TeachME Professional Development

Infusing STEM Into Early Education Mathematics Curriculum

Introduction

1. Introducing mathematics as early as three years old is crucial for children in helping them make sense of real-world situations and construct a solid foundation for success in primary schools.

A. True
B. False

Conceptual Framework

2. Curriculum development theories play a critical role in planning a mathematics/STEM framework for early education, and it includes each of the following basic principles of curriculum EXCEPT:

A. Educational purposes and the experiences provided to fulfill the purposes
B. Effective organization of the educational experiences
C. Successful implementation of the educational purposes
D. The determination whether the purposes have been fulfilled

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Methodology

3. The five phases of the ADDIE model, which was used to develop the mathematics framework and activities in the research study, include analysis, development, implementation, evaluation, and:

A. Determination
B. Direction
C. Draft
D. Design

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4. When analyzing the learning environment best suited for implementation of the framework, the key question asked was, “What are the key factors necessary to create a mathematics friendly teaching and learning environment?”

A. True
B. False

Development

5. High-quality STEM experiences may provide engagement, confidence, and understanding for younger children to be more drawn to the integrated STEM disciplines, and providing positive experiences such as outdoor discovery activities help children develop dispositions such as curiosity, imagination, flexibility, and:

A. Inventiveness and persistence
B. Motivation and individuality
C. Fascination and responsibility
D. Patience and cooperation

Discussion

6. The foundation for understanding operations such as addition and subtraction is created when children are able to interpret a quantity in terms of:

A. Sequence
B. Comparison
C. The parts
D. Patterns

Discussion

7. Which of the following is NOT one of the outcomes of STEM-based curriculum according to Moomaw and Davis?

A. It helps children focus and collaborate with one another
B. It increases overall skills
C. It helps young learners increase their vocabulary
D. It encourages students to create scientific relationships

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8. Playing is a natural condition that helps children learn and grow, and through play they can build their own knowledge by trying a new activity that meets their needs of curiosity, and guided play can be used in a classroom setting to achieve standard learning outcomes.

A. True
B. False
