Using Foldables® in the Classroom

Rhonda Meyer Vivian, Ph.D.
Chief Operating Officer
Dinah-Might Adventures, LP

Nancy F. Wisker, M.A.
Director of Math and Science
Dinah-Might Adventures, LP
Overview

Graphic organizers are powerful learning tools. Most of us are familiar with common graphic organizers, such as diagrams, outlines, and charts, all of which are two-dimensional. Foldables® are three-dimensional, interactive graphic organizers that were created more than 30 years ago by educator Dinah Zike. Foldables® “encourage student ownership of study material, provide a kinesthetic component to teaching strategies, and promote long-term retention of academic lessons” (Casteel & Narkawicz, 2006, p. 6).

Based on current research, graphic organizers are extremely useful teaching and learning tools. Graphic organizers are visual representations combining lines, shapes, space, and symbols to convey facts and concepts or to organize information. Graphic organizers, when designed and used appropriately:

- Help organize information
- Are easy to understand
- Show complex relationships
- Clarify concepts with few words
- Convey ideas and understanding
- Assess comprehension

Graphic organizers help students organize information in a visual manner. The old saying “a picture is worth a thousand words” is an appropriate way to describe the usefulness of graphic organizers. They represent a profound pedagogical concept, especially as the number of non-native English-speaking students increases. A student is able to utilize graphic organizers to clarify concepts or to convey ideas and understandings with fewer words.

Graphic organizers also make complex relationships or concepts easier to understand, particularly for visual learners. Foldables® take that process to the next level, most notably for tactile/kinesthetic learners. For example, once students have made a “three-tab Foldable” about the three branches of government, they are far more likely to retain this information than if they had simply read about these concepts.
When to Use Graphic Organizers

Graphic organizers may be used at any point during instruction, but just as with any other instructional strategy, they are most successful when they are built into the instructional plan rather than presented as an “extra” activity.

Graphic organizers can be used to supplement note-taking and outlining. Many students do not know how to take classroom notes. They often write profusely, attempting to catch every word, but they often miss key words or concepts along the way. Studies indicate that for most students, it is more valuable to learn to analyze information and to select only the important points rather than to write out notes verbatim (Bretzing & Kulhavy, 1979; Van Meter, et al., 1994). Graphic organizers, including concept maps, tables, and tree diagrams, may work better than outline notes in helping students discover relationships between concepts (Robinson & Kiewra, 1995). Foldables® help teach students how to take notes by visually and kinesthetically chunking information into sections and providing limited space for note-taking.

In addition to note-taking aids, graphic organizers can also be used to reinforce understanding or to review information. Students can use them to organize ideas or to show relationships between concepts. Foldables® may also be used as an alternative form of assessment in the classroom. Because Foldables® have readily identifiable sections, teachers using them can quickly identify gaps in student knowledge.

Reading and Writing Across the Curriculum

Graphic organizers have been shown to be highly effective in literacy development. In numerous studies, graphic organizers help improve the development of literacy skills—including oral, written, and reading comprehension. In one study, researchers concluded that graphic organizers helped at least 80 percent of students master key vocabulary skills (Brookbank, et al., 1999). Other studies have found that elementary students’ writing skills improved when graphic organizers were part of the writing process (Gallick-Jackson, 1997; Meyer,1995). Reading comprehension was also found to have improved when students used graphic organizers (Brookbank, et al., 1999; Sinatra, et al., 1984).

The National Reading Panel (2000) found that graphic and semantic organizers are one of the seven most effective categories of instruction to improve reading comprehension. Graphic organizers aid students in developing critical thinking and other higher-order thinking skills (Brookbank, et al., 1999; DeWispelaere & Kossack, 1996). Other studies have found that graphic organizers are a helpful tool for improving retention and recall of information for students at all ages and skill levels (Bos & Anders, 1992; Ritchie & Volkl, 2000; Griffin, et al., 1995).

