

Improving Student Achievement with Interactive Notebooks

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Submitted June 2001**

Abstract

Students in a linguistically and culturally diverse high school maintained an interactive notebook for their history class. The notebook incorporated Howard Gardner's multiple intelligence theory. Students sketched in their notebooks, recorded reactions and opinions, and highlighted key terms. The notebook included class notes, homework, journal entries, and all class work activities. Teachers and students reported that as a result of the notebook students improved their organization and consequently their achievement. Teachers who reported positively were from social studies, math, and biology content areas. Drawbacks occurred when students lost their notebooks as well as grading and maintaining a master notebook.

Background

This past year, I taught Ancient Civilizations to 10th and 11th graders at Wakefield High School in Arlington County, Virginia. About 1500 students attended Wakefield: eleven percent were Asian, twenty-four percent are African-American, forty-two percent are Hispanic, and eleven percent are Caucasian. Additionally, forty nine percent of the student body qualified for free or reduced lunch.

Last summer, I attended a history curriculum workshop, *History Alive*, that incorporates Howard Gardener's multiple intelligences theory in teaching history. The authors of the program believe that many more students will become engaged in history if visual, spatial, kinesthetic, interpersonal and intrapersonal intelligences are woven throughout history lesson plans.

One component of this curriculum is an interactive student notebook. The interactive student notebook includes notes, visuals, timelines, class work, opinions, reactions, and homework. In a nutshell, the notebook becomes the student's personalized history text. This year, my students kept a notebook of their work during the year. I surveyed them in the third quarter to see how they viewed their notebook. I wanted to know if they believed that their academic achievement increased as a result of the notebooks. Over half of the seventy surveyed students responded that the notebook improved their organizational skills. Thirty-two students stated that they achieved more as a result of their increased organization. Additionally, I surveyed teachers who also had their students keep interactive notebooks. The teachers, like the students, stated that their students were more likely to be organized as a result of the notebooks.

Research

Howard Gardner's multiple intelligence theory points out that while schools traditionally measure intelligence through words and numbers, people are intelligent in seven different areas. People may show a strong intelligence with numbers, words, spatial relationships, with other people, through self-reflection, with their body, or with music (Gardner, 1983). After educators read Gardner's theory, teachers began to incorporate multiple intelligences into their lesson and unit plans. Three English teachers wove visual, verbal, and kinesthetic intelligences into teaching *To Kill a Mockingbird* and reflected, "Howard Gardner's work helps us to see that in many classrooms, students are not developing understandings because they are limited to traditional forms of linguistic Interaction" (Rogers, 1995).

Method

The Interactive Notebook. Students kept an "interactive notebook." The interactive notebook contained a table of contents, teacher directed notes, timelines, and class work. The notebooks were either spiral or marble bound and students stapled handouts into them. Ideally, the teacher gave the students notes and then the students created their "versions" of their notes using another intelligence and personalizing the information. For example, on one page students took teacher directed notes of the Stone Age. On another page, students made an illustrated timeline of the material.

At first, I used the rubric that the curriculum workshop gave participants. However, a colleague simplified the rubric and I used her rubric. (Please see attached.) At the end of each quarter, I collected notebooks and graded them. Notebooks counted for one hundred test points.

Data

Seventy students responded to a survey which asked them to rate how well he or she kept their notebook, rank their multiple intelligences, and reflect on their notebooks.

Seventy students were surveyed. Eleven students stated that they learned more as a result of using the notebooks. Thirty-two responded that they were more organized and better able to find items when necessary. Five responded that they were more organized, but did not necessarily learn more. Twelve students stated that they did not learn more and seven admitted that they did not keep a notebook.

Five teachers (one math teacher, one biology teacher, and five social studies teachers) responded to a survey. All five stated that the notebooks helped their students stay organized and more likely to take notes. Two commented that they kept lists of what items were required to be in the notebook. The drawbacks were that students who lost their notebooks were at a severe disadvantage. In addition, teachers needed to grade the notebook. Two teachers at Wakefield tried the notebook and discontinued it. Neither of these teachers responded to the survey. One teacher graded it weekly and couldn't continue grading it that frequently and plans to try it again.

Out of the five teachers who responded, four taught ninth grade students and two taught tenth grade students. Some teachers have commented that younger high school students and middle school students who are still learning organizational skills benefit from a notebook more than twelfth grade students.

Conclusion

Next year I plan to continue using the notebook. I will be teaching four classes of students who are in the advanced English as a Second Language program. My fifth class will be students who did not pass the eighth grade World Geography class and need a verified Social Studies credit for high school graduation. Most of the English as Second Language students will be ninth or tenth grade students and my fifth teaching period will be tenth grade students. I believe that younger high school students can especially benefit from this strategy. Additionally, many English as Second Language students struggle with social studies because they must learn a lot of vocabulary and content. Any additional support that can help organize and separate vocabulary words will benefit all students. Perhaps the notebooks are not directly linked to increased student achievement, but to organization. This year, however, students needed help with organization. Part of academic achievement is study skills and organization.

As I read over the surveys this year, forty-three students out of seventy stated that they were more organized as a result of using the notebooks. One student who struggled with organization stated, "No, the notebook didn't make a difference. It made life less chaotic, but that's it." Another echoed, "The most helpful aspect of the notebook is that I can keep organized. I have few loose papers and things are in order." Finally, a student responded, "The most helpful aspect of the notebook is you have a great book for reference. You have all the things we've learned this year right there. The only problem is that I'm not the best with organization." There were three students out of seventy who said that using visuals helped them learn. For example, one student wrote, "The visual part helped me learn more—but the notes, no! I need pictures to understand better." Gardner's multiple intelligence theory suggests that more students would respond like the last student, but only two did. Although there was a contingency of non-notebook users (about ten percent) these students didn't produce much work over the year in or outside of class. Grading the notebooks took some time, but each quarter I streamlined the rubric and became more efficient at grading. Finally, students who lost notebooks or who left them somewhere else for a class were at a definite disadvantage.

Students suggested some modifications that proved helpful. Next year, I will not have students keep separate pages of the notebook for specific tasks. (This year, students kept teacher directed notes on the right hand side and student opinions/graphic organizers/homework on the left-hand side. My students found this too complicated.) After I received the surveys from the teachers back, I started a list for students of what absolutely needed to be in their notebooks for the fourth quarter. I think that students needed that assistance earlier in the year. I began the year with "Time Out Activities" which students

needed to complete for an A. These activities were extra work, e.g. summarizing current event news articles or writing letters to me about what they liked or disliked about class content. Next year, I think that I will eliminate that requirement. Finally, some students who weren't artistic hated to draw. I think that I need to show them some other ways to represent work, perhaps with timelines and graphic organizers. Although I plan on modifying the notebooks, I plan on continuing using them.

References

Gardner, H. (1983). *Frames of Mind*.

Teachers' Curriculum Institute (1999). *History Alive! Interactive Student Notebook*.

Appendices available upon request.