

The Big6 Works: Empirical Evidence from One Middle School's Experience, Big6 eNewsletter, 11.2.1

By Dr. Emily S. Harris

Excelling at the Language Arts research strand on our state (SC) end of the year test is something that eludes too many middle school students. Research is a difficult, multi-step process that requires a great deal of higher order thinking skills. This problem goes way beyond test scores; if students do not master information skills the deficit will affect the child's ability to find and use information in their day-to-day lives and in the future. I decided to use the Big6 to try to improve my students' understanding of the research process.

I am the media specialist at Gold Hill Middle School in Tega Cay, SC. Three years ago, the English Language Arts (ELA) teachers and I created a unit based upon the Big6 to improve information literacy instruction, and we collaboratively delivered this unit to the sixth grade students. We at GHMS hope that with every year our students' research skills will improve more and more with continued practice and instruction. After three years of instruction (our sixth graders begin this instruction module, which is reinforced in seventh and eighth grades) 88% of our students now meet the research standard on the end of the year test. I know there are many studies showing the Big6's effectiveness, but I conducted an action research study on my sixth graders to see if our Big6 unit really made a difference in their performance. I was amazed to see the results. Not only did the students' average post-test score rise 18 points from their pre-test scores, but a survey showed their confidence in their skills rose greatly as well.

Our Big6 Unit

Middle school students are often deficient in information literacy skills, which are essential to completing their assignments, learning in school, and being a lifelong learner. Because of low-information literacy skills, increases in plagiarism, and a need for an information seeking scaffold for the students — a media specialist and 6th grade ELA teachers worked to collaboratively develop and deliver a month long research unit using the Big6 as the basic framework.

A formative committee of seven educators (media assistant, three sixth grade Language Arts teachers, one 7th grade ELA teacher, Assistant Principal for Instruction, and myself) created a best-practice-based unit by using current studies and literature. We learned from our background research that integrating research throughout the curriculum is often ineffective, and most middle school teachers leave out research instruction because they think the students' other teachers will cover it. We also learned that units taught collaboratively by the media specialist and a teacher are usually more successful, and that students are much more confident when conducting research if they have a framework to guide their process.

As research specified, we developed a unit that was integrated into Language Arts class and was delivered collaboratively by the media specialist and the 6th grade ELA teachers. The unit was based on the Big6 Model. One team worked on the program for 3-4 weeks and then another team began. The students completed a research project from start to finish as the teachers and media specialist helped each step of the way. The timeline of topics is as follows:

Activity/Lesson	Tentative	Team Leader/s

	Day and Week	
Overview of the program, assignment and rubric explained, topics chosen	Mon, Week 1	Media Specialist
The Big6 Research Model #1 & #2: Task Definition & Information Seeking Strategies (define research questions, and brainstorm and narrow where to find info)	Tues, Week 1	Media Specialist and ELA Classroom Teacher
The Big6 Research Model #3: Location and Access (how to find materials, using the online catalog, keywords to use, best materials for certain subjects, how to search/use databases, Internet, books, etc.)	Wed, and maybe part of Thurs., week 1	Media Specialist
#3 Continued: More effective searching techniques (Boolean Operators, advanced searches, using indexes and Table of Contents) and checking reliability/accuracy of sources	Thurs, Week 1	Media Specialist
The Big6 Research Model #4: Use of Information (finding relevant info and notetaking)	Fri, Week 1	Media Specialist and ELA Classroom Teacher
#4 Continued: Plagiarism	Mon, Week 2	Media Specialist
#4 Continued: MLA Format	Tues, Week 2	Media Specialist and ELA Classroom Teacher
The Big6 Research Model #5 & #6: Synthesis (choosing which product is best & product creation) & Evaluation (how to organize the info and present it, how did it go?)	Wed, Week 2	Media Specialist and ELA Classroom Teacher
Conduct Research	Thurs- Mon., Week 2-3	
Writing a rough draft and peer editing	Tues-Wed, Week 3	ELA teachers
Using MS Powerpoint, Word, Moviemaker	Thurs, Week 3	Media Specialist

Students produce essays and do any additional research they may need.	Fri.-Wed, Week 3-4	Media Specialist and ELA Classroom Teacher assisting
Students present to class	Thurs-Fri, Week 4	Media Specialist and ELA Classroom Teacher assisting
Celebrations and reflections of students	At end	

NOTE: Adjust program/days as needed due to students' understanding of current topic (may need more/less time) or disturbances such as snow days or school assemblies.

