ABSTRACT


The present study sought to explore the impact of picture and text modality on three levels of learning and study time. Undergraduate students (N=206) who indicated English as their first language studied information on the Emerald Ash Borer in either picture or text format for one, two, or four minutes. They then answered recognition and comprehension questions in picture and text format and two types of transfer questions.

At one minute, the picture study condition significantly outperformed the text study condition across recognition and comprehension ($p = .016$), primarily due to performance on picture recognition questions. At two and four minutes, this picture superiority effect was replaced with a modality interaction effect; those who studied pictures scored higher on picture recognition questions and those who studied text scored higher on text recognition questions (all at $p < .01$). No significant effect of study condition was found on the comprehension questions at any time (all at $p > .1$). A study condition x question type interaction showed pictures had an advantage for recognition but not for comprehension ($p = .001$). This waning of a picture superiority effect was continued at the level of transfer, where the text study condition scored significantly higher on the scenario transfer questions averaged across all time periods ($p = .011$). No difference between study conditions was seen for the problem solving transfer questions ($p = .802$).

Results suggest a memory advantage for pictures, but a transfer advantage for text. Implications are discussed.