In Social Studies

Graphic organizers have been found to help students organize information from expository social studies texts and to comprehend content area reading. They also help students select, organize, and recall relevant information and a helpful tool for transfer thinking and learning skills to new situations and content areas (Alvermann & Boothby, 1983; Alverman & Boothby, 1986; Armbruster, et al., 1991; Griffin, et al., 1995). Casteel & Narkawicz (2006) compared lecture/worksheet style instruction with instruction focused around the use of Foldables® in a social studies classroom and found that Foldables® significantly improved students’ attitudes toward the discipline.
Graphic organizers may help English language learners improve higher-order thinking skills (DeWispelaere & Kossack, 1996).

Because of their visual organization, graphic organizers seem to be quite beneficial for use with learning disabled students. They appear to help students comprehend content area material, to organize information, and to retain and recall content (Boyle & Weishaar, 1997; Doyle, 1999; Gardill & Jitendra, 1999; Griffin, et al., 1991; Scanlon, et al., 1992; Sinatra, et al., 1984).

**Conclusions**

There is a common thread to the research cited here: graphic organizers may lead to improved student performance, whether measured by classroom-based observation, textbook assessments, or standardized assessments, when compared with more traditional forms of instruction.

Graphic organizers work at all grade levels. They seem to be just as effective with primary students as with high school or college students. Studies have been conducted with early elementary (Brookbank, et al., 1999), upper elementary/intermediate grades, and middle school (Guastello, et al., 2000), and with secondary grades/high school (Doyle, 1999), all showing similar results.

There are four keys or phases to effective learning, according to Kolb (1984). These phases are: getting involved through concrete experience, reflective listening and observation, creating an idea with an abstract conceptualization, and making decisions through active experimentation. Graphic organizers address all four of these phases at some level and, when combined with other classroom instruction, they can be a powerful tool for learning.

Marzano, Pickering, and Pollack (2001) contend that to foster higher-order thinking, instruction must require learners to restructure prior knowledge and to link it to new information. These researchers and others use graphic organizers to restructure existing knowledge and make new connections. In fact, Marzano, Pickering, and Pollack (2001) propose nine instructional strategies to improve student achievement, and Foldables® can be utilized in each of them.

When students construct their own graphic organizers, as they do with Foldables®, they are active participants in their learning (Moore and Readence, 1984). Student-constructed graphic organizers allow teachers to observe levels of understanding, to identify misconceptions, and to make appropriate instructional interventions (Naughton, 1993, 1994).

Our goal as educators is to help students glean important information and understand key concepts and to be able to relate these concepts or apply them to real-world situations. The McGraw-Hill networks™ program includes instruction for study organizers, called Foldables®. Foldables® are designed to fit each unit or lesson’s content and guide students in choosing the important concepts and recording them in an organized format. Since students make their own three-dimensional Foldable® as well as enter the notes, they feel a sense of ownership. The Foldables® also serve as an effective tool to use as notes or a study guide before tests to help students achieve greater success (Carter & Van Matre, 1975; Van Meter et al., 1994).

The McGraw-Hill networks™ program chose to embrace the use of Foldables® because of the wide research support that demonstrates the effectiveness of graphic organizers. Students read social studies textbooks, magazines and newspaper articles, trade books, and Web sites to gain information to answer social studies questions. Reading is intentional thinking during which the reader constructs meaning from the text. Graphic organizers help support and develop students’ note-taking skills, summarizing skills, reading comprehension, and vocabulary development, which leads to better understanding and application of social studies content.
Some of the citations listed were reviewed but not cited specifically in the White Paper.


Gallick-Jackson, S.A. (1997). Improving narrative writing skills, composition skills, and related attitudes among second grade students by integrating word processing, graphic organizers, and art into a process approach to writing. Fort Lauderdale, FL: Master of Science Practicum Project, Nova Southeastern University.


Project Better. Web site: School Improvement in Maryland Project. Articles on the power of successful teaching and learning using graphic organizers such as Foldables®.


