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## Infographics use as a tool in the English language learning (Original)

Uso de infografías como herramienta en el aprendizaje de idioma inglés (Original)

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## Abstract

This research focuses on the importance and impact of infographics in teaching English language. The objective of this research is to identify the positive of the use of infographics for teaching and learning the English language outside and inside the classroom and also as a useful teaching resource for educators. The methodology followed was a quantitative approach through a survey applied to 1<sup>st</sup> year Bachelor of Industrial Engineer students, through which the students' opinions were collected in relation to the use of infographics as a didactic-digital tool. The results show the need of using infographics as a digital teaching resource to support lessons and as a necessary means to improve the quality of students' understanding of materials and their interest in learning.

**Keywords:** infographic; learning activities; teaching resources, English

## Resumen

La presente investigación se enfoca en la importancia e impacto de las infografías en la enseñanza del idioma inglés. El objetivo es identificar lo positivo del uso de las infografías para



la enseñanza aprendizaje del idioma inglés fuera y dentro del aula y además como medio de enseñanza útil para los educadores. La metodología siguió un enfoque cuantitativo a través de una encuesta aplicada a estudiantes de primer año de Ingeniería Industrial, mediante la cual se recolectaron las opiniones de los estudiantes en relación con el uso de la infografía como herramienta didáctica-digital. Los resultados arrojan la necesidad de usar la infografía como recurso didáctico digital para apoyar las clases y como un medio necesario para mejorar la calidad de los estudiantes en la comprensión de materiales y su interés en el aprendizaje.

**Palabras clave:** infografía; actividades de aprendizaje; medio de enseñanza; Inglés

## **Introduction**

We live in a time where generations of students prefer information presented in a brief and concise manner, a trend that favors graphic representation of information over written information. A new way of reporting is emerging, where the format for presenting data allows for immediate and engaging reading and understanding, but is not necessarily simplistic or ineffective. This new way of developing a topic is based on the illustration and schematization of information, i.e., infographics.

It is often said that a picture is worth a thousand words, and in the case of education, this is undoubtedly the case. According to research by the Social Science Research Network, 65% of people learn primarily through images (they are what is called "visual learners"). It is also estimated that the mind can process an image thousands of times faster than written text. In this context, the use of educational infographics in the classroom is an extremely powerful tool that can provide numerous benefits to students, facilitating their learning process and stimulating their creativity.

As a teaching material for communicating a topic, infographics can be a powerful influence on students, providing the information is adequately and visually structured. For Minervini (2005), the value of their use lies in their communicative potential, which functions as a positive tool for knowledge appropriation within the teaching and learning process. According to Richter (2013, cited by Abio, 2014), students who use them achieve increased information literacy, increased visual literacy, greater ability to process and interpret information, and greater ability to interpret information; increased technological literacy, in addition to the ability to use technology creatively, productively, and effectively.



Considering the benefits that students gain from using infographics in their learning process, it will also be important to consider the suggestion made by Abio (2014), who asserts that infographics appear to be a trend with educational value and should not be ignored as a teaching object and form of expression. In fact, we observe that infographics are beginning to be introduced in various work proposals in the most recent language teaching textbooks.

It should be of great importance for teachers to consider the didactic possibilities offered by infographics, as they constitute an indispensable resource in current teaching processes. This has been suggested by Ferrés (1989, cited by Minervini, 2005), who states that:

If the school wants to build a bridge with society, it will have to fully embrace audiovisual media as a differentiated form of expression. That is, in addition to educating in the images, it will have to educate through images. (p. 2)

Assuming people live in a visual culture that has reached the learning and teaching processes in educational institutions, infographics are an effective teaching resource that awakens students' interest in learning and that stands as a resource for translating complexities, facilitating the efficient and immediate acquisition of knowledge due to their information visualization character.

For the development of this research, it was essential to understand how the brain learns, particularly when images are involved. Some of the answers were found in cognitive neuroscience, which as a relatively new science and with the contributions made so far has shown how fascinating the study of consciousness, thoughts, emotions, and other aspects generated in the brain is from a learning perspective.

In this sense, the neuroscience of learning presents itself as a field of study in which teachers can obtain information to apply in their practical and theoretical work, which can be widely beneficial for improving their teaching-learning strategies and methods.

Based on all the above, the objective is to identify the positive effects of using infographics for teaching and learning English both inside and outside the classroom and also as a useful teaching resources for educators.

## **Materials and Methods**

This proposal was first implemented in 2023, with just a few examples. As a sample, it was worked with 30 first-year Tourism students at the University of Matanzas, who require English as a working tool and must be very proficient. After implementing the appropriate use of



infographics, the students demonstrated excellent results in the classroom and on certification exams, achieving level B1, with a 95.4 percent promotion rate. Therefore, it was decided to use the proposal in the Industrial Engineering Syllabus, one of the largest at the university.

