

In today's rapidly changing world, the educational landscape is constantly evolving.

With technological advancements and changing workforce needs, it's becoming increasingly important for schools to offer more than just academic learning to be of use to their students.

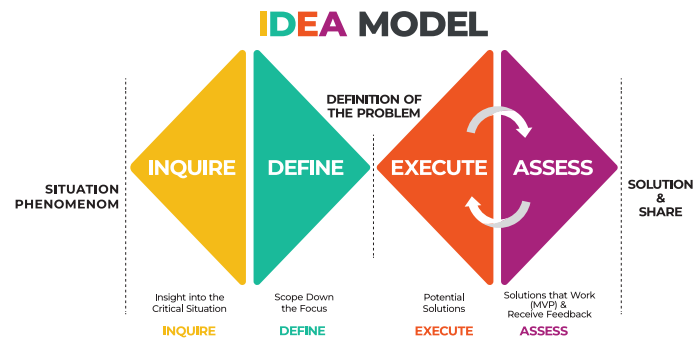


Figure 1. IDEA Model Diagram.

Developing 21st-century skills such as critical thinking, problem-solving, collaboration, global citizenship, sustainability, creativity, entrepreneurship, and communication, is essential for students to thrive in this rapidly changing world.

At our school, we recognized the need for a pedagogical framework that could support a wide range of teaching practices that foster those skills while also ensuring that a rigorous learning mindset was taking place. We drew inspiration from various pedagogical models such as *Project-Based Learning* (PBL), *deep learning*, *inquiry-based learning*, *Engineering Design Process* (EDP), and more to create a unique approach to education. However, we realized that our model lacked a comprehensive framework that could connect all of these practices. That's where the IDEA Model comes in. By merging the Engineering Design Process and Project-based learning, we've created a more holistic pedagogical framework that supports the transfer of learning to new situations and gives students agency and ownership of their learning process through an iterative double-diamond methodology that allows our students to apply divergent and convergent thinking.



The "I" in the IDEA Model stands for Inquiry, which is the heart and driver of the entire learning process. At our school, academic learning intentions are of utmost importance, so students are also presented with the academic objectives they need to achieve.

During this divergent phase, students are presented with a driving question to understand the user and its situational context (critical situation) that they can discuss and even reframe to help guide their learning through real-world connections. They are also asked to make a route of their learning with a series of "how might we" questions fostering empathy. By doing so, students take ownership of their learning and are more motivated to find answers to their questions. This phase helps students develop important skills such as critical thinking, problem-solving, and creativity, which are essential for success in the 21st century.

The "D" stands for Define. In this phase, students begin to identify user needs and insights according to their research. They acquire basic or surface knowledge that will allow them to better understand the issue and phenomena involved at its basis and start making conceptual connections



that promote a deep understanding of what they are trying to solve. They gain enough understanding of the issue at hand to refine their design question and define the problem that mostly covers the majority of the user's needs so they can come up with the best solutions.



The "E" stands for Execute. At this point in the learning process, students have acquired the necessary skills and generated a deep understanding to solve the issue or approach to the phenomenon. They use collaborative work to reach a consensus ideate and develop a product of their choice by getting ready to ideate, prototype, and plan tests for their solutions.

The Execute phase aims to provide students with an opportunity to propose solution ideas and put them into action, promoting creativity, collaboration, and critical thinking. Likewise, students are not only equipped with the necessary skills, tools, and understanding to tackle the situation or phenomenon, but they are also clear on how to approach and solve it.

The driving question has been present throughout all phases, providing a clear pathway for them to act as changemakers. This allows for a sense of purpose and agency in their work, empowering them to make a real impact in their communities.

The "A" stands for Assess. During the ASSESS phase, students engage in a process of test and self-reflection, where they collect and analyze the data, evaluating the performance and impact of their solution on the issue or phenomenon they were exploring.

This deep analysis allows students to evaluate the effectiveness of their learning and gain a deeper understanding of the concepts they have been exploring. Through this process, students become active participants in their own learning journey, taking ownership of their education and making adjustments to their insights and understanding as they continue to explore and grow.

The assessment process in the IDEA MODEL is not just a means of measuring learning outcomes, but a critical component of the learning process itself, helping students to refine their knowledge, skills, and understanding, and empowering them to become lifelong learners and agents of change in their communities.



Figure 2. IDEA EXECUTE - ASSESS iteration.

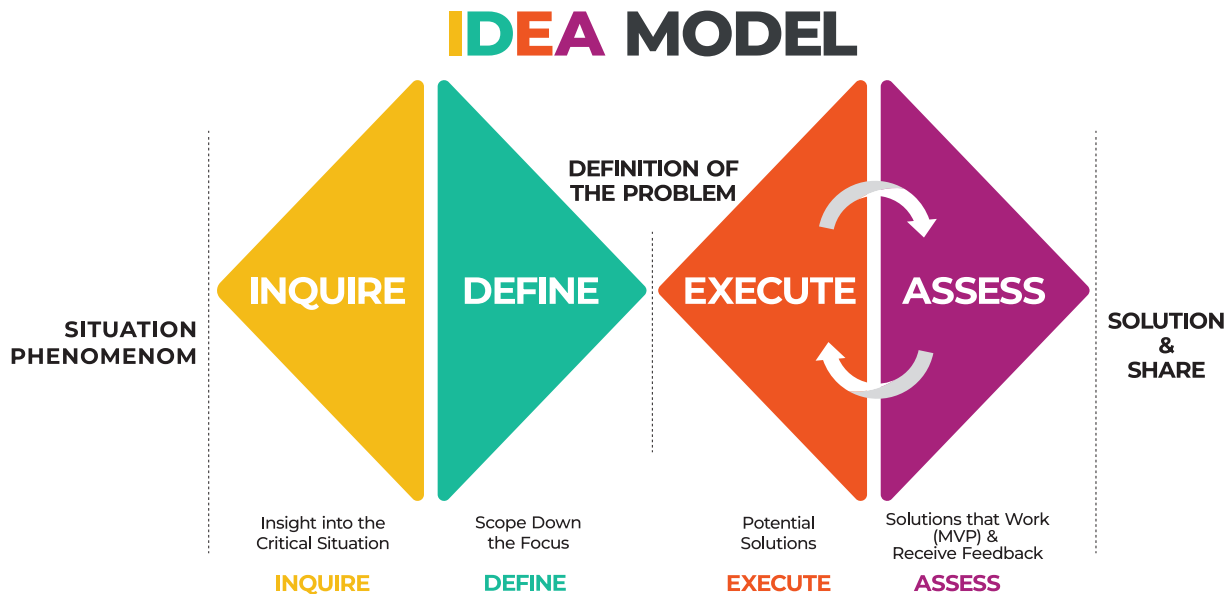


Figure 1. IDEA Model Diagram.

The IDEA Model is a powerful framework that supports a student-centered learning experience. This model provides a clear pathway with a toolbox for students to transfer their learning to new situations and empowers them to take ownership of their learning process. By incorporating inquiry, design, execute, and assess, students are able to gain a deep understanding of the critical situation or phenomenon they are trying to solve, develop innovative solutions, collaborate with peers, and receive feedback from stakeholders. In today's rapidly changing educational landscape, schools need to offer more than just academic learning.

The IDEA Model offers a way for students to develop the 21st-century skills they need to be successful in the real world, such as critical thinking, collaboration, communication, and creativity. Overall, the IDEA Model is a valuable tool for educators looking to create a learning environment that promotes deeper understanding, problem-solving skills, and meaningful engagement with real-world issues, all while making students' ideas come to reality.