TEACHING
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THE 5E INSTRUCTIONAL MODEL

A teaching and learning model for inquiry science

INSTRUCTIONAL MODELS

An instructional model represents the practice of instruction. It involves instructional planning, delivery and assessment. It is a teaching method based on the way students learn.

CONCEPTUAL CHANGE: THE KEY INGREDIENT

Successful implementation of the 5E instructional model results in conceptual change, where students gain a new or modified understanding of a concept.

Lessons based on the 5Es provide students with experiences prior to classroom introduction. They then create opportunities to apply learned concepts to additional situations and activities.

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The 5E instructional model consists of five learning stages: engagement, exploration, explanation, elaboration and evaluation. These stages follow the natural flow of problem solving, and students build upon previous knowledge and understanding by developing new ideas and experiences [1, 2]. The model can help students learn and retain fundamental concepts in biological sciences and other subject areas.

In order to develop educational competency, students must first develop a strong, organized foundational understanding of the subject matter.

The 5E instructional model supports students' ability to internalize key subject concepts.

Research-based instructional models such as the 5Es address students' preconceptions about a subject and use this knowledge as a foundation on which to build new understanding. Lessons based on the 5Es challenge students in ways that inspire curiosity and strengthen problem-solving skills, thus helping students learn fundamental concepts in science and other areas.

THE 5E INSTRUCTIONAL MODEL

1. ENGAGE

Students are engaged in the concepts through short activities or discussions. Activities make connections between past (prior knowledge) and present learning experiences and organize students' thinking toward the learning outcomes of current activities.

2. EXPLORE

Students explore the concepts with others to develop a common set of experiences. Students may participate in laboratory experiments which use prior knowledge to create new ideas and understanding.

3. EXPLAIN

Students are guided by teachers as they develop an explanation for the concepts they have be learning. This phase guides them toward a deeper understanding of the subject matter.

4. ELABORATE

Students extend and elaborate on their understanding, and apply what they have learned to new situations by conducting additional activities.

5. EVALUATE

Students and teachers each have an opportunity to evaluate the students' understanding of the concepts. This stage helps monitor progress toward achieving the educational objectives.

Sea Grant Michigan

References:
1. The 5E's. 2002. Corporation for Public Broadcasting. Available online at: http://enhancinged.wgbh.org/research/eeeee.html

2. The BSCS 5E Instructional Model: Origins and Effectiveness. Biological Science Curriculum Study. June 2006. Available at: http://bscs.org/sites/default/files/_legacy/BSCS_5E_Instructional_Model-Full_Report.pdf