Research Article

DEVELOPMENT OF TEACHERS' PROFESSIONAL COMPETENCE IN FORMING STUDENTS' FUNCTIONAL LITERACY

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ABSTRACT

The article examines the analysis of key competencies of functional literacy, types and content of functional literacy, and its main components. The research hypothesis is based on the assumption that the proposed competencies for multifaceted pedagogical activities will effectively influence the level of professional competence formation in teachers, aimed at developing functional literacy in schoolchildren.

KEYWORDS

literacy, competence, competencies, professional teacher competence, functional literacy.

INTRODUCTION

Global changes occurring in all spheres of life also manifest in education. This is primarily due to the acceleration of socio-cultural transformations. There is a noticeable mismatch between the development of education and the overall level of cultural and technical surroundings. The centuries-old system of transmitting experience and traditions has been disrupted. The time required to implement the latest scientific and technological achievements into practice is rapidly shrinking, and the skills acquired often become obsolete. An analysis of the modern educational situation in philosophical, socio-economic, and psychological-pedagogical

contexts substantiates the need to revise the content of functional literacy. Functional literacy is defined as "a level of knowledge and skills that increases with societal development and the growing needs of individuals, essential for full and effective participation in the economic, political, civic, social, and cultural life of their society and country, to contribute to their progress and for personal development" [1].

Literacy is a certain level of proficiency in reading and writing skills, i.e., the ability to work with printed words (in a more modern sense, it encompasses reading, writing, arithmetic, and document management skills). At the same time, the concepts of "minimal literacy" and "functional literacy" were introduced. The former refers to the ability to read and write simple messages, while the latter relates to the ability to use reading and writing skills in social interactions (e.g., opening a bank account, reading instructions for a purchased music center). In other words, functional literacy is the level of proficiency that enables an individual to engage effectively in social environments.

In today's dynamically developing society, the concept of "literacy" has significantly expanded. Alongside the traditional understanding of literacy as the ability to read, write, and perform arithmetic, the term "functional literacy" has gained prominence. It is relatively new, appearing in UNESCO documents in the late 1960s and later becoming a focus of researchers [2]. Until about the mid-1970s, the concept and research strategy were associated with professional activities, aimed at compensating for deficiencies in

knowledge and skills in this area. This approach was later deemed one-sided. Functional literacy began to be viewed more broadly, encompassing computer literacy, political literacy, economic literacy, etc. [3]. American researcher E. D. Hirsch introduced the concept of "cultural literacy," identifying 4,500 items, names, dates, and events that culturally literate Americans should know. The results of his research were published in 1988 [4].

The concept of "functional illiteracy" is used in various contexts: secondary illiteracy of individuals who previously possessed the relevant knowledge and skills but lost them due to lack of demand; underdevelopment of certain skills and applied knowledge due to deficiencies in school education; increasing social demands on the level of functional literacy as society evolves, resulting in people failing to meet new literacy standards; illiteracy in performing new functions in professional activities (e.g., economic, computer, legal illiteracy).

In a broad sense, functional literacy represents an integral quality of personality, which can be considered in various aspects. Invariant aspects include mathematical, reading, and scientific literacy. Other aspects, such as financial literacy, global competencies, and creative qualities of personality, become the focus of the pedagogical community as they gain relevance. According to P. R. Atutov's concept, functional literacy is viewed from two perspectives: "The first is related to equipping students with the necessary and sufficient volume of knowledge, skills, and competencies to ensure their readiness for future

activities with an adequate foundation for effective practical work over an extended period. The second is associated with fostering the motivation for continuous improvement of knowledge, skills, and personal qualities, enabling individuals to remain professional and responsive to rapidly changing informational and technological conditions" [5].

