World Bulletin of Social Sciences (WBSS)
Available Online at: https://www.scholarexpress.net
Vol. 54, January 2026
ISSN: 2749-361X

FEATURES OF RESEARCH SKILLS DEVELOPMENT IN STUDENTS

Ergasheva T. Malokhat
National Institute of Pedagogical Excellence named after A.Avloni, Head of the Department of Pedagogy and Psychology, Doctor of Pedagogical Sciences(DSc), Associate Professor.

Article history:
Received: 10th October 2025
Accepted: 8th November 2025

Abstract:
To orient students towards independent research work and to develop creative activity. Organization of students' research activities, activity over research work, analysis, conclusion, forecasting of the development of the process, conducting a creative study of the object by means of research methods, drawing up a general conclusion, and presentation. Stages of identifying gifted students, skills that hunters acquire in research activities.

Keywords: research activities, analysis, synthesis, conclusion, presentation, diagnostic stage, cognitive stage, and reflective stage.

INTRODUCTION. In the context of ongoing educational reforms in Uzbekistan, ensuring the holistic development of learners and preparing them as competent future specialists has become a priority of the pedagogical system. This objective places increased demands on teachers' professional activity, particularly in organizing, managing, and activating students' learning and cognitive processes. Modern education requires not only the transmission of knowledge in accordance with State Educational Standards, but also the creation of a creative learning environment that fosters independent thinking, research skills, and competency-based development.

Within this framework, special attention is given to the effective design of the teaching–learning process based on clearly defined learning objectives, the application of Bloom's taxonomy, and the systematic integration of research-oriented activities. The development and support of gifted students through differentiated instruction, collaborative learning, and reflective practices further enhances educational quality. Consequently, the organization of students' learning and research activities emerges as a key pedagogical challenge in improving the effectiveness of natural science education and advancing the professional competence of future specialists.

The teacher organizes, manages, monitors, and assesses students' learning and cognitive activities in the educational process, and by implementing instructional, educational, and developmental objectives, creates the conditions for comprehensive personal development. Within a creatively structured educational environment formed through teaching and learning, the learner and the future specialist are shaped. In this process, students actively acquire knowledge, skills, and abilities regulated by the State Educational Standards (SES), as well as core and subject-specific competencies.

The pedagogical activity of a natural sciences teacher is aimed at organizing students' learning and cognitive activities in order to convey the content of education effectively. In this context, appropriate teaching tools and instructional methods are selected to activate students' learning activities. In addition, considering the content of the topic studied in class, the teacher determines learning objectives, selects assessment tools to identify the level of achievement of these objectives, analyzes the outcomes obtained, and, when necessary, introduces adjustments to the organization and implementation of the instructional process.

ANALYSIS AND RESULTS. Thus, when designing the teaching process, learning objectives must be transformed into learning tasks. Such specification of objectives is referred to as "identive (precisely aligned) learning objectives." In implementing this approach, the widely recognized Bloom's taxonomy is employed. The taxonomy of learning objectives developed by Benjamin Bloom encompasses what learners should know, understand, apply in practice, analyze, synthesize, and conclude based on the instructional content.

To examine the extent to which natural science lessons are organized in accordance with Bloom's taxonomy, classroom observations were conducted. The findings revealed that, in most cases, students' learning and cognitive activities are limited to the levels of knowledge and comprehension, concluding with recognition and application of acquired knowledge, skills, and abilities in routine situations. As a result, students often fail to progress to the level of competence.

From the perspective of pedagogical qualimetry, learning objectives in each pedagogical process should function as an integrated system that includes cognition, comprehension, recognition of acquired knowledge and skills, application in familiar,

World Bulletin of Social Sciences (WBSS)
Available Online at: https://www.scholarexpress.net
Vol. 54, January 2026
ISSN: 2749-361X

new, and unexpected situations, analysis, synthesis, and conclusion-making. In organizing students' research activities, topics were recommended with due consideration of learners' age-related, psychological, physiological, and ergonomic characteristics, thereby enabling effective problem-solving.

Students' research activity integrates the following components: activity related to the research task → analysis → conclusion → forecasting the development of the process → creative inquiry of the object using research methods → creative activity → formulation of general conclusions → presentation of results.

