

Proposal for a Poster

Tim Tibbetts, Associate Professor of Biology, Monmouth College
tibbetts@monm.edu

Effect of a Visual Learning Aid in the Teaching of Botany

Mounting research suggests that there is a multitude of learning styles, that some students prefer some over others, and that students engage in more than one style (Keefe, 1987; Reiff, 1992.) One such learning style outlined by Fleming is the visual learner, characterized by a preference for “seeing” the material, whether it be in visual aids, slides, diagrams, drawings, or the like. Another learning style, referred to as tactile or kinesthetic learners, prefer to engage with the material through experience. This may be through touching or doing something with the material being studied.

I have been teaching a first-year biology course in botany, which is a very visual field of study. We deal with many microscope slides, diagrams, and life cycle charts. I wanted to ascertain whether or not a visual learning aid associated with the course material would have a positive effect on student learning, as has been suggested by research on student learning preferences and pedagogical implications (Murphy et al, 2004). I assigned optional work in an optional, ancillary text, The Botany Coloring Book, by Young (1982) during the laboratory sessions for two consecutive years in this botany course. The only reward for doing the coloring assignments was that if the majority of the assignments were completed, due one lab after assignment, then one lab quiz score would be replaced with a perfect score. This amounted to 2% of the final course grade, and required completion of 40 out of 50 coloring assignments.

Students self-selected whether they wished to complete the coloring book assignments. There is no control group, and the sample sizes vary between years. For both years, there was a significant relationship between the percentage completed coloring book assignments and final course grade. However, there are obvious flaws. Good students are more likely to take advantage of additional learning resources than poor students. The correlation

between grade and completion of coloring book assignments may say nothing about whether or not the assignments actually helped, just that good students did them. Additional work will attempt to tease out other variables that may influence students likelihood to benefit form visual learning aids.