Effects of Learning Cycle and Traditional Text on Comprehension of Science Concepts by Students at Differing Reasoning Levels

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Abstract: Research has found the learning cycle to be effective for science instruction in hands-on laboratories and interactive discussions. Can the learning cycle, in which examples precede the introduction of new terms, also be applied effectively to science text? A total of 123 high school students from two suburban schools were tested for reasoning ability, then randomly assigned to read either a learning cycle or traditional text passage. Immediate and delayed posttests provided concept comprehension scores that were analyzed by type of text passage and by reasoning level. Students who read the learning cycle passage earned higher scores on concept comprehension questions than those who read the traditional passage, at all reasoning levels. This result supports the hypothesis that reading comprehension and scientific inquiry involve similar information-processing strategies and confirms the prediction that science text presented in the learning cycle format is more comprehensible for readers at all reasoning levels. © 1999 John Wiley & Sons, Inc. J Res Sci Teach 36: 23-37, 1999.