

The Versatile Graphic Organizer and its many Guises

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Introduction

Students in a second language class can sometimes be overwhelmed by the amount of language they have to deal with. Thus, a tool that could help students organize vocabulary into categories, understand the relationship between different concepts, and visualize their prior knowledge could be useful. Such a tool exists and it is called a *graphic organizer*. A graphic organizer is a visual representation of a concept or idea. It can help students make sense of the new learning material by presenting it in a visual display. Graphic organizers are useful for sorting, showing relationships between concepts, making meaning, and managing data (Gallavan & Kottler, 2007). They can help students take advantage of their preferred learning styles and they can also provide different options for assessing or self-assessing learning (Struble, 2007).

In short, the graphic organizer provides support for organizing, understanding and applying information. This kind of support can make a difference for any learner, but is especially useful for students at a beginning level or who have some kind of learning difficulty (Omaggio-Hadley, 1993; Sundeen, 2007).

The purpose of this article is to show how graphic organizers can be used in EFL classes at different ages and levels of proficiency, and to carry out different tasks.

Critical thinking skills and graphic organizers

In 1956, Benjamin Bloom published the *Taxonomy of educational objectives*, which included a listing of the cognitive skills that students need to apply in school and in real-life situations. These skills are classified into six categories: knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, 1956). These are ranked in order from easier to more difficult, with each category including a number of skills.

Table 1: Bloom's Taxonomy of the Cognitive Domain

Category	Explanation	Activities
Knowledge	Remember information.	Define, describe, identify, list, match, recall, recognize, select.
Comprehension	Understand the meaning, interpret the information.	Comprehend, distinguish, explain, give examples, interpret, predict
Application	Use the information in a new way.	Apply, construct, demonstrate, modify, produce, solve, use
Analysis	Separate concepts into component parts.	Analyze, break down, compare, contrast, infer, separate
Synthesis	Construct from separate parts.	Categorize, combine, compose, create, generate, plan, summarize, write
Evaluation	Make value judgments.	Compare, conclude, criticize, evaluate, justify

Source: adapted from Bloom (1956)

For example, if we ask students what they remember about a text they read, we are working with *knowledge* and *comprehension* skills. If we ask them to read about a topic, then to listen to a text on the same topic, to summarize each text and to compare or contrast the information in each one, we are working with *analysis* and *synthesis* skills.

Many classroom activities ask students to carry out actions that belong to the categories of knowledge, comprehension, or possibly application, but don't always go into the categories of analysis, synthesis, and evaluation, or "higher-order thinking skills". These, however, promote critical thinking that is necessary for success in the real world.

Nowadays, teaching critical thinking skills is becoming increasingly important. Because of the enormous amount of knowledge that has been generated in the past twenty years, it is becoming useless, and perhaps even impossible, to limit our classes to teaching content (Duderstadt, 1997). As Gibson (2002) points out "Whilst knowledge is important, students need the cognitive abilities to solve problems, evaluate, criticise and create; they also need to act independently, be self-motivating and cope flexibly with new situations" (Gibson, 2002: 465). We have to

teach our students the skills they need to find content, discriminate what is valuable from what is not, analyze, summarize, synthesize, and apply what they find to other situations. These are all critical thinking skills.

So, what does this have to do with graphic organizers?

Different types of graphic or visual organizers promote different critical thinking skills in different ways. Graphic organizers have their origins in Ausubel's (1968) advance organizers—devices such as pictures, titles, or grammar reviews that aid comprehension—and in Anderson's (1977) Schema Theory, which explains the role of background knowledge in comprehension. Concept maps, for example, came out of Novak's 1972 work at Cornell University (Novak & Cañas, 2007) and are based on Ausubel's idea of assimilation of new concepts. Graphic organizers help the students organize their learning into meaningful frameworks that improve understanding and retention (Ausubel, 1968; Novak & Cañas, 2007).

Some advantages of graphic organizers are that they provide useful scaffolding to help students attach the new information they are receiving to what they already know. They also allow students to focus on the specific vocabulary or structures that they need to express certain concepts; they allow the students to engage more actively in the learning process; and they support collaborative learning when students work together to complete them. They "are effective in terms of helping to elicit, explain and communicate information because they can clarify concepts into simple, meaningful display" (Kang, 2004: 58). They do this by helping the learner place the new information onto a kind of map that takes different forms, depending on its purpose.

Graphic organizers can be used in a variety of classes and in different ways. They are useful for planning and drafting compositions (Sundeen, 2007), for enhancing reading comprehension (Gallavan & Kottler, 2007), for developing students' argumentation skills (Nussbaum & Schraw, 2007), and for self-, peer-, and teacher-assessment (Novak & Cañas, 2007; Struble, 2007). They can be used at the elementary (Weisman & Hansen, 2007), secondary (Sundeen, 2007), or tertiary (Nussbaum & Schraw, 2007) levels.

