Benefiting from the infographic in the stage of presenting ideas in the industrial product design program

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Summary:

The research aims to take advantage of the infographic as a simplified and appropriate method in presenting the outputs and ideas in the industrial product design program, due to the difficulties faced by the student and practitioner of industrial design in the process of coordinating, summarizing and presenting the results of each stage of the design program in order to extract and analyze the results to reach the appropriate decision to move to the next stage or to return again to the previous stage to complete its activities.

From that, the importance of the research in developing the skills of students of the industrial design program by using infographics in presenting the outputs of the design program, due to the lack of current methods of presentation for students of the Industrial Design Department while presenting the results of the stages and outputs of the design program to the appropriate methods and methodologies to show the outputs and ideas in an appropriate and simple manner that helps in presenting the results and the transition between the different stages.

The research dealt with a presentation of the definition, concept and genesis of infographics with the aim of familiarizing the designer with what this new technology is, and then an explanation and illustrative examples of some types of infographics and the features of using each type according to the information required to be presented and produced.

The research also dealt with an explanation of the stages of the industrial product design program, the results of each stage, and the importance of display and output methods for those results and their impact on the speed and accuracy of decision-making during the transition between the stages and activities of the program.

Then the research dealt with the impact of applying infographics in the stages of the product design program through a case study of designing and implementing a "shelter unit for scouting trips" to highlight the advantages of the application results. Examples of programs and sites that help the designer in making infographic drawings after providing them with the data and information required to be displayed were presented.

In the end, the main findings and recommendations of the research were presented.

Research problem: The lack of current methods of presentation for students of the Industrial Design Department while presenting the results of the stages and outputs of the design program to the appropriate methods and methodologies to show the outputs and ideas in an appropriate

and simplified manner that helps in presenting the results and the transition between the different stages.

The importance of the research: developing the skills of students of the industrial design program by using infographics in presenting the outputs of the design program.

Research objective: To make use of infographics as a simple and appropriate method for presenting the outputs and ideas in the industrial product design program.

Imposing the research: The research assumes that developing students 'presentation skills by using infographic technology will have a great impact in supporting the transition between the different design program phases in addition to the ease of presenting and extrapolating new results and ideas.

Research methodology: The descriptive and analytical research is followed by presenting a set of models for students' work and the experimental approach to design some models for display using infographics.

Research topic.

First, what is the infographic?

1) Infographic definition and concept.

Infographic, is an expression used to describe a method for presenting information, data, or cognitive content through drawings and charts, with the aim of quickly and clearly communicating the idea.

It is the art of transforming complex data, information and concepts into images and drawings that can be perceived and absorbed with clarity and suspense. It is a method characterized by presenting complex and difficult information in a smooth, easy and clear manner to the recipient.

The infographic is considered one of the important and effective means now and the most attractive to display information, especially through social networks, as it combines ease, speed and entertainment in presenting information and communicating it to the recipient.

In the same context, the infographic is considered one of the latest in distance learning technology, because it is characterized by presenting difficult and complex information in an easy and clear way by converting the vast amount of data into pictures and drawings, and it also provides the learner with an opportunity to compare sizes, dimensions and shapes, with the ability to help him/her into Deep Thinking.

Hence, it can be said that the possibility of teaching design according to the art of drawing with information known as (infographic) suits the naturalness of the visual learner now, as it is one of the modern technological methods that can be used in presenting the scientific content to the learner in an interesting and attractive way that enables the design education process to achieve its goals.

Other common names include:

• Infographics
• Information Design

• Interactive visualization data.

Data Visualization

2) Infographic Genesis.

In 1926, Christoph Scheiner published his book "Rosa Ursina sive Sol," a book in which he revealed his research on the rotation of the sun, and the writer used infographics to illustrate the patterns of the sun's rotation.

In 1786, the engineer and political economist, William Playfair, was the first to use graphs in his book. The Commercial and Political Atlas, to present the economy of England during the eighteenth century. Statistics, frequency distribution charts, bar graphs, and area maps, and to be the first to introduce pie charts.

Around the year 1820, modern geography was established by Carl Ritter, whose maps were considered a milestone by including the system of signs - as defined by Charles Sanders Peirce - next to symbols and icons.

In 1857, the British nurse, Florence Nightingale, used the concept of infographic to persuade Queen Victoria to improve the conditions of military hospitals. She used the Coxcomb scheme, which includes a mixture of stacked columns and pie charts to show the number and causes of deaths each month during the Crimean War.

The year 1861 witnessed the emergence of an influential infographic that spoke about Napoleon's destructive campaign against Moscow, as the designer of the plot, Charles Joseph Minard, captured four variables that participated in the fall of Napoleon through one two-dimensional image: the direction of the army during its journey, Troop transit area, the size of the army and its impact on deaths from hunger, wounds, and freezing temperatures the army suffered.