Theoretical methods, such as analysis-synthesis for the entire research process; and inductive-deductive methods were used to derive conclusions and establish generalizations through the analysis of specific elements about the research object, thus verifying their behavior throughout the research process. Empirical methods and techniques were also used, helping to verify the current state of the teaching-learning process through the use of visual teaching aids in English teaching at the University of Matanzas and to identify existing problems. Statistical techniques were also used to interpret and process the results derived from the application of empirical methods and techniques. The dialectical-hermeneutical approach was present throughout the research, which allows for a scientific logic from understanding the explanation and interpretation of the process.

This proposal was based on the communicative approach, Task-Teach-Task, task-based work, action-oriented approach, and student-centered approach.

## **Results and Discussion**

A fascinating idea from Frith and Blakemore (2007) was to propose the teacher as a "gardener" who can plant seeds in students' minds to stimulate them. These seeds can be nurtured with good ideas and important facts, but they can also uproot weeds, errors, and misunderstandings. The idea proposes to consider education as "gardening" of the brain, in which teachers are the gardeners. Thus, they will be responsible for finding the right moments and determining the elements that stimulate the student's brain. This is crucial considering that the visual functions of movement and memory are the main providers of stimulant for brain development.

The belief that the brain is instinctively conditioned to learn, regardless of an individual's stage of life, has led to the determination that there are different ways of learning. Only those related to the use of images are mentioned below.

Memory learning is the simplest and perhaps the best-known form of learning. In an educational setting, it is frequently used as a way to store knowledge, although memorized information deteriorates over time. This method is effective at certain times and for certain types of knowledge, such as when learning vocabulary in a foreign language, the script for a play, or a



mathematical formula. It is related to the use of imagination for learning; regarding this, The psychologist Pavio (1960, cited by Frith and Blakemore, 2007) proposed that concrete words were easier to remember (e.g., "forest" or "treetop") compared to abstract ones (e.g., "far" or "pleasant"). He suggested that the former were more imaginable (representable) and, therefore, by allowing the creation of visual images, learning was enhanced. In fact, we've all experienced that it's easier to remember something when is associated with an image: first the image of what it's associated with is recalled, and the image is what leads to remember the question.

Another form of learning is one that uses stimulant to associate or evoke imaginable situations, as occurs with the auditory system. Sounds are a source of visual imagery. Studies on this subject show that associating images with sounds activates areas of the brain previously thought to respond only to one type of stimulus. The study by Frith & Blakemore (2007) investigated how unnamed things, such as sounds and visual symbols, are remembered.

The results highlight that the visual areas of the brain responded to a specific color when it was preceded by a previously associated sound, revealing that the brain quickly adapts to stimulant from other senses so that information becomes imaginable. Another form of learning, one of the oldest, is imitation, which both animals and humans engage in. It consists of observing what others do and then attempting to do it ourselves. Shortly after birth, humans begin to imitate communicative gestures and continue imitating throughout life. Everything is imitated from the simplest to the most complex: gestures, attitudes, values, clothing, etc., since imitation is a social behavior that fosters cultural learning. Hence the popular adage: "You should imitate... so you learn something." When we imagine ourselves as someone else, imitating what they do, visual images of ourselves in specific situations with the intention of experiencing some learning experience are created.

### *Infographics*

Images have great communicative potential. It is known for millennia, and art history is a magnificent example. However, people currently live in the age of the image, so its importance is greater than ever. Therefore, more and more people, from increasingly diverse fields, understand the advantages of using infographics to convey specific ideas or knowledge.

Infographics are a useful tool that allows you to generate and structure knowledge in an attractive and versatile way. The schematic division of information, along with the use of striking images, leads to a quick and enjoyable understanding of what you want to explain. The



combined use of images and concepts also activates the brain's logical and verbal skills, as well as figurative and creative imagination, promoting the assimilation of the content conveyed.

Infographics, derived from the fusion of "information" and "graphics," serve as visual representations conveying information, data, or knowledge concisely and clearly (Naparin & Saad, 2017). In educational contexts, infographics go beyond traditional text-only methods, presenting information, ideas, and data visually to enhance student comprehension (Smiciklas, 2012). Simply put, infographics is the graphical depiction of information or knowledge (Damyanov & Tsankov, 2018). Golombisky and Hagen (2013) identify five key components of infographics: headlines, chatter, callouts, source lines, and by lines. However, Basco (2020) suggests a tripartite classification, emphasizing visual elements (such as colour, graphics, icons, maps, and signs), content elements (including facts, references, statistics, and texts), and knowledge elements (encompassing conclusions and messages). Recognized as an effective tool for data representation and visual communication (Basco, 2020; Alyahya, 2019), infographics are increasingly popular in education. Teachers are drawn to infographics for their potential to present data effectively (Basco, 2020), explain concepts, and provide simple visual representations for mapping relationships, display trends, and offer fundamental insights (Parveen & Husain, 2021). The multisensory and multimodal nature of infographics, combining text and visuals (Yarbrough, 2019), enables them to transform complex and abstract information into a visual narrative, effectively communicating core points (Basco, 2020; Fateh & Saeed, 2020).

