

ledge product, the students must learn, cultivate their understanding, finally re-evaluate their concept, build a foundation of knowledge essential enough for them to impart knowledge to others.

CIDE process is illustrated in the diagram at the end of this page, the four phases are introduced:

Concept
Identify an idea or premise that, if validated, guides the student to deeper understanding of the subject at hand.

Investigation
Testing the concept through various means: collecting, classifying, measuring, abstracting, and analyzing.

Design
Designing the form and scope of a knowledge entity.

Execution
Writing a reflection of the concept, application, and design in the form of knowledge entity.

Conceptual Basis for the CIDE Process

Scientific Method. The basis of the CIDE process is really nothing new—well—in fact, it is a reworking of the Scientific Method, which has been accepted and used as standard scientific practice since the early 1800s. It was based on observation, experimentation, and tested ideas by converting them into scientific laws and laws.

CIDE process follows the same of reasoning. Students are brought with a concept, and they originate the challenge, problem, essential question. As their investigations progress, they challenge a hypothesis, original beliefs, even their assumptions. Their ideas reflect on their investigations, they share discoveries, and design actual stylized knowledge products to utilize their respective multiple intelligences to represent their new logic and unique understandings.

Constructivism. Constructivism is one of the most widely accepted popular educational trends in the last 20 years. The primary premise of constructivism is to build new knowledge and information to students' construction to skill situations. Constructivism design is

a construction of the CIDE process for several reasons. New knowledge takes time and multiple exposures to comprehend at a level from which students can build new knowledge. Constructivists further define the ideal classroom setting as a learning environment where the teacher facilitates student-led investigations, projects, and conversations, providing them with the opportunity to build from one another's ideas, constructing new kernels of knowledge. The CIDE process depends on the teacher's ability to uncover curriculum concepts, facilitate student-led investigations, and work with students using technology to produce creative expressive of their understanding. Having a systematic model helps teachers ensure that the fundamental concepts in the curriculum are the building blocks for construction.

Understanding by Design. Wiggins and McTighe, in *Understanding by Design*, discuss the importance of changing students with essential questions that explore and uncover the "big ideas" embedded in the curriculum. The CIDE process for learning and creating emphasizes the "big ideas" and goes even further by providing means and methods to mold the learning into tangible projects.

New Skills. While the curriculum is at the core of the CIDE Process and Creating to Learn, the technology components of the process are extremely important to master in today's environment. David Thornburg, another widely embraced educational philosopher, heavily emphasizes adaptability to the changing pace and scope of technological advancement. In *The New Basics: Education and the Future of Work in the Information Age*, he identifies and outlines the skills that students need to master in the 21st century. First among these skills is adaptability; he states that students will be required to adapt to their surroundings and

be innovative and creative just to keep pace with the new technological advances. The CIDE process isn't a tool and it isn't founded in any specific methodology, so it is capable of serving current and future technological advancements. Instead it offers a systematic process that leads students from concept to product. Once students utilize the CIDE process, the methodology will serve as a roadmap to knowledge for them to follow in any environment.

Thornburg says that students need to be equipped with four basic skills upon entering the workforce: technical literacy, invention, effective communication, and production. The Creating to Learn approach helps students use technology to invent and create products more efficiently and with professional quality. ■

WORKS CITED

Thornburg, D. *The New Basics: Education and the Future of Work in the Information Age*. Alexandria, VA: Association for Supervision and Curriculum Development, 2002.

Wiggins, G., and J. McTighe. *Understanding by Design*. Alexandria, VA: Association for Supervision and Curriculum Development, 1998.

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