James Joseph Sylvester introduced the term "scheme" in 1878, through the scientific journal "Nature," and published a set of diagrams showing the relationship between chemical bonds and mathematical properties.

In the twentieth century, Otto Neurath developed what is known as the "Vienna Method" that uses simple images to present data, and in 1942, Isidore Iso published the Lettrist manifesto, which is a document covering art and culture Poetry, film, and political theories were synthesized through writings and the visual arts.

In 1958, Stephen Toulmin proposed a graphic argument model called "Toulman's Model of Advocacy", in which the diagram contains six interrelated components that are used to analyze the debate, as it was considered one of Toulman's most influential works, specifically in the fields of rhetoric, communication and science.

During 1972 and 1973, the spaceships "Pioneer 10" and "Pioneer 11" contained what were called the Pioneer plates, which are two aluminum panels covered with gold oxide, and the plate includes drawings to convey a message, these drawings were designed by Carl Sagan and Frank Drake, and these drawings were unique in that they could be understood by aliens because they were completely unrelated to human languages.

The pioneer of data visualization, Edward Toft, presented a series of books - visual explanations, quantitative information visual presentation, and information visualization -

which dealt with the field of infographics, describing the New York Times "Toft" as "Da Vinci data", and then began to give daily lectures and workshops Work in the field of infographics, started in 1993.

For "Toft", good data visualization means displaying all the data accurately to help the viewer identify trends and patterns in that data. Principles that he set.

The infographic designed by Peter Sullivan for the Sunday Times in the 1970s, 1980s and 1990s was an important factor in encouraging other newspapers to adopt the infographic, and Solvan is also one of the writers who promoted infographics in their writings.

Similarly, the USA Today team worked on setting a goal for them using charts to make the information more accessible and understandable. However, this idea has been criticized for oversimplifying events and that the resulting infographics focus on entertainment at the expense of content, to put "Toft" The term "chartjunk" refers to graphs that focus on visual aspects and neglect informational content.

With the ubiquity of "vector graphics" and "raster graphics" and their widespread popularity in 21st century computing, data visualization has been commonly used in computer systems, such as desktop publications and geographic information systems.

In the twenty-first century and by the year 2000, Adobe Flash-based graphics, which are found on the Internet, used many techniques in preparing infographics to create a variety of products and games.

Similarly, television began to introduce infographics into the viewers' experience, and one example of the use of infographics in television and pop culture is the music video of the Norwegian band "Ruyscope", in their song "Remind Me", where the video completely contained an animated infographic, and similarly, in 2004, the French energy company Areva used the infographic in its television commercials.

With the emergence of alternatives to Adobe Flash, such as HTML 5 and CSS3, various media outlets are making use of the tools provided by such software in designing infographics.

The field of journalism also benefits from the infographic to present new stories. Using the "Maestro concept", texts, images and charts can be combined to successfully express the story, and the preparation of this type of infographic requires the cooperation and coordination of the various staff in the newsroom to improve time management, and the Maestro system is designed to improve the presentation of stories and the news to be relevant to the busy media readership.

Many businesses use infographics as tools to communicate and attract potential consumers, and it is considered a form of content marketing, and it has become a tool used by Internet marketers to create content that others relate to strengthen the company's reputation and presence on the Internet.

The infographics are well represented in the educational classes as well, and the educational lessons encourage students to use the infographics to clarify their ideas and to have a better understanding of the educational content.

With the great popularity of social media these days, infographic is commonly used to illustrate various ideas. For example, the hashtag "infographic" was used about 56,765 times in March 2012.

During the recent period, the term "infographic" has spread through social networks or through various websites and blogs widely. Day after day, the art of infographic is gaining increasing popularity among users of the web, and within a short period of time it was able to become a powerful educational and entertainment tool by presenting information in the form of graphics Love graphic for readers.

3) Types of infographics and ways to use them and benefit from them.

There are no specific criteria or a fixed classification for the types of infographics, but those interested in this field find it difficult to determine the model that is proportional to the content that will be included in the infographic, and the following is a simple visualization of the different types and models of infographics that can be considered as an aid to creating the appropriate infographic.

• Timeline Infographic.

It is used when there are some data and information that includes different stages in years, months or days, it can be represented through the infographic in a distinctive way through the time display of this data.

For example, when reviewing some stations in the life of a person, company, or even a product, the need to represent the data in an easy and smooth manner and in which the chronology of events is clear so that the years are not separated here and there in a way that confuses the reader.

This type of infographic is not limited to the existence of specific dates, but it is necessary to have a logical sequence of the information that the infographic includes, for example in dealing with the development of a certain technology in the future, this type can be used without having fixed and specific dates, or it can be used in the case of reviewing sequential steps for a particular process or Chain facts and so on.

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