The versatile graphic organizer

Visual organizers can be divided into four different categories: conceptual, hierarchical, cyclical, and sequential (Struble, 2007).

Conceptual organizers, such as Compare and Contrast Matrices or Venn diagrams, help students analyze, categorize, compare or contrast, evaluate, investigate, list, and recall information. They can be used to assess students' understanding of concepts.

Hierarchical organizers, such as Topic/Subtopic Webs, help students break down the information into its component concepts. They place the main information at the top and the subtopics or details underneath.

Cyclical organizers, such as Circle Diagrams, show how actions or concepts are interrelated. They are especially useful for displaying natural cycles.

Sequential organizers, for example, Cause and Effect Charts, Problem-Solution Charts, etc., show sequential relationships of concepts or actions.

A Google search will return a number of websites with downloadable templates for a variety of graphic organizers. Examples of these websites are:

<http://www.carla.umn.edu/cobaltt/modules/strategies/gorganizers/index.html>

<http://www.eduplace.com/graphicorganizer>

<http://www.teachervision.fen.com/graphic-organizers/printable/6293.html>

<http://www.sdcoe.k12.ca.us/score/actbank/sorganiz.htm>

<http://edhelper.com/teachers/graphic-organizers.htm>

The templates from these sites can be adapted and used in a variety of ways.

Using graphic organizers in class

To use graphic organizers in class, it's important to identify what you want the students to do, and what skills you expect them to put into practice. Think about both the language skills and the critical thinking skills you want to emphasize.

The website *Special Connections* references Baxendell in saying:

"Baxendell (2003) has established the following three principles in order to guide the effective use of graphic organizers in the classroom, which are referred to as the "three Cs".

Consistent

- Create a standard set of graphic organizers

- Establish a routine for implementing them in a classroom

Coherent

- Provide clear labels for the relationship between concepts in graphic organizers

- Limit the number of ideas covered

- Minimize distractions

Creative

- Use during all stages of lesson design

- Incorporate during homework and test review

- Add illustrations

- Implement with cooperative groups and pairs"

(from <http://www.specialconnections.ku.edu>)

In the case of the language class, here are some specific activities that can be done with graphic organizers*:

As a pre-reading or pre-listening activity, have the students use a **semantic map** to brainstorm vocabulary that they might find in the reading or listening.

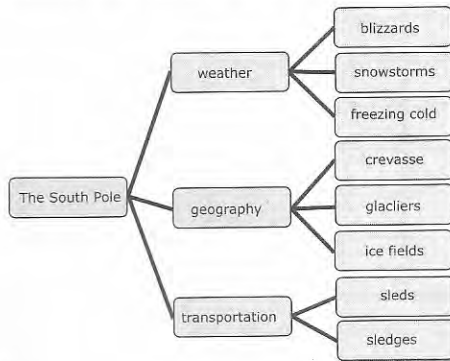


Figure 1: Semantic map

Use a **Prediction Tree** to predict what will happen in the listening or reading.

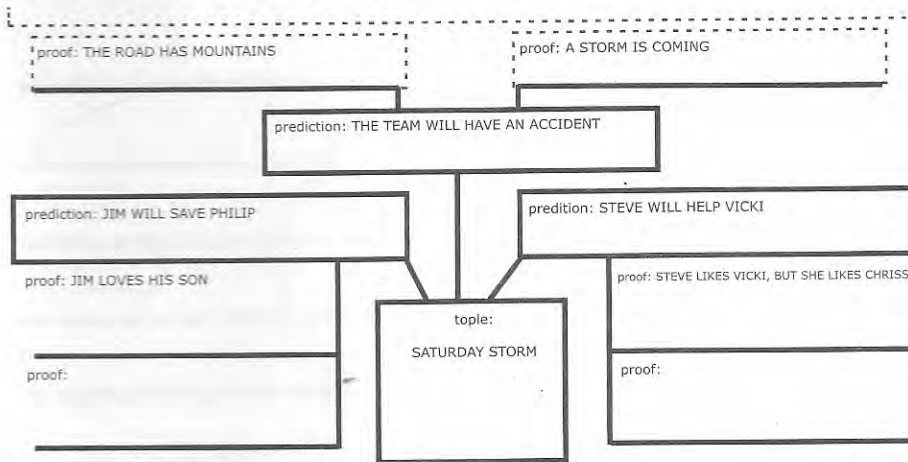


Figure 2. Prediction tree

After reading or listening, use a **5Ws** chart to sequence and summarize the information and then check comprehension.

* Figure 1 was produced using Word 2007; Figures 2 – 7 were produced using templates from <http://www.carla.umn.edu/cobalt/modules/strategies/gorganizers/index.html>. These were used by permission from the copyright holder.