To assess functional literacy, students are offered tasks requiring solutions to problems that differ from traditional school assignments and are characteristic of real-life situations. These situations are usually new to students, related to personal life, work, leisure, or societal life. The tasks require students to apply existing knowledge and skills gained in various school subjects in a new context, develop approaches to problem-solving, and demonstrate flexibility in thinking. The central element of such tasks is the concept [6]. A key feature of this concept (from Latin conceptus — thought, idea) is a system of values and meanings describing an object. The concept defines the meanings, memories, impressions, and values it actualizes and unifies into a cohesive system [4, p.12].

Completing tasks aimed at developing and assessing functional literacy emphasizes the applicability and potential utility of acquired knowledge and skills, preparing students for future practical activities. Undoubtedly, designing such tasks poses a methodological challenge. Tasks for developing and assessing functional literacy often feature large volumes of text. The structure of such tasks includes the following components:

Task title reflecting the theme or plot, often in a figurative form.

Plot describing interconnected events, factors, and phenomena providing the task's context.

Task prompt orienting the student within the task's context and motivating completion.

Task formulation clearly indicating the required student actions to complete the task.

Evaluation criteria detailing expected responses and scoring.

The task plot describes a situation requiring resolution through problem-based questions or activities demonstrating the applicability of knowledge. The plot's content typically aligns with the needs and interests of a specific student group, building on cultural experiences while fostering creative engagement with new knowledge.

A problem situation represents a cognitive challenge characterized by a conflict between existing knowledge, skills, and attitudes and the presented requirements. Understanding different classifications of problem situations broadens the teacher's ability to formulate meaningful challenges for students. Problem situations can be classified by:

Novelty: discovering objectively new knowledge or methods, acquiring subjectively new knowledge for students, or identifying opportunities to apply known knowledge and methods in new contexts.

Level of difficulty: depending on the sharpness of the contradictions.

Description level: theoretical tasks focusing on general principles underlying actions or practical tasks seeking new ways to apply known knowledge in unconventional practical contexts.

Works by domestic researchers analyzed the foundational levels of competence used as a basis for test creation. The results of this analysis are summarized in Table 1.

Table 1.

Competence area	Competence Level		
	High	**Medium**	**Low**
Working with text: Information retrieval	Work with texts containing unreliable or conflicting information.	Combine multiple pieces of information from texts with unfamiliar content.	Find directly stated information in texts with familiar content.
Working with text: Interpretation	Demonstrate complete and detailed understanding of ambiguous and contradictory texts.	Interpret the meaning of the entire text and its parts.	Understand the main idea of the text and its parts.
Working with text: Evaluation and reasoning	Evaluate conflicting information and formulate hypotheses based on long and complex texts.	Assess information in a text with content beyond everyday experiences.	Use personal experience and additional knowledge to explain familiar content.
Mathematics	Identify a problem in a real-life situation solvable with mathematics and create a solution model.	Establish connections and integrate material from various areas of mathematics.	Recall facts and methods, perform calculations.

Scientific knowledge	Create explanatory and predictive models, evaluate alternative viewpoints.	Use scientific knowledge to explain and predict natural phenomena.	Provide examples and support already formulated conclusions

When describing the low level of competence, traditional pedagogical terms and definitions are used, such as providing an example, performing a calculation (in a standard problem), or finding information directly stated in a text with familiar content. In contrast, the description of a high level of competence employs key terms such as uncertainty, ambiguity, contradiction, insufficient reliability of information, the presence of alternative viewpoints, and others [7]. However, their repeated application in the development of training tasks helps students develop an algorithm for solving problem-based tasks encountered in real life and contributes to the development of functional literacy. Functional literacy is an essential condition for the successful adaptation of young people to their environment. In modern conditions, it serves as a guarantee of survival and an attribute of lifelong learning.

Functional literacy also reveals a social aspect: the ability of young people to apply practical knowledge and skills depends on the material standing of their families and their social status.

Thus, for effective pedagogical activities aimed at forming functional literacy in schoolchildren, a teacher must possess a system of competencies that enable multifaceted pedagogical work within the general education school.

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