It is essential to distinguish between educational research and scientific research. Research conducted within the education system constitutes educational research, which does not aim at generating novel scientific knowledge, but rather at developing students' research competencies and ensuring their holistic personal development. While disciplinary scientific research focuses on creating new ideas, paradigms, and approaches, educational research aims to cultivate the competencies, skills, and abilities necessary for students' future professional activities. In educational research, novelty is not mandatory; instead, emphasis is placed on the organization and conduct of the process, students' active participation, and defense of their work.

Students' research activities are organized and supervised based on the guidance of an appointed scientific mentor. In some cases, students may produce facts or data previously unknown to the wider community, indicating their giftedness and potential for future scientific achievement. Once research outcomes are properly documented, they are recommended for defense as independently completed works by experts.

The system of working with gifted students includes the identification of gifted learners; development of giftedness during lessons; and enhancement of abilities through extracurricular activities such as Olympiads, competitions, individual work, and research projects. In general secondary schools of Uzbekistan, the identification of gifted students is conducted in several stages.

Stage I – Diagnostic stage: Identification of gifted students during classroom instruction through multi-level tasks, creative assignments, problem situations, and discussion-based activities organized individually, in pairs, or in small groups. Differentiated and individualized instruction fosters self-assessment, personal development, and self-expression.

The use of tasks with reproductive, productive, partially exploratory, and creative levels of complexity develops students' logical, creative, and independent thinking skills, reinforces theoretical knowledge through practical application, increases interest in natural sciences, expands scientific worldview, and enhances learning effectiveness.

Stage II – Cognitive stage: Identification of gifted students through extracurricular activities, particularly club sessions, where students prepare reports and presentations, conduct purposeful observations and experiments, generalize findings, and formulate conclusions.

Stage III – Facilitative (collaborative) stage: This stage emphasizes cooperative learning technologies, particularly small-group work, where a facilitator (leader) is selected to guide group activities toward solving learning problems. Successful facilitators are further engaged in individual training and prepared for Olympiads, competitions, and research projects.

Stage IV – Reflective stage: Individual work with highly gifted students is organized to enhance achievements in their areas of interest through sustained mentor–student interaction. Although time- and skill-intensive, such individualized instruction significantly increases learning outcomes.

Teachers working professionally with gifted students conduct diagnostic analysis, identify individual characteristics, organize individualized instruction, establish gifted learner groups, ensure participation in Olympiads and scientific conferences, develop facilitation skills, design creative-level curricula, implement monitoring and self-monitoring, and foster cooperation and mutual support among students.

CONCLUSION. Based on the formation of a creative educational environment, a model for activating teachers' pedagogical activity and students' learning and cognitive activity was developed through the design of cognitive, adaptive, functional, and creative stages.

Methodologies for organizing and managing students' research activities were improved. Recommendations were developed for working with gifted students through diagnostic, cognitive, facilitative, and reflective stages within the context of Uzbekistan's pedagogical education system.

REFERENCES:

1. Tolipova J.O. Pedagogik kvalimetriya. O'quv qo'llanma.–TDPU. 2017–160 b.
2. Ковалева Г.С., Кошеленко Н.Г. Международная оценка образователь- ных достижений учащихся (Programme for International Student Assessment - PISA): Примеры заданий по естествознанию / Сост. Ковалева Г.С., Кошеленко Н.Г. - М.: Центр

World Bulletin of Social Sciences (WBSS)
Available Online at: https://www.scholarexpress.net
Vol. 54, January 2026
ISSN: 2749-361X

оценки качества образования ИСМО РАО, 2007. - 115 с.

3. Ergasheva M. Implementation the Requirements of International Assessment Programs based on B.Blum's Taxonomy. A German Journal "World Bulletin of Social Sciences" An International Journal. ISSN (E): 2749-361X. Journal Impact Factor: 7.545. VOLUME 19, February, 2023.
4. Ergasheva M. Preliminary Results of Natural Literacy Assessment in Timss International Research through Stesting Electronic Platform. Special Issue "Issues of continuous professional development of teachers in the context of digitalisation".