engagement, which are critical during adolescence. **Finally**, instructional flexibility is required to accommodate individual differences in reading ability, motivation, and learning pace. Differentiated instruction and adaptive support mechanisms enhance inclusivity and effectiveness.

The successful implementation of the proposed psychological–pedagogical model in lower secondary education depends not only on its theoretical soundness but also on the quality of the pedagogical conditions that sustain it. When teachers possess a deep

understanding of reading literacy as a complex and multidimensional competence, align curriculum, instruction, and assessment coherently, foster supportive and dialogic learning environments, and apply differentiated and flexible instructional strategies, the model can function effectively in practice. Such a comprehensive approach ensures that reading literacy development becomes systematic, inclusive, and responsive to adolescents' cognitive and motivational characteristics, ultimately leading to improved academic outcomes and long-term educational success.

In conclusion, the formation of reading literacy among lower secondary school students in Uzbekistan requires an integrated psychological and pedagogical approach that considers learners' cognitive development, motivational factors, socio-cultural context, and language environment. At the 5–9 grade level, students transition from learning to read toward reading to learn, which demands higher-order thinking skills, interpretative abilities, and independent learning strategies. Therefore, instructional practices in Uzbekistan should move beyond reproductive methods toward competency-based, student-centered, and interactive approaches aligned with national curriculum reforms and international assessment frameworks such as PISA. Strengthening teachers' methodological preparedness, integrating formative assessment practices, and fostering a supportive reading culture in schools and families are essential conditions for sustainable progress. Systematic attention to psychological readiness, differentiated instruction, and the development of metacognitive skills will contribute to improving reading literacy outcomes and enhancing students' academic achievement and social adaptability within the ongoing modernization of Uzbekistan's education system.

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