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An Examination of the Effectiveness of Scenario-Based Learning Integrated with the Talk Moves Technique

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Abstract

Effective science learning management requires approaches that genuinely engage learners in the learning process. Scenario-based learning integrated with the Talk Moves technique represents a promising approach for improving learning outcomes in science education. This research aimed to develop lesson plans using scenario-based learning integrated with the Talk Moves technique in Biology on the topic of Evolution for Grade 10 students to meet the efficiency criterion of 70/70. The sample consisted of 37 Grade 10 students at Sarakham Pittayakom School during the second semester of the 2024 academic year, obtained through cluster random sampling. The research instruments consisted of seven lesson plans based on scenario-based learning integrated with the Talk Moves technique and a learning achievement test. The statistics used for data analysis included mean, percentage, and standard deviation. The results revealed that the scenario-based learning integrated with the Talk Moves technique yielded an efficiency index (E1/E2) of 74.90/75.77, exceeding the established criterion of 70/70. These findings indicate that the developed lesson plans are sufficiently efficient for actual classroom implementation.

Keywords: Biology; Evolution; Instructional Efficiency; Learning Achievement; Science Education