INTERNATIONAL CONFERENCE **Dehli, India, 2026**
https://eijmr.org/conferences/

THE IMPORTANCE OF THE GRASPS METHOD IN DEVELOPING NATURAL SCIENCE LITERACY SKILLS

Davletova Hamida Khasan qizi
Methodologist and Researcher,
Methodological Service Department,
A. Avloni National Institute of Pedagogical Mastery

Abstract: This article analyzes the methodological significance of using the GRASPS method in developing natural science literacy skills, which is considered one of the essential requirements of modern education. The study highlights the role of the GRASPS model in creating authentic assessment tasks that enable students to apply scientific knowledge and skills in real-life contexts.

Keywords: natural science, scientific literacy, GRASPS, model, methodology, approach.

In modern pedagogical theory, assessment is no longer regarded merely as the final stage of the educational process; rather, it is interpreted as an important didactic mechanism that ensures students' deep understanding of knowledge and their ability to apply it in real-life situations. From this perspective, authentic assessment approaches are gaining increasing importance in school education. One such approach is the GRASPS model, which serves to bring educational assessment closer to real-life contexts.

The GRASPS model is a pedagogical framework developed by Grant Wiggins and Jay McTighe for designing authentic assessment tasks within the educational process. Its purpose is to enable students to demonstrate their understanding, application of essential knowledge, and thinking skills not only through answering test questions but also through performing complex real-world tasks.

In the scholarly literature, the GRASPS model is interpreted as an assessment framework developed within the concept of Understanding by Design (UbD). The central idea of this model is that students should not simply reproduce knowledge; instead, they should demonstrate their learning through practical activities based on a specific role, a realistic situation, a target audience, and clearly defined assessment criteria.

According to Alison Yang, the GRASPS model transforms assessment into a meaningful, understandable, and manageable process for students while also helping them become more aware of their own learning process. An important aspect of the GRASPS model in school education is its strong contribution to the development of students' metacognitive skills. Metacognition refers to a learner's ability to understand and regulate their own knowledge, thinking processes, and learning strategies.

As Alison Yang further explains, tasks designed according to the GRASPS framework require students to engage in planning, monitoring, and evaluating their own performance, thereby enhancing metacognitive activity and fostering deeper learning.

From the perspective of school education, the GRASPS model is particularly effective in teaching natural sciences, technology, healthy lifestyles, and social sciences. This is because these subjects require students to connect knowledge with real-life situations, make decisions in problem-solving contexts, and create evidence-based products. For example, in a natural science lesson, a student may assume the role of a "specialist," "consultant," or "researcher" and analyze a situation related to environmental issues, health care, or safety. This approach promotes the transfer of learning, enabling students to apply their knowledge in new and unfamiliar contexts.

Research findings indicate that authentic assessment tasks, including those designed according to the GRASPS model, contribute significantly to the development of higher-order cognitive skills such as analysis, synthesis, and evaluation. Furthermore, such tasks enhance students' intrinsic motivation to learn and help them perceive assessment not as a stressful or intimidating process but as an opportunity for self-expression and demonstration of competence.

The GRASPS model is an assessment framework specifically developed to facilitate authentic assessment by bringing the evaluation process as close as possible to real-world activities. As Grant Wiggins emphasizes, for authentic assessment to be effective, students should engage in tasks that resemble the work performed by real professionals. The GRASPS model serves precisely this purpose by providing a structure for designing such meaningful and realistic tasks.

Authentic assessment is an approach aimed at evaluating students' knowledge, skills, and competencies through practical activities conducted in contexts that closely resemble real-life situations. In this approach, students do not merely recall and reproduce information; they apply, analyze, and justify their knowledge. In other words, authentic assessment evaluates students' learning through tasks that simulate real-world activities, requiring them to solve problems that they may encounter in their everyday lives.

References

1. Wiggins G., McTighe J. Understanding by Design. – 2nd ed. – Alexandria, VA: ASCD, 2005. – 370 p.
2. Wiggins G. Educative Assessment: Designing Assessments to Inform and Improve Student Performance. – San Francisco: Jossey-Bass, 1998. – 384 p.
3. McTighe J., Wiggins G. Essential Questions: Opening Doors to Student Understanding. – Alexandria, VA: ASCD, 2013. – 136 p.
4. Yang A. Authentic Assessment and GRASPS Tasks in Contemporary Education. – New York: Routledge, 2021. – 256 p.
5. National Research Council. How People Learn: Brain, Mind, Experience, and School. – Washington, DC: National Academy Press, 2000. – 374 p.
6. OECD. PISA 2022 Assessment and Analytical Framework. – Paris: OECD Publishing, 2023. – 390 p.