WHO?	WHAT?	WHEN?	WHERE?	WHY?
Philip and his family	had an accident	on Saturday	in the mountains	because there was a bad storm

Figure 3. 5Ws chart

As preparation for an oral presentation, have students complete a **concept chart** about their topic, then use the information to give their presentation.

Made (used) for?	lunch or dinner
parts of?	layers pasta/ meat sauce/ cheese
Gear / equipment?	skillet/ dish / oven
Types of?	meat/ vegetarian
Made of?	pasta/ meat/ tomato sauce/ cheese
Kind of?	Italian dish

Figure 4. Concept chart

Students listen to or read a text and place a series of events on a **time line**. Using that time line, they compare and understand the uses of different past tenses.

Event/character: Jeffrey's trip to Hong Kong	
Hour:	Events:
9:35	took cab
9:50	missed passport
9:52	called assistant
10:20	got to airport
10:45	assistant arrived at airport
11:30	boarded plane

Figure 5. Time line

Student pairs work together on an information gap activity. They place the information they share on a **Compare/Contrast** chart or a **Venn diagram** to visualize the similarities and differences.

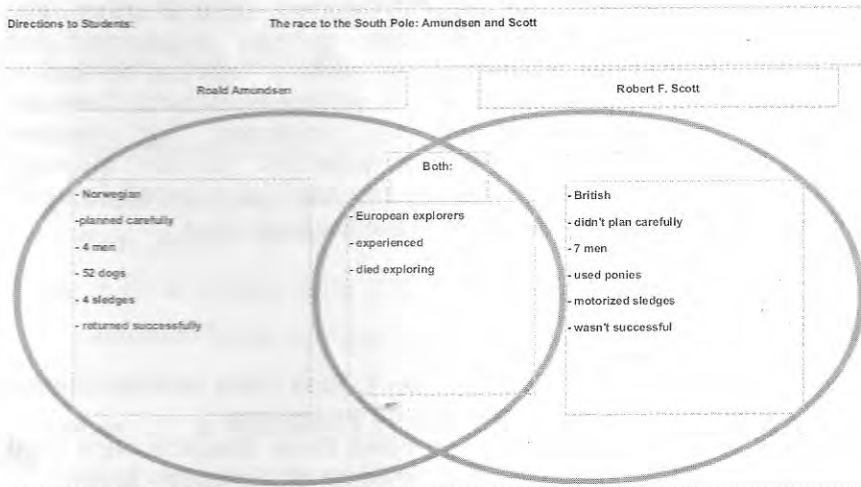


Figure 6. Venn diagram

Student pairs work together on a problem-solving activity (for example, what can we do to control pollution?). They use a **fishbone diagram** to understand the cause- effect relations of the different factors involved in pollution, and from there, begin to look for solutions.

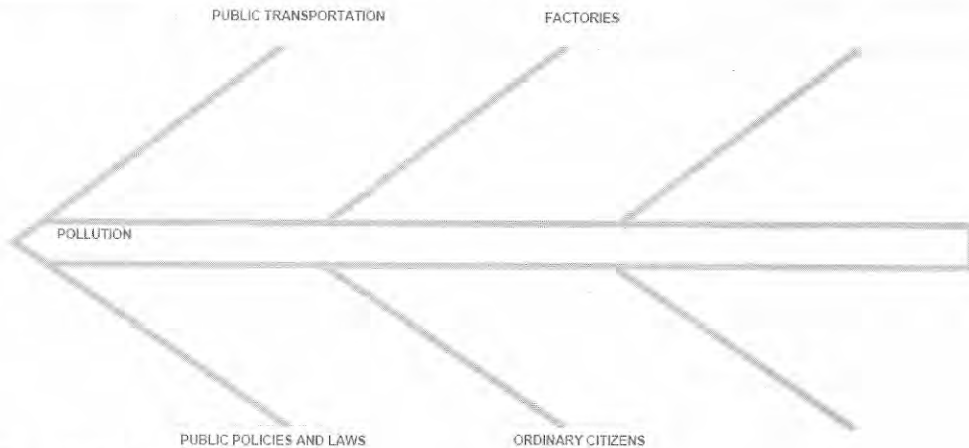


Figure 7. Fishbone diagram

Conclusion

Using graphic or visual organizers in class aids student comprehension and retention, enhances collaborative learning, increases students' engagement and promotes higher order thinking skills and meaningful learning. They can be used at elementary, secondary, and tertiary levels and in different classes. They are equally effective for teaching vocabulary, for prediction, for checking comprehension, for preparing oral or written activities, or for assessing comprehension. The graphic organizer is a flexible tool that has many applications in the classroom, and as such, is worth including in the language class.

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at: <http://www.carla.umn.edu/cobal/tt/modules/strategies/gorganizers/index.html>

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