For all the lesson plans, smart notebook files, PowerPoint files, full study results, pre-/post-test & questionnaires, student handouts, assignment guidelines, and grading rubric go to <http://ghms.fort-mill.k12.sc.us> and find my name (under the teacher directory). There is a link on my page to all the research unit resources anyone is welcome to borrow items and tweak them for their use.

(Editor's Note: For quick reference here are two links to selected pages: [Harris Unit Plan](#), and [Student Questionnaire](#).)

Student Results

Last year, I conducted a mixed-method research study on 187 sixth graders that investigated the effectiveness of this Big6-infused teaching unit on information literacy skills. The study was accomplished using a multiple choice pre/post test and a student perception questionnaire. The study analyzed, both qualitatively and quantitatively, the effectiveness of the Big6 unit. The study findings confirmed that direct, collaborative instruction of information literacy skills using the Big6 scaffold increases student knowledge.

The pre- and post-test contained 30 questions to assess the unit objectives. We queried if the students could:

- Access information efficiently and effectively
- Evaluate information critically and competently
- Use information accurately and creatively, and
- Practice ethical behavior in regard to information and technology.

From pre-test to post-test, the mean student percentage score increased by 18.02 points.

Students also responded to a 10-question survey on their perceptions of the unit. The students agreed or strongly agreed that the majority of the time their confidence improved in the 10 skills listed on the questionnaire. The student responses for all ten questions had a mean of 3.945 or higher out of a 5.000 possible.** Here are the ten skills we measured:

(a) find information on the Internet

(b) find a book in the library

- (c) avoid plagiarism
- (d) choose keywords,
- (e) create a works cited page
- (f) define a task
- (g) use databases
- (h) judge source reliability
- (i) communicate information through a product, and
- (j) select research materials appropriate to the topic.

All that hard evidence is great, but I know you want to hear about what we, the faculty, observed. The teachers at GHMS now feel that collaborative planning between teachers and the media specialist not only improves the school library program but strengthens the whole school learning community. I also observed that using the Big6 model helps the students to assume greater control over their personal learning. If students can access information, they can then use these skills in all disciplines at school and for the rest of their lives to help them master any content. When teaching the unit, the students were all very surprised to learn that the Internet has a great deal of incorrect, biased, or outdated information. Our students still somewhat search the Internet haphazardly and impatiently, but they are improving. They now choose websites based on the content they contain instead of flashy graphics or the site title. They take a little more time to select the appropriate site to use. Students still have a little difficulty with works cited pages, but I feel that is something that must be practiced over and over to master. By eighth grade they are really starting to "get it." Plagiarism has diminished drastically at our school, and students are much more knowledgeable about rules for citing work. After our sixth graders received this unit for three years, 88% of our students now meet the research standard on our state's end of the year test.

Conclusion

Although standards in research and communication are present in middle school language arts, science, and social studies curricula for my state, I suspect these standards are often overlooked because teachers think the students' other teachers will cover them. By implementing a unit based on the Big6 in sixth-grade, the students are better prepared for seventh- and eighth- grade research projects. If teachers do not have to begin teaching information literacy skills from scratch, the teachers might be more willing to assign projects that allow the students to practice and reinforce research skills the students learned in sixth-grade.

As teachers, we need to give our students the skills to find and use information– it could be as simple as researching which new video game to buy, how to find a post office in a nearby town, or as complex as researching literature to write a dissertation. Our students will need to locate and utilize information for the rest of their lives. My students have benefited by using an integrated Big6 unit such as this one, and I feel it would benefit other students as well.

** (The Likert-type scale used was standard for qualitative instruments, designating 1 as *strongly disagree* to 5 as *strongly agree*).

Dr. Emily S. Harris has been the media specialist at Gold Hill Middle School in Tega Cay, SC for five years. This is her tenth year in teaching. She has a BA from Clemson University in Secondary Education, an MLIS in Library & Information Science from the University of South Carolina, and an Ed.D. in Educational Leadership from Nova Southeastern University. Besides her wonderful students at GHMS, she loves teaching aerobics at her local YMCA, singing in her church choir, and planning her upcoming wedding.