Infographics are gaining traction in education not only for their capacity to appeal to learners' senses through the use of images but also for facilitating the understanding of abstract ideas (Basco, 2020). Their utilization promotes collaboration, comprehension, and engagement (MacQuarrie, 2012), enhancing the interaction and involvement of students in the teaching-learning process when applied systematically. They can be beneficial for language teachers, developers of learning multimedia and the enhancement of students' learning processes (Fievez et al., 2023).

### *Infographics in Education*

In teaching, infographics offer especially interesting possibilities. Today it is known that not everyone processes verbal language in the same way, and that reading comprehension is



especially connected to attention span. For students who have difficulties in these areas, infographics offer fantastic support for attention.

Infographics rely on students' a priori knowledge to the extent that they can activate prior knowledge through the association of ideas, which contributes to a better understanding of the content explained. In this way, they reduce the cognitive and memory burden of this content, while encouraging creative thinking through aesthetic treatment and stimulating student motivation.

Of course, infographics are just one tool, like so many others, and the essential thing is to be able to combine them all according to the needs of our students. If we use them properly, we can ensure that they will be very useful to us and our students!

Several studies were conducted with the utilization of infographic in the educational system. Bicen and Beheshti (2017) conducted a research which has a purpose to investigate the students' perception of using infographic in education. From the results of the study, the students thought that using infographic helped them to master their learning skills, giving them motivation, and developing their creativity. The students preferred to study with visual materials rather than the traditional materials such as books. Another similar research was conducted by Alqudah et al. (2019) that has a purpose to investigate the impact of using educational infographic by focusing on the students' interaction and perception of the meaning of the transferred information.

#### *How to use infographics in the classroom?*

- Infographics offer a wide range of applications in the classroom. In addition, to be attractive to students of all ages, their characteristics make them highly adaptable to the needs of the course. Whether it's history or physics, literature or languages, infographics will always be a highly beneficial teaching tool.
- Infographics can be used to support an explanation or as a complement to other teaching materials. Teachers can encourage students to analyze data, interpret information, and draw conclusions from the infographic. They can also use an infographic to spark a class debate. Or They can even invite students to create an infographic themselves with the information from the lesson—an excellent way to review content and develop their ability to summarize.
- As you can see, infographics have numerous applications in the classroom. It all depends on the teaching objectives and the intended use!





Images are replacing the written word, as people (especially the younger generations) prefer to learn with images rather than written information. This involves directing the transmission of information under a new concept, where text and images contribute to efficient communication. This new graphic concept is known as infographics, which go beyond a simple illustration, such as the geometric diagrams or navigation charts of the 16th century. According to Belenguer's (1999) definition, an infographic is created with computer graphics and serves to transmit information. On the other hand, for Aguilera and Vivar (1990), the relevance of the association between graphics and computing, seen as a technical development in the audiovisual field, has positively transformed print and audiovisual media by generating representational possibilities that were previously unthinkable.

According to Belenguer (1999), it is essential to differentiate the two applications of infographics: one is dynamic or animated, and the other is static or journalistic. Dynamic infographics are the creation of moving images generated by electronic means, which originated in scientific and military laboratories. Today, it is widely used in industrial design, architecture, advertising, art, and animated films, and is also prominent in the areas of scientific imagery and science education. It is also relevant in scientific and technical research because it allows for the visual representation of objects and their behavior, and is useful as a communication tool for scientific dissemination.

On the other hand, static infographics were the result of illustrating and schematizing information for a new visual culture that emerged in print publications, especially newspapers. This was argued by De Pablos (1991), who defined them as a new journalistic genre, with a new format and a new way of reporting. They became popular in all newspapers. Today, every day a newspaper presents a topic developed through an infographic. In fact, this way of reporting has given rise to the development of a typology determined by its content. Analysts Peltzer and Aguado (1991, 1993 cited in Belenguer, 1999) have divided them into two groups: visual infographics, that is, graphics that explicitly and in detail present a situation (plans, sections, perspectives, and panoramas), and explanatory infographics, that is, visual representations that explain an event, phenomenon, or process. Infographics are visual tools that combine graphics, images, and text to present information clearly and concisely. In the context of language learning, these can be extremely useful, as they allow complex aspects of the language to be





visualized in a structured and simplified way, such as grammar, vocabulary, verb tenses, among others.

