

STRENGTHENING SCIENCE FOUNDATIONS THROUGH THE MATATAG CURRICULUM: A SHIFT TOWARD INQUIRY AND DEPTH

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In a bold move to improve the quality of basic education, the Department of Education (DepEd) introduced the MATATAG Curriculum, a restructured academic framework that redefines how core subjects like Science are taught in Philippine schools. A central goal of this reform is to move away from rote memorization and wide content coverage toward a deeper, more inquiry-centered learning experience for students.

Under the previous educational structure, science instruction often struggled with overloaded content and limited time, making it difficult for students to truly grasp essential ideas (SEI-DOST & UP NISMED, 2018). The MATATAG Curriculum changes this approach by streamlining learning objectives—eliminating redundant or overly technical topics—so students can spend more time understanding key concepts. This enables learners to develop scientific skills such as reasoning, analysis, and evidence-based thinking.

By significantly reducing the number of required learning competencies, the curriculum allows educators to focus on core scientific ideas and cultivate mastery rather than superficial familiarity (DepEd, 2023).

A cornerstone of the new curriculum is the use of inquiry-based strategies in science teaching. Rather than simply delivering information, teachers now encourage students to be active participants in their learning—posing questions, conducting simple investigations, observing patterns, and drawing logical conclusions (Bybee, 2014). This

hands-on, discovery-oriented approach builds critical thinking and encourages a natural curiosity about the world.

The curriculum also adopts models such as the 5E Instructional Framework—which includes the phases of Engage, Explore, Explain, Elaborate, and Evaluate—to guide the learning process in a dynamic and student-focused way. Teachers are also encouraged to incorporate cultural and environmental contexts, making science more meaningful and grounded in real-life experiences.

One of the notable revisions under MATATAG is the gradual integration of science concepts in the early grades, starting as early as Kindergarten. Instead of introducing formal science lessons immediately, young learners are exposed to foundational ideas through observation, play, nature walks, and guided discussions. These early experiences develop basic skills such as identifying patterns, asking questions, and describing changes—skills that serve as the bedrock for future scientific learning (National Research Council, 2007).

This method aligns with child development research that emphasizes the importance of early sensory and cognitive engagement in shaping lifelong learning habits.

To make inquiry-based learning effective, the MATATAG initiative includes support systems for educators. Teachers are provided with training opportunities, modular workshops, and collaborative learning communities such as Learning Action Cells (LACs). These platforms help enhance both content knowledge and instructional skills, enabling teachers to guide explorations, pose effective questions, and manage active classrooms (Salandanan, 2021).

The role of the teacher shifts from being a dispenser of information to being a facilitator of discovery, helping students construct understanding through guided interaction and reflection.

Although the curriculum's vision is forward-looking, there are practical hurdles to consider. Limited laboratory equipment, large class sizes, and disparities in resource access, particularly in remote schools, can limit the effectiveness of inquiry-based activities. However, the MATATAG Curriculum promotes adaptive teaching, allowing educators to use locally available materials and to modify lesson strategies to suit their context.

Collaboration with local government units (LGUs), parents, and the private sector is also encouraged to address gaps in facilities and learning tools.

The MATATAG Curriculum offers a transformative vision for science education — one that emphasizes understanding over memorization, and exploration over instruction. By anchoring science learning in inquiry, critical thinking, and real-life context, it aims to produce students who are not only academically competent but also scientifically curious and socially aware. With sustained training for teachers, local support, and a learner-centered philosophy, the Philippines can foster a new generation equipped to thrive in a world increasingly shaped by science and technology.

References:

- Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). *How People Learn: Brain, Mind, Experience, and School*. National Academy Press.
- Krajcik, J. S., & Czerniak, C. M. (2018). *Teaching Science in Elementary and Middle School: A Project-Based Approach* (5th ed.). Routledge.

NGSS Lead States. (2013). Next Generation Science Standards: For States, By States.

Washington, DC: National Academies Press.

Penuel, W. R., Bell, P., Neill, T., & Shaw, S. (2017). Developing Curriculum Materials to Support Three-Dimensional Science Learning. *The Science Teacher*, 84(6), 32–39.

Department of Education. (2022). MATATAG Curriculum Review and Revisions.

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