

Troy science teacher publishes report on effectiveness of various studying techniques

(Editor's note: This is the first in a series of articles profiling recipients of the 2013 MEA Human Rights and Excellence awards.) Posted on 06/11/13

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Students have different techniques when it comes to studying for tests, and some are more effective than others.

Some students read their study materials silently and take notes. Others find it helpful to read out loud. Some develop their own study questions and have parents or peers quiz them.

Judy Gail Armstrong-Hall, Ph.D., a middle school science teacher in Troy Public Schools, wanted to know which of those three techniques had the greatest impact on her students' test scores. She also wanted to know if a student's cultural background played a role in determining how he or she best studied for an exam.

Over the course of four years, Armstrong-Hall researched the study methods of 100 of her seventh grade science students, who came from a variety of backgrounds. She found that overall, students who fared the best were those who made up their own sample questions and had their parents or peers quiz them — a tactic she calls “the treatment.” Once a student completed the series of questions 10 times without error, “the treatment” was considered completed.

Armstrong-Hall's research also provided helpful data on how students from different cultural backgrounds can best prepare for tests. For example, she found that students who came from Asian cultures with long histories of writing studied better when they read silently. Students whose ancestors traditionally used storytelling as a way of recording their histories — those of Celtic, Native American and African backgrounds, for example — improved their test scores by using the “treatment” or by reading out loud.

Not only can Armstrong-Hall's research help students be more successful, it can also have implications for teachers who are evaluated based on their students' test scores.

“Educators aware of this dichotomy can use multiple study techniques to help all children learn,” she explained in a summary of her research recently published in the Michigan Science Teacher Association Journal.

For her work in helping educators better understand the needs of students who come from diverse backgrounds, Armstrong-Hall was recently presented with MEA's Excellence Award for Multicultural Education.

Armstrong-Hall started her career as an elementary science teacher. Wanting to learn even more about science, she went back to school and earned a master's degree in paleontology. After that, she moved from Michigan to Chicago, where she landed a position as collection manager at the Field Museum. She eventually came back to Michigan — and her first love of teaching — and took a job as a middle school science teacher at Larson Middle School in Troy, where she's been for 27 years.