Benefits of using infographics in language learning:

- Improves visual retention: Infographics use colors, shapes, and designs that facilitate memorization of information.
- Simplifies complex concepts: It breaks down grammar rules and vocabulary into smaller, more manageable chunks.
- Engages students: Visual content is more attractive and can motivate students to engage more with the study material.
- Encourages self-instruction: It allows students to learn at their own pace, revisiting the infographics as needed.

### *Creating Effective Infographics for Language Learning*

An infographic is effective in language learning, when it is clear, informative, and visually appealing. Here are some steps and tips for creating useful infographics:

Step 1: Define the objective of the infographic. Before starting to design it, it's crucial to determine what aspect of the language you want to teach or reinforce. This could be vocabulary for a specific topic, verb conjugation, or idiomatic expressions.

Step 2: Collect and organize the information. Gather all the necessary information and organize it logically. Make sure the information is accurate and up-to-date.

Step 3: Choose appropriate design tools. There are several online tools such as Canva, Piktochart, or Venngage that allow you to create attractive infographics without advanced graphic design knowledge.

Step 4: Use appropriate colors and graphics. Select colors that are not only attractive but also help differentiate between different types of information. Use charts and icons to illustrate key points.

Step 5: Include examples and context. It's especially important in language learning to provide examples of how a word or grammar rule is used in context. This can make learning more relatable and easier to understand.

### *Integrating Infographics into Study Methods*

Infographics can be integrated into different study methods to maximize their effectiveness. Here are some examples:



- **Visual Flashcards:** Transform infographics into visual learning cards. These can be used to quickly review key points.
- **Supplementary Classroom Resources:** Teachers can use infographics as support material during lessons to explain difficult concepts in a more engaging and visual way.
- **Learning Stations:** In a classroom setting, set up different learning stations that students can visit, each with a different infographic related to the topic of study.
- **Student Newsletters:** Include infographics in newsletters, WhatsApp messages, or emails sent to students as a visual reminder of what they have learned, or in preparation for upcoming lessons.

### *Evaluating the Impact of Infographics on Learning*

To measure the effectiveness of infographics in language learning, it is important to conduct evaluations and collect feedback from students. Some strategies include:

- **Surveys and direct feedback:** Ask students what they think about infographics and whether they find them facilitate their learning process.
- **Before and after tests:** Conduct evaluations before introducing infographics and compare the results with post-implementation tests to see if there is an improvement in comprehension and retention.
- **Participation analysis:** Observe whether there is an increase in student participation and interest in classes where infographics are used.
- **Review of long-term results:** Evaluate whether students can better remember information long-term with the use of infographics compared to more traditional methods (see appendix 1).

### **Appendix 1. Example of some infographics that are used in our lessons**





# Mi Familia

(my family)

abuelo - grandpa  
abuela - grandma  
padre - father  
madre - mother  
tio - uncle  
tia - aunt  
hermano - brother



hermana - sister  
hija - daughter  
hijo - son  
prima - cousin  
los padres - parents  
los abuelos - grandparents











## Animales

(Animals)

pajaro - bird	cerdo - pig
abeja - bee	pavo - turkey
perro - dog	pollo - chicken
pez - fish	conejo - rabbit
rana - frog	oveja - sheep
pato - duck	burro - donkey
gato - cat	
vaca - cow	
oso - bear	
mariposa - butterfly	
caballo - horse	
elefante - elephant	



Demostrativos en inglés			
		This cat is small Este gato es pequeño	
		These cats are small Estos gatos son pequeños	
		That cat is small Ese gato es pequeño	
		Those cats are small Esos gatos son pequeños	
<b>This</b> ➡	+Este +Esta	<b>These</b> ➡	+Estos +Estas
<b>That</b> ➡	+Ese +Esa	<b>Those</b> ➡	+Esos +Esas

## Conclusions

Infographics are powerful tools in the field of language learning. They not only facilitate the comprehension and retention of complex information, but they also make the learning process more interactive and enjoyable. By implementing them correctly and evaluating their impact, educators can significantly improve the effectiveness of their teaching methods and provide their students with a valuable tool for their linguistic development.

The environments formed by ICT and b-learning allow infographics, especially interactive ones, by their nature, to be the element that amalgamates different learning styles and is the best means of acquiring knowledge, especially when it is related to self-learning. Furthermore, considering the time and willingness required by today's students, who have had to adapt for various reasons to new types of learning, such as hybrid and remote learning, which have become a trend in all grade levels.

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